<u>Geographic Response</u> <u>Strategies</u>

2017



USCG Sector Lake Michigan 8/23/2017

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GRS: Ba	ay Beach Marina	Beach Marina GRS # A1								
Protection Priority Sites / Ranking:	High (A)									
	LOCATION INFORM	ATION								
State: Wisconsin	Co	unty: Brown								
	CONTACT INFORM	ATION								
Bay Environmental Strategies: 920- 347- 2234										
EPA Spill Hotline: 312-353-2318										
GEI Consultants Inc : 920-455-8200										
Green Bay Fire Department : 920-448-3280										
USCG Auxiliary Station Green Bay : 920-435-7	7042									
USUG Sector Lake Iviicnigan Command Center: 414-747-7182										
Wisconsin Department of Natural Resource : 1-800-847-9367 Wisconsin Department of Natural Resource Spill Emergency Hetline: 1,800,043,0003										
Wisconsin Department of Natural Resource Sp										
		ACTERISTICS								
Managed Areas:	Bay Beach Amusement Park , Bay Beach Wildlife	e Sanctuary, Ken Euers Nature F	ark, Pulliam Power Plant							
Shoreline Type:	Extensive Wetlands, Fringing Wetlands, Gravel a	and Mixed Sand Beaches								
Sensitive Habitat:	Barkhausen Waterfowl Preserve , Bay Beach Wildlife Sanctuary, Cat Island , Ken Euers Nature Area, Willow Island									
Wildlife:	Bass, Walleye, Lake Trout, Migratory Birds, Perch, Marine Birds, Mammals, Insects									
Federally Threatened / Endangered Species	S: Dwarf Lake Iris (T), Northern Long-eared Bat (T)									
Socio-Economic Resources:	Bay Beach Amusement Park, Bay Beach Island	South Bay Marina , Green Bay Y	acht Club,							
	University Boat Launch , Grassy Island Range L	ighthouse								
	SPILL RESPONS	SE								
Predicted Behavior:	Sea Conditions: Worst in October and November percent of the time. In October, S through SW wi generate rough seas. Seas of 10 feet or more are waves of 20 to 22 feet have been encountered. If 30 percent of the time in the S and 20 to 40 percent while those in the 5- to 10-foot category drop to be Winds: Coastal winds are more localized and van the morning, when northerlies, easterlies, and so effect, there are a preponderance of winds out of slackening of wind speeds. The likelihood of encount to less than 3 percent by May. However, Green E wind extreme of 100 knots or more over open was encountered about 4 to 8 percent of the time. The becoming more frequent and northerlies less so a associated with thunderstorms. S and SW winds	er, when, lakewide, wave heights nds are most often responsible, w e encountered 3 to 5 percent of th During the spring, high seas are in ent in the N. Summer seas climb ass than 20 percent in June and J ariable. Along the Lake Michigan s utherlies are among the most con the S, particularly with the appro- buntering winds of 28 knots or mo Bay recorded a 95-knot southwest ters. Spring winds can still blow s ey do slacken from their winter fie as summer approaches. Strong w prevail particularly in the N south	of 5 to 10 feet are encountered about 35 thile by November W through N winds often e time from November through March. Extreme frequent, but 5- to 10-foot seas develop 15 to above 10 feet less than 1 percent of the time, luly. By August, the fall buildup begins. shore, spring winds are variable, particularly in mon. By afternoon, aided by a lake-breeze ach of summer. Summer also brings a the falls from a 4- to 10-percent chance in March erly one May; it is not unrealistic to expect a trong, with winds of 28 knots or more rceness, with southerlies and southwesterlies inds are infrequent in summer and mostly easterlies are also common in the S. Northerlies							

Response Considerations:	Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows						
	resulting from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and						
	includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields						
	change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash						
	extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the						
	shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means						
	about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter.						
	Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later.						
	Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox						
	and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and						
	some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important						
	harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay						
Recommended Spill Response Strategy Table							

Site ID	Latitude (Decimal Degrees)	Longtitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Вау	44.5670	-88.0044	Exclusion	Worst Case Discharge:	3000'	Green Bay Fox	Green Bay Fox	Green Bay Fox	High	14-Oct-2014	WI	Brown	SLM	101 Bay
Beach				Tank vessel: various		River Public	River Public	River Public						Beach
Marina				foreign flagged tank		Docks 100A	Docks 100A Bay	Docks 100A Bay						Road
(A1)				ships make trips to		Bay Beach RD	Beach RD	Beach RD Green						Green
				Green Bay, WI the		Green Bay WI	Green Bay WI	Bay WI 54301						Bay, WI
				largest with a capacity		54301	54301							54302
				of 147,000 bbls										
				(6,174,000 gals) of										
				groups I-V petroleum										
				products. Boom across										
				entrance to marina.										
				Boom attached to										
				shoreline at northern										
				dock of marina and										
				north eastern end of										
				Grassy Island Range										
				Lighthouse. Exclude oil										
				from transfer facilities										
				North East of marina										
				from entering marina										
						LO	GISTICS							
	Logistics Support Table													
Name	e Typ	e Lati (Dec Deg	tude L cimal (rees) I	ongitude Address Decimal Degrees)		County	Owner / POC	Access Li	mitations		Descrip	tion	State	Sector

Green Bay	Staging	44.5670	88.0044	Green Bay Fox	Brown	State of WI		WI	SLM
Fox river	Area			River Public					
docks				Bay Beach RD					
				Green Bay WI					
				54301					
	_				_				
Green Bay	Boat	44. 53725	-88.0036	Green Bay Fox	Brown	State of WI		WI	SLM
public	Namp			Docks 100A					
docks				Bay Beach RD					
				Green Bay WI					
				54302					
						OMMENTS			
					C	OWINEN 15			
					GR	P/GRS MAP			



GRS:	Marinette			GRS #	A2						
Protection Priority Sites	s / Ranking:	Medium (B)									
		LOCATION INF	ORMATION								
State: Wisconsin/Michigan			County: Marine	ette							
		CONTACT INF	ORMATION								
EPA Spill Hotline: 312-35	3-2318										
Marinette Fire Departmer	nt: 715-732-5170										
Menomonie Fire Departm	nent : 715-232-2414										
USCG Auxiliary Station G	USCG Sector Lake Michigan Command Center: 414-747-7182										
Michigan Department of I	gan Command Center:	414-747-7182 Environmental Emergencies Hetline: 800-202	4706								
Wisconsin Department of Natural Resource : 1-800-847-9367											
Wisconsin Department of Natural Resource Spill Emergency Hotline: 1-800-943-0003											
RESOURCES AT RISK CHARACTERISTICS											
Managed Areas:		Lighthouse Ann Arbor Ann Tourist Park, , I	Red Arrow Park, Riv	ver Park							
Shoreline Type:		Fringing Wetlands ,Gravel Beaches, Shelte	ered Scraps in Bedr	rock							
Sensitive Habitat:		Menominee River, Stephenson Island, Boom Island									
Wildlife:		Bass. Walleye, Lake Trout, Migratory Birds	s, Perch, Marine Bir	ds, Mammals, Insects							
Federally Threatened / I	Endangered	Kirtland's Warbler (E), Red Knot (T), Dwar	f Lake Iris (T), Hine'	's Emerald Dragonfly	(E), Cananda Lynx (T), Gray Wolf (E),						
Species:		Northern Long-eared Bat (T)									
Socio-Economic Resou	rces:	Lighthouse Ann Arbor Park, Marinette Fue	I And Dock, Stephe	nson Island Park							
		SPILL RES	PONSE								
Predicted Bellavior.		of the time. In October, S through SW wind rough seas. Seas of 10 feet or more are er 20 to 22 feet have been encountered. Duri of the time in the S and 20 to 40 percent in the 5- to 10-foot category drop to less than Winds: Coastal winds are more localized the morning, when northerlies, easterlies, a effect, there are a preponderance of winds slackening of windspeeds. The likelihood of to less than 3 percent by May. However, si wind extreme of 100 knots or more over op encountered about 4 to 8 percent of the tim becoming more frequent and northerlies le associated with thunderstorms. S and SW	ds are most often re ncountered 3 to 5 per ng the spring, high a 20 percent in June and variable. Along and southerlies are out of the S, partice of encountering wind Green Bay recorder oen waters. Spring wind ne. They do slacker ss so as summer a winds prevail partice	ewide, wave heights of sponsible, while by N ercent of the time from seas are infrequent, b as climb above 10 fee and July. By August, the Lake Michigan sh among the most come ularly with the approa- ds of 28 knots or more ed a 95-knot southwes winds can still blow str from their winter fierd pproaches. Strong wir	November W through N winds often generate n November through March. Extreme waves of ut 5- to 10-foot seas develop 15 to 30 percent t less than 1 percent of the time, while those in the fall buildup begins. hore, spring winds are variable, particularly in mon. By afternoon, aided by a lake-breeze ch of summer. Summer also brings a e falls from a 4- to 10-percent chance in March sterly one May; it is not unrealistic to expect a rong, with winds of 28 knots or more ceness, with southerlies and southwesterlies ands are infrequent in summer and mostly						

Response Co	nsiderations:		Ice: T resulti includ chang extend shore about Maxin Harbo and M some harbo	he first waters to ng from prevailing es the above-me e as a direct func- ding 1 to 2 miles of Even during a m 10-percent cover num ice coverage prs: The harbors have been provid rs in Lake Michiga	form an e g winds a ntioned w ction of th offshore. add winter age com e occurs b on the W s which en ded with s an are Mo	extensive ice co and currents. In vaters plus the e wind. Shores In addition, a c r, these floes ca pared to an ave oy mid-March, c side of the lake mpty into Green stilling basins. S uskegon, Calur	over are Green a normal winte extreme S part exposed to th ircular current an build out 10 erage 40-perce on the average e are generally n Bay. The ent Some harbor ein net, Chicago, I	Bay and the er, an early id t of the lake. e full force of pattern in the to 15 miles i ent coverage , while decay r at the mouth rances to the ntrances are Milwaukee, K	Bays de No ce cover is e The surface the wind off S part of th nto the lake. and an 80-p begins a we s of small ri harbors are protected by cenosha, and	oc. These stablished features ten have e lake dis A mild w ercent co eek or two vers, the generall d detache d Green E	buildups are d by the end c and location c large ice fields stributes driftir inter on Lake overage during b later. only large stre y protected by d breakwaters ay	aided by w of January of the ice fi s of very h ng floes ald Michigan i g a severe eams bein y parallel p s. The mos	vindrows and elds eavy brash ong the means winter. g the Fox iers, and st important
				Recom	mended	Spill Respons	se Strategy Ta	able					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	<u>State</u>	County	<u>Sector</u>	Address
Marinette Fuel Dock (A2)	45.0940	-87.5929	Diversion	Cascading boom beginning at the Eastern end of the Marinette Fuel and Dock facility to a collection point along the South Eastern end of facility. Collect oil from facility side with vacuum trucks and skimmers	3000'	Cedar River Boat Ramp 45 24' 46.8N -87 20' 59.4W	Menominee Public Boat ramp Harbor Drive Menominee MI 49858	Marinette Fuel and Dock 808 Ogden ST Marinette, WI 54143	Medium	MI	Marinette	SLM	808 Ogden Street Marinette, WI 54243
				1	<u> </u>	LOGISTICS	6		1	J	1	1	1
	Logistics Support Table												

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector

Menominee Public Boat ramp Boat Ramp Marinette Fuel and Dock Regulated Facility	45.1074N 45.0940	87.6042	Harbor Drive Menominee, MI 49858 Marinette Fuel and Dock 808 Ogden ST Marinette, WI 54143 COM	Marinette Marinette MENTS	State of MI Ryan Cambell	None No water access	Public Boat Ramp Regulated Facility	MI	SLM
Marinette Fuel and Dock Regulated Facility	45.0940	87.5929	Marinette Fuel and Dock 808 Ogden ST Marinette, WI 54143 COM	Marinette	Ryan Cambell	No water access	Regulated Facility	MI	SLM
			СОМ	MENTS					



1N Scale: 1 : 9,549 Zoom Level: 15 Location: 45.1050°, -87.5801°

(clean) (>

GRS: K&K Integrate	d Logistics Menominee	G	GRS #	A3						
Protection Priority Sites / Rankin	g: Medium (B)									
	LOCATION INFO	RMATION								
State: Michigan	Cou	unty: Menominee	2							
	CONTACT INFO	RMATION								
EPA Spill Hotline: 312-353-2318										
Marinette Fire Department: 715-73	2-5170									
Menomonie Fire Department : 715-										
USCG Auxiliary Station Green Bay : 920-435-7042 USCG Sector Lake Michigan Command Center: 414-747-7182										
Michigan Department of Environmental Quality Environmental Emergencies Hotline: 800-292-4706										
Wisconsin Department of Natural Resource : 1-800-847-9367										
Wisconsin Department of Natural Resource Spill Emergency Hotline: 1-800-943-0003										
RESOURCES AT RISK CHARACTERISTICS										
Managed Areas:	Lighthouse Ann Arbor Ann Tourist Park, , Red Arrow Pa	ark, River Park								
Shoreline Type:	Fringing Wetlands ,Gravel Beaches, Sheltered Scraps	in Bedrock								
Sensitive Habitat:	Menominee River, Stephenson Island, Boom Island									
Wildlife:	Bass, Walleye, Lake Trout, Migratory Birds, Perch, Sea Birds									
Federally Threatened /	Kirtland's Warbler (E), Red Knot (T), Dwarf Lake Iris (T), Hine's Emerald	d Dragonfly (E)	, Cananda Lynx (T), Gray Wolf (E), Northern Long-						
Endangered Species:	eared Bat (T)									
Socio-Economic Resources:	Lighthouse Ann Arbor Park, Marinette Fuel And Dock,	Stephenson Islan	nd Park							
	SPILL RESP	ONSE								
Predicted Behavior:	Sea Conditions: Worst in October and November, whe time. In October, S through SW winds are most often re of 10 feet or more are encountered 3 to 5 percent of the encountered. During the spring, high seas are infrequen percent in the N. Summer seas climb above 10 feet les 20 percent in June and July. By August, the fall buildup Winds: Coastal winds are more localized and variable morning, when northerlies, easterlies, and southerlies a preponderance of winds out of the S, particularly with the likelihood of encountering winds of 28 knots or more fall Green Bay recorded a 95-knot southwesterly one May; Spring winds can still blow strong, with winds of 28 knots winter fierceness, with southerlies and southwesterlies winds are infrequent in summer and mostly associated	en, lakewide, way esponsible, while e time from Nove nt, but 5- to 10-fo s than 1 percent begins. Along the Lake are among the mo ne approach of su lls from a 4- to 10 it is not unrealist ts or more encou becoming more f with thunderstorr	ve heights of 5 by November ember through I bot seas develo of the time, wh Michigan shore ost common. B summer. Summo 0-percent chang tic to expect a v untered about 4 frequent and no rms. S and SW	to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been up 15 to 30 percent of the time in the S and 20 to 40 ille those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the y afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The ce in March to less than 3 percent by May. However, si wind extreme of 100 knots or more over open waters. to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong winds prevail particularly in the N;.						

Response C	Consideration	S:	Ice: The first from prevaili mentioned w wind. Shores a circular cu 10 to 15 mile and an 80-pe week or two Harbors: Th Menominee provided with are Muskego	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above- mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table								resulting above- ion of the In addition, can build out ent coverage begins a and the have been e Michigan			
C'L ID	1.11.1.		D				Deat		D. d. d.	Data		Charles		Casta	
Site ID	(Decimal	(Decimal	Strategy	Implementation	Boom	Area	Access	Access	Priority	Verifi	ied	<u>State</u>	County	<u>secto</u> <u>r</u>	Address
K&K Integrated Logistics Menominee (A3)	45.0983	-87.6084	Diversion	Cascading diversion boom on the northwestern side of islands south of Marinette Marine Corporation. Divert to a collection point along the K&K Logistics Pier. Collect oil with vacuum trucks and skimmers	5000'	Cedar River Boat Ramp 45 24' 46.8N - 87 20' 59.4W	Meno minee Public Boat ramp Harbor Drive Meno minee MI 49858	K&K Integra ted logistic 5 Meno minee 501 4th Ave, Meno minee, MI 49858	Medium	14-Oct-	2014	MI	Menominee	SLM	501 4th Ave, Menominee, MI 49858
					LO	GISTIC	S								
				L	ogistics.	s Suppor	t Table								
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address		County		Ow	ner / POC		Acces	ss Limitati	ons Descript on	i State	Sector
K&K Integrated Logistics Menomine e	Regulated Facility	45.0983	87.6084	501 4th Ave, Menominee, Mi 49858	Marii	nette	M	ark Angi					MTSA regulate d facility	МІ	SLM
Cedar River Boat Ramp	Staging Area	45.1074N	87.6042	8151 M-35 Stevenson MI 49887	Marii	nette	st	ate of MI			None	2	public boat ramp	MI	SLM

River Park	Boat Ramp	45.1039N	87.6209W	1400 5 th Ave., Menominee, MI	Menominee	State of MI	none	public	MI	SLM
Launch								ramp		
					COMMENTS	6				



RS: Leo Frigo Memo	orial Bridge		GRS #	A4						
Protection Priority Sites / Ranking:	High (A)		I							
	LOCATION IN	FORMATION								
State: Wisconsin		County: Brown								
	CONTACT IN	FORMATION								
Bay Environmental Strategies: 920- 3-	47- 2234									
EPA Spill Hotline: 312-353-2318										
GEI Consultants Inc : 920-455-8200	0.0000									
USCG Auxiliary Station Green Bay : 920-435-7042										
USCG Sector Lake Michigan Command Center: 414-747-7182										
Wisconsin Department of Natural Resource : 1-800-847-9367										
Wisconsin Department of Natural Resource Spill Emergency Hotline: 1-800-943-0003										
RESOURCES AT RISK CHARACTERISTICS										
Managed Areas:	Bay Beach Amusement Park , Bay Beach Wildlife S	Sanctuary, Ken Eu	uers Nature Park,	Pulliam Power Plant						
Shoreline Type:	Extensive Wetlands, Fringing Wetlands, Gravel and	d Mixed Sand Bea	ches							
Sensitive Habitat:	Barkhausen Waterfowl Preserve , Bay Beach Wildlife Sanctuary, Cat Island , Ken Euers Nature Area, Willow Island									
Wildlife:	Bass, Walleye, Lake Trout, Migratory Birds, Perch, Sea Birds									
Federally Threatened /	Dwarf Lake Iris (T), Northern Long-eared Bat (T)									
Endangered Species:										
Socio-Economic Resources:	Bay Beach Amusement Park, Bay Beach Island, S University Boat Launch, Grassy Island Range Ligh	outh Bay Marina , hthouse	Green Bay Yacht	Club,						
	SPILL RE	SPONSE								
Predicted Behavior:	Sea Conditions: Worst in October and November, time. In October, S through SW winds are most ofte	when, lakewide, when responsible, when	wave heights of 5 th hile by November \	to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas. Seas						
	of 10 feet or more are encountered 3 to 5 percent of	f the time from No	ovember through N	Aarch. Extreme waves of 20 to 22 feet have been						
	encountered. During the spring, high seas are infre-	quent, but 5- to 10)-foot seas develo	p 15 to 30 percent of the time in the S and 20 to 40						
	percent in the N. Summer seas climb above 10 feet	t less than 1 perce	ent of the time, whi	ile those in the 5- to 10-foot category drop to less than						
	20 percent in June and July. By August, the fall buil	dup begins.	ka Miahiman aham							
	winds: Coastal winds are more localized and varia	able. Along the La	most common B	e, spring winds are variable, particularly in the						
	preponderance of winds out of the S. particularly wi	th the approach o	f summer. Summe	er also brings a slackening of wind speeds. The						
	likelihood of encountering winds of 28 knots or more	e falls from a 4- to	10-percent chance	ce in March to less than 3 percent by May. However,						
	Green Bay recorded a 95-knot southwesterly one N	lay; it is not unrea	listic to expect a v	vind extreme of 100 knots or more over open waters.						
	Spring winds can still blow strong, with winds of 28	knots or more end	countered about 4	to 8 percent of the time. They do slacken from their						
	winter fierceness, with southerlies and southwester	lies becoming mo	re frequent and no	ortherlies less so as summer approaches. Strong						
	also common in the S. Northerlies are a secondary	wind.	ionns. 5 and SW	winds prevail particularly in the N southeasterlies are						

from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In and a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can be 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent of and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begin week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some ha provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Mile are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table											sulting ve- a of the addition, n build out t coverage jins a nd nave been <i>l</i> ichigan				
				Recommended Spill Response Strategy Table											
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	e Response Strategy	e Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
Leo Frigo Memorial Bridge (A4)	44.5336	-88.0056	Exclusion	 Worst Case Discharge Tank vessel various foreign flagged tank ships make trips to Green Bay, WI the largest with a capacity of 147,000 bbls (6,174,000 gals) of groups I-V petroleum products. Boom across entrance adjacent to Leo Frigo Memorial Bridge. Access via small boat. Land anchor points on each side of entrance with metal posts 	5000'	Green Bay Fox River Public Docks 100A Bay Beach RD Green Bay WI 54301	Green Ba Fox River Public Docks 100 Bay Beacl RD Greer Bay WI 54301	y Green Bay Fox River Public Docks A 100A Bay h Beach RD Green Bay WI 54301	High	14-Oct- 2014	WI	Brown	SLM	Green Bay (over Fox River)	
						LOGISTIC	CS								
					Logi	stics Suppo	ort Table								
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address		County		Owner / POC	Access Li	mitations	Desci	ription	State	Sector	
Green Bay Fox River Public Docks	Staging Area	44.53725	88.0036	Green Bay Fox River Public Docks 100A Bay Beach RD Green Bay WI 54301	Brown		9	State of WI	none		Public b ramp w parking	ooat ith large lot	WI	SLM	

Green Bay Fox River Public Docks	Boat Ramp	44.5373	88.0036	Green Bay Fox River Public Docks 100A Bay Beach RD Green Bay WI 54302	Brown	state of WI	none	Public boat ramp with large parking lot	WI	SLM
					COMME	NTS				



GRS: East	t River Entrance		GF	RS #	A5
Protection Priority Site	es / Ranking:	High (A)			
		LOCATION INFO	ORMATION		
State: Wisconsin		Co	ounty: Brown		
		CONTACT INFO	RMATION		
Bay Environmental Stra	itegies: 920- 347- 2234				
EPA Spill Hotline: 312-3	353-2318				
GEI Consultants Inc : 9	20-455-8200				
Green Bay Fire Depart	ment : 920-448-3280				
USCG Auxiliary Station	bigan Command Center: 414-747-7	182			
Wisconsin Department	of Natural Resource : 1-800-847-93	67			
Wisconsin Department	of Natural Resource Spill Emergence	y Hotline: 1-800-943-0003			
		RESOURCES AT RISK C	HARACTERIST	TICS	
Managed Areas:	Bay Beach Amuser	nent Park , Bay Beach Wildlife Sand	ctuary, Leicht Merr	norial Park, A	shwaubomay Memorial River Park, Joannes Park,
	Meyer Park				
Shoreline Type:	Sheltered Scarps ir	Bedrock, Exposed Flats , Fringing	Wetlands		
Sensitive Habitat:	Barkhausen Water	owl Preserve , Bay Beach Wildlife S	Sanctuary, Fox Rive	er, East River	
Wildlife:	Bass, Walleye, Mig	ratory Birds, Perch, Sea Birds			
Federally Threatened	I Dwarf Lake Iris (T),	Northern Long-eared Bat (T)			
Endangered Species:					
Socio-Economic Reso	Bay Beach Amuser	nent Park, Bay Beach Island , Sout	th Bay Marina , Gree	en Bay Yacht	Club,
	University Boat La	unch , Grassy Island Range Lightho	ouse, Leicht Park, C	City Deck, Rive	erside Place Condominiums
Des dista d Dahaudam		SPILL RESP	ONSE	h sinhts of F t	
	time. In October, S of 10 feet or more a encountered. Durin percent in the N. Si 20 percent in June Winds: Coastal wi morning, when nort preponderance of w likelihood of encour Green Bay recorde Spring winds can s winter fierceness, w winds are infrequer also common in the	through SW winds are most often re are encountered 3 to 5 percent of the g the spring, high seas are infreque ummer seas climb above 10 feet les and July. By August, the fall buildup nds are more localized and variable herlies, easterlies, and southerlies a vinds out of the S, particularly with the thering winds of 28 knots or more fa d a 95-knot southwesterly one May; fill blow strong, with winds of 28 knots vith southerlies and southwesterlies at in summer and mostly associated to S. Northerlies are a secondary win	responsible, while by the time from Novem ent, but 5- to 10-foot ss than 1 percent of p begins. e. Along the Lake M are among the mos the approach of sun alls from a 4- to 10-p ; it is not unrealistic ots or more encount s becoming more free d with thunderstorms and.	A spin of the seas develop f the time, whith the time of time	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 the those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the y afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The er in March to less than 3 percent by May. However, <i>v</i> ind extreme of 100 knots or more over open waters. to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong winds prevail particularly in the N southeasterlies are

from prevailing winds and currents. In a normal winter, an early ice cover is established mentioned waters plus the extreme S part of the lake. The surface features and locati wind. Shores exposed to the full force of the wind often have large ice fields of very ha a circular current pattern in the S part of the lake distributes drifting floes along the sh 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by week or two later.Harbors: The harbors on the W side of the lake are generally at the mouths of small Menominee Rivers which empty into Green Bay. The entrances to the harbors are ge provided with stilling basins. Some harbor entrances are protected by detached break are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green BaySite IDLatitude (DecimalResponse StrategyImplementationMin BoomStaging AreaBoat AccessLand Priorit								ys de Noc stablished Ind location f very hea g the shore percent co ccurs by n f small rive s are gene ed breakwa	. These buildups a by the end of Janu of the ice fields ch vy brash extending e. Even during a m verage compared nid-March, on the a ers, the only large rally protected by p aters. The most im	re aided lary and i hange as 1 to 2 m ild winter to an ave average, streams l barallel p portant h	by windro ncludes t a direct fu illes offsh t, these flo trage 40-p while dec while dec being the iers, and arbors in	ws resul he above unction o ore. In ac bes can b bercent c ray begin Fox and some ha Lake Mic	ting f the ddition, ouild out overage s a ve been chigan	
Site ID	Latitude (Decimal	Longitude (Decimal	Response Strategy	Implementation	Min Boom	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
	Degrees)	Degrees)			Length									
East River Entrance (A5)	44.5187	-88.0131	Exclusion	Worst Case Discharge Tank vessel various foreign flagged tank ships make trips to Green Bay, WI the largest with a capacity of 147,000 bbls (6,174,000 gals) of groups I-V petroleum products. Several sections of exclusionary boom spaced across the East River connecting at the East River Trail and Georgia Pacific. Metal post needed for anchor points	5000'	Green Bay Fox River Public Docks 100A Bay Beach RD Green Bay WI 54301	Green Bay Fox River Public Docks 100A Bay Beach RD Green Bay WI 54301	Dependant on spill location	High	14-Oct-2014	WI	Brown	SLM	Green bay
	LOGISTICS													

				Logi	stics Support	Table				
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
Green Bay Fox River Public Docks	Boat Ramp	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	none	Public boat ramp with large parking lot	WI	SLM
Green Bay Fox River Public Docks	Staging area	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	none	Public boat ramp with large parking lot	WI	SLM

COMMENTS



USGRS: U.S Oil Fox Rive	er Terminal	GRS #	A6
Protection Priority Sites / Ranking:	High (A)		
	LOCATION INFORMATION		
State: Wisconsin	County: Brown		
	CONTACT INFORMATION		
Bay Environmental Strategies: 920- 34	47- 2234		
EPA Spill Hotline: 312-353-2318			
GEI Consultants Inc : 920-455-8200	2 2 2 0 0		
USCG Auxiliary Station Green Bay : 9	20-435-7042		
USCG Sector Lake Michigan Comman	nd Center: 414-747-7182		
Wisconsin Department of Natural Res	ource : 1-800-847-9367		
Wisconsin Department of Natural Res	ource Spill Emergency Hotline: 1-800-943-0003		
	RESOURCES AT RISK CHARACTE	RISTICS	
Managed Areas:	Bay Beach Amusement Park , Bay Beach Wildlife Sanctuary, Leicht Meyer Park	t Memorial Park, A	Ashwaubomay Memorial River Park, Joannes Park,
Shoreline Type:	Sheltered Scarps in Bedrock, Exposed Flats , Fringing Wetlands		
Sensitive Habitat:	Barkhausen Waterfowl Preserve , Bay Beach Wildlife Sanctuary, Fo.	x River, East Rive	r
Wildlife:	Bass, Walleye, Migratory Birds, Perch, Sea Birds		
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Northern Long-eared Bat (T)		
Socio-Economic Pesources:	Ray Beach Amusement Park, Ray Beach Island, South Ray Marina	Green Bay Vach	t Club
occio-Economic Resources.	University Boat Launch , Grassy Island Range Lighthouse, Leicht P	ark. Citv Deck. Riv	verside Place Condominiums
	SPILL RESPONSE		
Predicted Behavior:	. Sea Conditions: Worst in October and November, when, lakewide	. wave heights of	5 to 10 feet are encountered about 35 percent of the
	 of 10 feet or more are encountered 3 to 5 percent of the time from N encountered. During the spring, high seas are infrequent, but 5- to 1 percent in the N. Summer seas climb above 10 feet less than 1 perc 20 percent in June and July. By August, the fall buildup begins. Winds: Coastal winds are more localized and variable. Along the Lamorning, when northerlies, easterlies, and southerlies are among the preponderance of winds out of the S, particularly with the approach of likelihood of encountering winds of 28 knots or more falls from a 4- to Green Bay recorded a 95-knot southwesterly one May; it is not unreas Spring winds can still blow strong, with winds of 28 knots or more enwinter fierceness, with southerlies and southwesterlies becoming more winde are infrequent in gummer and morthwesterlies becoming more fields. 	ovember through I 0-foot seas develo ent of the time, wh ake Michigan shor e most common. B of summer. Summ o 10-percent chan alistic to expect a countered about 4 ore frequent and no	March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40 hile those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the By afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. 4 to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong
	also common in the S. Northerlies are a secondary wind.		

Response Considerations: Itel: The first waters to form an extensive tice cover are Green Bay and the bays de Noc. These buildups are added by windows resulting from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build ou 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have beer provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table											by windrows resulting ncludes the above- a direct function of the iles offshore. In addition, these floes can build out rage 40-percent coverage while decay begins a being the Fox and ters, and some have been arbors in Lake Michigan		
	Recommended Spill Response Strategy Table												
(Decimal	(Decimal	Strategy	Implementation	Boom	Area	Access	Land Access	ity	Verified	State	County	sector	Address
U.S. Oil 44.5304 Fox River Terminal (A6)		Diversion	Angle boom from the land anchor at Georgia Pacific Plant (44.5223,- 88.0090) into the Fox River preventing product from entering the environmentally sensitive areas located in the East River. Containment and Collection: Containment boom around the vessel and marine transfer area allowing collection of product while preventing further discharge downriver. Skimmers, sorbents and vac trucks for collection.	1000'	Green Bay Fox River Public Docks 100A Bay Beach RD Green Bay WI 54301	Green Bay Fox River Public Docks 100A Bay Beach RD Green Bay WI 54301	U.S. Oil Terminal 1124 North Broadway Green , WI 54303	High	14-Oct-2014	WI	Brown	SLM	1124 N. Broadway, Green Bay, WI 54303-3429

LOGISTICS

Logistics Support Table

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
U.S. Oil Fox River Terminal	Regulated Facility	44.5304	-88.0114	1124 N. Broadway, Green Bay, WI 54303-3429	Brown	Dave Herman	none	MTSA and bulk liquid transfer facility	WI	SLM
Green Bay Fox River Public Docks	Staging area	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	None	Multi-lane boat ramp with large parking lot	WI	SLM
Green Bay Fox River Public Docks 100A	Boat Ramp	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	None	Multi-lane boat ramp with large parking lot	WI	SLM

COMMENTS



GRS: Noble P	etro Terminal	GRS #	A7
Protection Priority Sites / F	Ranking: High (A)		
	LOCAT	TION INFORMATION	
State: Wisconsin		County: Brown	
	CONT	ACT INFORMATION	
Bay Environmental Strategie	es: 920- 347- 2234		
EPA Spill Hotline: 312-353-2	2318		
GEI Consultants Inc : 920-4	55-8200		
Green Bay Fire Department	t : 920-448-3280		
USCG Auxiliary Station Gree	en Bay : 920-435-7042 n Command Center: 414-747-7182		
Wisconsin Department of Na	atural Resource : 1-800-847-9367		
Wisconsin Department of Na	atural Resource Spill Emergency Hotline: 1-800-943-0	003	
•	RESOURCES A	T RISK CHARACTERISTICS	
Managed Areas:	Bay Beach Amusement Park , Bay Beach	Wildlife Sanctuary, Ken Euers Natur	re Park, Pulliam Power Plant
Shoreline Type:	Extensive Wetlands, Fringing Wetlands, G	ravel and Mixed Sand Beaches	
Sensitive Habitat:	Barkhausen Waterfowl Preserve, Bay Bea	ach Wildlife Sanctuary, Cat Island , Ko	en Euers Nature Area, Willow Island
Wildlife:	Bass, Walleye, Migratory Birds, Perch, Se	a Birds	
Federally Threatened /	Dwarf Lake Iris (T), Northern Long-eared I	Bat (T)	
Endangered Species:			
Socio-Economic Resource	es: Bay Beach Amusement Park, Bay Beach University Boat Launch, Grassy Island R	Island , South Bay Marina , Green Ba ange Lighthouse	ay Yacht Club,
	SP	ILL RESPONSE	
Predicted Behavior:	Sea Conditions: Worst in October and Not time. In October, S through SW winds are of 10 feet or more are encountered 3 to 5 encountered. During the spring, high seas percent in the N. Summer seas climb abov 20 percent in June and July. By August, th Winds: Coastal winds are more localized morning, when northerlies, easterlies, and preponderance of winds out of the S, parti- likelihood of encountering winds of 28 kno Green Bay recorded a 95-knot southweste Spring winds can still blow strong, with wir winter fierceness, with southerlies and sou winds are infrequent in summer and most also common in the S. Northerlies are a se	ovember, when, lakewide, wave heigh most often responsible, while by Nov percent of the time from November the are infrequent, but 5- to 10-foot seas ve 10 feet less than 1 percent of the ti- te fall buildup begins. and variable. Along the Lake Michiga southerlies are among the most com cularly with the approach of summer. ts or more falls from a 4- to 10-percer erly one May; it is not unrealistic to ex- ted of 28 knots or more encountered atthwesterlies becoming more frequency y associated with thunderstorms. S an econdary wind.	hts of 5 to 10 feet are encountered about 35 percent of the vember W through N winds often generate rough seas. Seas nrough March. Extreme waves of 20 to 22 feet have been a develop 15 to 30 percent of the time in the S and 20 to 40 ime, while those in the 5- to 10-foot category drop to less than an shore, spring winds are variable, particularly in the mon. By afternoon, aided by a lake-breeze effect, there are a . Summer also brings a slackening of wind speeds. The nt chance in March to less than 3 percent by May. However, spect a wind extreme of 100 knots or more over open waters. about 4 to 8 percent of the time. They do slacken from their it and northerlies less so as summer approaches. Strong and SW winds prevail particularly in the N southeasterlies are

Response Considerations: Ice: The first waters to form an extensive fice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of th wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addit a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent cover and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have I provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michiga are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table										resulting above- tion of the In addition, can build out cent coverage begins a c and he have been e Michigan					
					Reco	mmended	Spill Respo	nse Stra	ategy	Table					
Site ID	Site ID Latitude (Decimal Degrees) Longitude (Decimal Degrees) Response (Decimal Degrees) Implementation Strategy Length Min Boom Length Staging Area Length Boat Access Land Access Priority Date Last Verified State County Sector Address														
Image: Degrees between state Degrees between state Degrees between state Containment and and collection: Terminal No 1000' Green Bay Bay Fox River Public Docks 2206 N Quincy ST. green Bay WI 54303 High 14-Oct-2014 WI Brown SLM 220 ST. ST. WI 54303 (A7) Image: Arrow State Image: Arrow State </th <th>2206 N Quincy ST. green Bay WI 54303</th>										2206 N Quincy ST. green Bay WI 54303					
						Log		JS							
						LOG	sucs suppo		,						
Name	Name Type Latitude Longitude Address County Owner / POC Access Limitations Description State Sector (Decimal Degrees) Degrees) Degrees) Degrees) Degrees) Degrees Degrees) Degrees De														
Noble Petr Terminal	Noble Petro TerminalDeactivated facility44.5361-88.00542206 N Quincy ST. green Bay WI 54303BrownDave Harmandeactivated bulk liquid transfer facilityWISLM														

Green Bay Fox River Public Docks	Staging area	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	None	Multi-lane boat ramp with large boat	WI	SLM
Green Bay Fox River Public Docks 100A	Boat Ramp	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	None	Multi-lane boat ramp with large boat	WI	SLM
				C	COMMENTS					


GRS: Li	ly Bay				GRS #	A8
Protection Priority	Sites / Ranking:		Medium (B)			
			LOCATION	INFORMATION		
State: Wisconsin				County: Door		
			CONTACT	NFORMATION		
Bay Environmental S	Strategies: 920- 34	47- 2234				
EPA Spill Hotline: 31	2-353-2318	746 2000				
USCG Station Sturge	eon Bay 920-743-	-3367				
USCG Sector Lake M	Michigan Commai	nd Center: 414-747-7	'182			
Wisconsin Departme	ent of Natural Res	ource : 1-800-847-936	67			
Wisconsin Departme	ent of Natural Res	ource Spill Emergenc	y Hotline: 1-800-943-0003			
		1	RESOURCES AT RIS	SK CHARACTER	RISTICS	
Managed Areas:		Cave Point , Clay B	anks State Natural Area			
Shoreline Type:		Sand Beaches, Mixe	ed Sand and Gravel Beaches	3		
Sensitive Habitat:		Portage Park, Clay	Banks State Natural Area, O	cean Wave Shipwrec	k	
Wildlife:		Bass, Lake Trout, M	ligratory Birds, Perch, Marine	e Birds, Mammals, Ins	sects	
Federally Threatene Endangered Specie	ed / es:	Dwarf Lake Iris (T),	Pitcher's Thistle (T), Hine's E	Emerald Dragonfly(E	E), Northern Long	- eared Bat (T)
Socio-Economic Re	esources:	Lily Bay Park Boat F	Ramp, Sturgeon Bay Ship Ca	anal		
			SPILL F	RESPONSE		
Predicted Behavior	:	Sea Conditions: W time. In October, S of 10 feet or more a encountered. During percent in the N. Su 20 percent in June a Winds: Coastal wir morning, when north preponderance of w likelihood of encour Green Bay recorded Spring winds can st winter fierceness, w winds are infrequen also common in the	Vorst in October and Novemb through SW winds are most of through SW winds are most of g the spring, high seas are in- ummer seas climb above 10 fr and July. By August, the fall b nds are more localized and va- herlies, easterlies, and south- vinds out of the S, particularly thering winds of 28 knots or m d a 95-knot southwesterly one ill blow strong, with winds of 2 vith southerlies and southwes t in summer and mostly asso S. Northerlies are a seconda	er, when, lakewide, w often responsible, wh at of the time from No frequent, but 5- to 10 eet less than 1 perce buildup begins. ariable. Along the Lat erlies are among the with the approach of hore falls from a 4- to e May; it is not unrea 28 knots or more enc terlies becoming mor ciated with thunderst ary wind.	vave heights of 5 ile by November V vember through N -foot seas develo nt of the time, wh ke Michigan shore most common. By f summer. Summe 10-percent chance listic to expect a v countered about 4 re frequent and no orms. S and SW	to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the y afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong winds prevail particularly in the N southeasterlies are

Response Considerations: Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition of the lake, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can buil 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table Distribution Bate torus Distribution Distribution Bate torus Distribution Distribution									Ilting e- of the Iddition, build out coverage ns a d ave been ichigan					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Lilly Bay (A8)	44.8475	-87.2674	Exclusion	Use boom to exlude or divert oil from impacting shorline. On the shoreline, use pom- pom sorbents for heavy viscous oils and sorbent boom for lighter low viscosity oils. Extreme care is necessary during deployment and recovery to minimize disturbance	5000'	Sawyer Park 421 Michiga n ST sturgeon bay WI 54235	Lily Bay Park Boat Ramp Sturgeon bay WI	Lily Bay Park Boat Ramp Sturgeon bay WI	Medium	14-Oct-2014	WI	Door	SLM	Lilly Bay Beach, Glidden Rd., Sturgeon Bay, WI 54235

LOGISTICS

Logistics Support Table Name Туре Latitude Longitude (Decimal Address County Owner / Access Limitations State Sector Description (Decimal Degrees) POC Degrees) E4449 County T Lily Bay road boat ramp boat ramp 44.84981 -87.263 Door State of little space and WI SLM Sturgeon Bay WI WI Dirt Ramp 54235 Sawyer Park 421 Sawyer Park Staging Area 44.8288 -87.3813 Door State of None Public Boat ramp WI SLM Michigan St., with large parking WI sturgeon bay WI lot 54235

COMMENTS



GRS:	Whitefish Dunes	s State Park			GRS #	A9				
Protection Prio	rity Sites / Ranking:	Mediu	um (B)							
			LOCATION IN	FORMATION						
State: Wisconsin				County: Door						
			CONTACT IN	FORMATION						
Bay Environmen	tal Strategies: 920- 3	47- 2234								
EPA Spill Hotline	: 312-353-2318									
Sturgeon Bay Fi										
USCG Station Sturgeon Bay 920-743-3367										
USCG Sector Lake Michigan Command Center: 414-747-7182 Wisconsin Department of Natural Resource : 1-800-847-9367										
Wisconsin Department of Natural Resource Spill Emergency Hotline: 1-800-943-0003										
RESOURCES AT RISK CHARACTERISTICS										
Managed Areas: Whitefish Dunes State Natural Area, Whitefish Dunes State Park, Cave Point County Park										
Shoreline Type	:	Sand Beaches, Mixed San	d and Gravel Beaches							
Sensitive Habit	at:	Ocean Wave Shipwreck , A	Australasia Shipwreck, W	hitefish Dunes St	ate Natural Area,	Cave Point County Park, Reynold's Pier Historic				
		District, Success Shipwrec	k							
Wildlife:		Whitefish, Lake Trout, Migr	atory Birds, Perch, Marir	ne Birds, Mammal	s, Insects					
Federally Threa	tened /	Dwarf Lake Iris (T), Pitcher	's Thistle (T), Hine's Eme	erald Dragonfly (E	E), Northern Long-	- eared Bat (T)				
Endangered Sp	ecies:									
Socio-Economi	c Resources:	Lily Bay Park Boat Ramp,	Sturgeon Bay Ship Cana	al, Township Park						
			SPILL RE	SPONSE						
Predicted Beha	vior:	Sea Conditions: Worst in	October and November.	when, lakewide, v	vave heights of 5 t	to 10 feet are encountered about 35 percent of the				
		time. In October, S through	SW winds are most ofte	en responsible, wh	ile by November \	W through N winds often generate rough seas. Seas				
		of 10 feet or more are enco	ountered 3 to 5 percent o	f the time from No	wember through N	March. Extreme waves of 20 to 22 feet have been				
		encountered. During the sp	oring, high seas are infree	quent, but 5- to 10	-foot seas develo	p 15 to 30 percent of the time in the S and 20 to 40				
		percent in the N. Summer	seas climb above 10 feet	less than 1 perce	ent of the time, whi	ile those in the 5- to 10-foot category drop to less than				
		20 percent in June and Jul	y. By August, the fall buil	dup begins.	ka Miahiman aham					
		winds: Coastal winds are	more localized and varia	able. Along the La	ke Michigan shore	e, spring winds are variable, particularly in the				
		preponderance of winds or	it of the S particularly wi	th the approach of	f summer Summe	er also brings a slackening of wind cspeeds. The				
		likelihood of encountering	winds of 28 knots or more	e falls from a 4- to	10-percent chance	ce in March to less than 3 percent by May. However.				
		Green Bay recorded a 95-k	knot southwesterly one N	lay; it is not unrea	listic to expect a w	vind extreme of 100 knots or more over open waters.				
		Spring winds can still blow	strong, with winds of 28	knots or more end	countered about 4	to 8 percent of the time. They do slacken from their				
		winter fierceness, with south	lies becoming mor	re frequent and no	ortherlies less so as summer approaches. Strong					
		winds are infrequent in sun	nmer and mostly associa	ted with thunderst	torms. S and SW	winds prevail particularly in the N southeasterlies are				
		also common in the S. Nor	tneriles are a secondary	wind.						
		<u> </u>								

Respon	se Conside	erations:	lce froi me win a c 10 and we Ha Me prc are	The first waters m prevailing winds intioned waters pl id. Shores expose ircular current pat to 15 miles into th d an 80-percent co ek or two later. rbors: The harbo nominee Rivers v ovided with stilling Muskegon, Calu	to form an s and curr us the ext ed to the fittern in the ne lake. A overage d rs on the ' vhich emp basins. S met, Chic. Rec	n extensive ic rents. In a no reme S part of ull force of th e S part of the mild winter o luring a seven W side of the oty into Green come harbor of ago, Milwauk	ce cover are G rmal winter, an of the lake. The e wind often ha e lake distribut on Lake Michig re winter. Maxi e lake are gene h Bay. The enti- entrances are p cee, Kenosha, s Spill Respons	reen Bay and e early ice cov e surface fea ave large ice es drifting flo an means ab mum ice cov erally at the m rances to the protected by and Green B se Strategy	d the Bays of ver is estable tures and lo fields of veres along the out 10-peroderage occur nouths of sreated be harbors are detached be ay	de Noc. These build de Noc. These build ocation of the ice fie ery heavy brash extern e shore. Even durin cent coverage comp irs by mid-March, of mall rivers, the only e generally protected oreakwaters. The mo	dups are f Januar elds chai ending 1 ng a mild pared to n the ave large str ed by pa ost impo	aided by wi y and includ nge as a dire to 2 miles o winter, thes an average erage, while eams being rallel piers, a rtant harbor	ndrows re es the ab ect functio iffshore. In the floes ca 40-percent decay be the Fox a and some s in Lake	sulting ove- in of the n addition, an build out nt coverage igins a and have been Michigan
Site ID	Latitude (Decimal	Longitude (Decimal	Response Strategy	Implementation	Min Boom	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	Sector	Address
	Degrees) Degrees)				Length									
White fish Dunes State Park (A9)	44.9060	-87.2150	Exclusion	Use boom to exclude or divert oil from impacting shoreline. On the shoreline, use pom-pom sorbents for heavy viscous oils and sorbent boom for lighter low viscosity oils. Extreme care is necessary during deployment and recovery to minimize disturbance	10000'	Sawyer Park 421 Michigan ST sturgeon bay WI 54235	White Fish Bay Ramp 44 54 20.2N 087 12 57.9W	3275 Clarks Lake Rd, Sturgeon Bay, WI 54235	Medium	14-Oct-2014	WI	Door	SLM	3275 Clarks Lake Rd, Sturgeon Bay, WI 54235

LOGISTICS

Logistics Support Table

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
Sawyer Park	Staging Area	44.8288	87.3813	Sawyer Park 421 Michigan St., Sturgeon Bay WI 54235	Door	State of WI	None	Public Boat ramp with large parking lot	WI	SLM
Whitefish bay Boat ramp	Boat ramp	44.90561	-87.2161	3700 Whitefish Bay Road, Sturgeon Bay WI 54235	Door	State of WI	Small vessels only, prone to getting sanded in	Public Boat ramp –if unusable use Sawyer Park ramp	WI	SLM
				COMMENTS	5					



GRS: Seag	gull Bar State Natur	al Area		GRS #	A10					
Protection Priority Site	es / Ranking:	Medium (B)			I					
		LOCATION	INFORMATION							
State: Wisconsin			County: Marinette	2						
		CONTACT	INFORMATION							
EPA Spill Hotline: 312-3	53-2318									
Marinette Fire Departme	ent: 715-732-5170									
Menomonie Fire Department : 715-232-2414										
USCG Auxiliary Station	Green Bay : 920-435-7)42								
Michigan Department of	Environmental Quality	: 414-747-7182 Environmental Emergencies Hotline: 80	0-202-4706							
Wisconsin Department of	of Natural Resource : 1-	800-847-9367	10-232-4700							
Wisconsin Department	of Natural Resource Sp	Il Emergency Hotline: 1-800-943-0003								
		RESOURCES AT R	ISK CHARACTER	RISTICS						
Managed Areas:	Red Ar	ow Park, Seagull Bar, Seagull Bar State	e Natural Area, Runno	e Park						
Shoreline Type:	Extensi	ve Wetlands, Fringing Wetlands ,Gravel	Beaches, Sheltered S	Scraps in Bedrock						
Sensitive Habitat:	Meneka	unee Shoal, Menominee River Watersh	hed							
Wildlife:	Bass , V	Valleye, Migratory Birds, Perch, Marine	Birds, Mammals, Inse	cts						
Federally Threatened	Kirtland	's Warbler (E), Red Knot (T), Dwarf Lak	e Iris (T), Hine's Emer	ald Dragonfly (E),	Cananda Lynx (T), Gray Wolf (E), Northern Long-					
Endangered Species:	eared E	at (T)								
Socio-Economic Reso	urces: Red Ar	ow Park, Michaelis Park								
		SPILL	RESPONSE							
Predicted Behavior:	Sea Co time. In of 10 fe encoun percent 20 perc Winds morning prepon- likelihoo Green I Spring winter f winds a	nditions: Worst in October and Noveml October, S through SW winds are most et or more are encountered 3 to 5 perce- tered. During the spring, high seas are in in the N. Summer seas climb above 10 ent in June and July. By August, the fall : Coastal winds are more localized and g, when northerlies, easterlies, and south derance of winds out of the S, particularl od of encountering winds of 28 knots or Bay recorded a 95-knot southwesterly of winds can still blow strong, with winds of erceness, with southerlies and southwe re infrequent in summer and mostly ass	ber, when, lakewide, when of the time from No onfrequent, but 5- to 10 feet less than 1 perce buildup begins. variable. Along the Lal herlies are among the ly with the approach of more falls from a 4- to ne May; it is not unreal f 28 knots or more ence sterlies becoming more cociated with thunderst	vave heights of 5 t ile by November V vember through M -foot seas develop nt of the time, whi ke Michigan shore most common. By f summer. Summe 10-percent chanc listic to expect a w countered about 4 re frequent and no orms. S and SW w	o 10 feet are encountered about 35 percent of the V through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been o 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the v afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The e in March to less than 3 percent by May. However, si vind extreme of 100 knots or more over open waters. to 8 percent of the time. They do slacken from their rtherlies less so as summer approaches. Strong winds prevail particularly in the N;.					

Response Considerations:	. Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting									
	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-									
	mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the									
	wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition,									
	a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out									
	10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage									
	and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a									
	week or two later.									
	Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and									
	Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some barbor entrances are protected by detached breakwaters. The most important barbors in Lake Michigan									
	are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay									
	Recommended Spill Response Strategy Table									

Site ID	Latitude (Decimal	Longitude (Decimal	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Secto</u> <u>r</u>	Address
	Degrees	Degrees												
Seagu II Bar State Natur al Area (A10)	45.0759	-87.5792	Exclusion	Use boom to exclude or divert oil from impacting shoreline. On the shoreline, use pom-pom sorbents for heavy viscous oils and sorbent boom for lighter low viscosity oils. Extreme care is necessary during deployment and recovery to minimize disturbance	10000'	Cedar River Boat Ramp 45 24' 46.8N -87 20' 59.4W	Menominee Public Boat ramp Harbor Drive Menominee MI 49858	318 Leonard St., Marinette, WI 54143	Medium	14-Oct-2014	WI	Marinette	SLM	318 Leonard St., Marinette , WI 54143

LOGISTICS

Logistics Support Table

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
Cedar River Boat Ramp	Staging Area	45.1074	-87.6042	8151 M-35 Stevenson MI 49887	Marinette	State of WI	none	Public boat Ramp	MI	SLM
Menominee Public Boat ramp	Boat Ramp	45.1074	-87.6042	Harbor Drive Menominee MI 49858	Menoninee	State of MI	none	Public boat Ramp	MI	SLM

-Seagull Bar is a sand spit and marsh on the margin of Green Bay off the City of Marinette. It contains the only true dune complex along Green Bay and is an important migratory bird staging area. The sand spit shelters a lagoon and large area of shallow water with emergent vegetation. The eastern edge of the bar has a system of sand ridges and dunes that have resulted from wave action and sand deposition. The rich dune flora ranges from rush species in the wetter, sandy areas to marram grass, Canada rye, and beach pea on the dry dunes. The remainder of the area consists of mud flats and emergent aquatics. The acreage of exposed land is always changing due to the bay's fluctuating water level. The area is a noted bird migration stopping point on Green Bay. During some spring and fall migrations, shorebirds by the thousands congregate here. The lagoon in particular is attractive to waterfowl. The federally endangered piping plover has attempted to nest here in recent years. Seagull Bar is owned by the DNR and was designated a State Natural Area in 1962.



GRS: Railroad Crossir	ng in James Street	GRS #	A11
Protection Priority Sites / Ranking:	High (A)		
	LOCATION INFORMA	TION	
State: Wisconsin	County: E	Brown	
	CONTACT INFORMA	TION	
Bay Environmental Strategies: 920- 34	47- 2234		
EPA Spill Hotline: 312-353-2318			
GEI Consultants Inc : 920-455-8200	2 2 2 0 0		
USCG Auxiliary Station Green Bay : 9	20-435-7042		
USCG Sector Lake Michigan Comma	nd Center: 414-747-7182		
Wisconsin Department of Natural Res	ource : 1-800-847-9367		
Wisconsin Department of Natural Res	ource Spill Emergency Hotline: 1-800-943-0003		
	RESOURCES AT RISK CHAR	ACTERISTICS	
Managed Areas:	Bay Beach Amusement Park , Bay Beach Wildlife Sanctuary,	East River Park, Pulliam	Power Plant
Shoreline Type:	Sheltered Scarps in Bedrocks, Riprap Revetments Groins an	nd Jetties	
Sensitive Habitat:	Fox River, Bay Beach Wildlife Sanctuary, East River Park, As	shwaubomay Memorial Ri	iver Park
Wildlife:	Bass, Walleye, Migratory Birds, Perch, Marine Birds, Mamma	lls	
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Northern Long-eared Bat (T)		
Socio-Economic Resources:	South Bay Marina , Green Bay Yacht Club, Fox River Trail , C	Grassy Island Range Ligh	thouse,
	SPILL RESPONS	E	
Predicted Behavior:	Sea Conditions: Worst in October and November, when, lak time. In October, S through SW winds are most often respons of 10 feet or more are encountered 3 to 5 percent of the time encountered. During the spring, high seas are infrequent, but percent in the N. Summer seas climb above 10 feet less than 20 percent in June and July. By August, the fall buildup begin Winds: Coastal winds are more localized and variable. Along morning, when northerlies, easterlies, and southerlies are am preponderance of winds out of the S, particularly with the app likelihood of encountering winds of 28 knots or more falls from Green Bay recorded a 95-knot southwesterly one May; it is no Spring winds can still blow strong, with winds of 28 knots or m winter fierceness, with southerlies and southwesterlies becom	ewide, wave heights of 5 sible, while by November from November through I 5- to 10-foot seas develo 1 percent of the time, whis. g the Lake Michigan shor ong the most common. B proach of summer. Summ in a 4- to 10-percent chan of unrealistic to expect a v nore encountered about 4 ning more frequent and no nunderstorms. S and SW	to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40 iile those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the by afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. 4 to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong winds prevail particularly in the N southeasterlies are

	also common in the S. Northerlies are a secondary wind.													
Response	e Consider	ations:	Ice: T	he first waters	s to form an	extensive ice of	over are Gre	en Bay and th	he Bays de	Noc. These	ouildups ar	e aided by	windrow	s resulting
			from p	revailing wind	is and curre	ents. In a norma	al winter, an e	arly ice cove	r is establis	shed by the e	nd of Janua	ary and inc	ludes the	e above-
			mentio	oned waters p	lus the extr	eme S part of t	he lake. The	surface featu	res and loc	ation of the ic	e fields cha	ange as a	direct fur	ction of the
			wind.	Shores expos	ed to the fu	Il force of the w	/ind often hav	e large ice fie	elds of very	heavy brash	extending	1 to 2 mile	es offshor	e. In addition,
			a circu	ılar current pa	attern in the	S part of the la	ke distributes	drifting floes	along the	shore. Even o	luring a mil	d winter, t	hese floe	s can build out
			10 to 7	15 miles into t	he lake. A i	nild winter on L	ake Michigar.	means abou	ut 10-perce	nt coverage c	ompared to	o an avera	ge 40-pe	rcent coverage
			and ar	n 80-percent d	coverage du	iring a severe v	vinter. Maxim	um ice covera	age occurs	by mid-Marc	h, on the a	verage, wł	nile decay	y begins a
			week	or two later.										
			Harbo	rbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and									ox and	
			Menor	enominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have bee									me have been	
			provid	ed with stilling	, basins. So	, me harbor ent	rances are pr	otected by de	tached bre	akwaters. Th	e most imp	ortant har	bors in La	ake Michigan
			are M	uskegon, Calu	, umet, Chica	go, Milwaukee	, Kenosha, ar	d Green Bay			•			U
			<u> I</u>	0	Reco	ommended Sp	ill Response	Strategy Ta	ble					
Site ID	Latitude	Longitude	Response	Implementati	on Min	Staging Area	Boat	Land	Priority	Date Last	<u>State</u>	County	<u>Sector</u>	Address
	(Decimal Degrees)	(Decimai Degrees)	Strategy		Lengt		Access	Access		verified				
Railroad	44 5247	-88 0107	Exclusion	Boom off the	250'	Green Bay	Green Bay	924	High	14-Oct-2014	WI	Brown	SLM	From
Crossing	11.5217	00.0107	Exclusion	canal or	250	Fox River	Fox River	McDonald		11 000 2011		Brown	52111	Waukegan to
(A11)				channel near		Public Docks	Public	St.,						Michigan City
				the railroad	-	100A Bay	Docks 100A	Green Bay,						there are
				crossing that i	S	Green Bay	Bay Beach BD Green	WI 54303						several railroad
				affecting the		WI 54301	Bay WI							will need to be
				coastal waters	5.		54301							addressed
				These are										individually.
				typically in										
				have ample	1									
				shore access										
				for recovery										
						L	DGISTICS							
						Logistic	s Support T	able						
	Name		Type Latitude Longitude Address County Owner / POC Access Description State Sector											

		(Decimal Degrees)	(Decimal Degrees)				Limitations				
Green Bay Fox River Public Docks	Staging area	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	None	Multi-lane boat ramp with large boat	WI	SLM	
Green Bay Fox River Public Docks 100A	Boat Ramp	44.5373	-88.0036	100A Bay Beach RD Green Bay WI 54301	Brown	State of WI	None	Multi-lane boat ramp with large boat	WI	SLM	
			C	COMMENTS							



GRS: Railroad	GRS: Railroad along the shoreline of the Fox River GRS # A12									
Protection Priority Sites / Ra	anking: High (A)									
	LOCATION IN	FORMATION								
State: Wisconsin		County: Brown								
	CONTACT IN	FORMATION								
Bay Environmental Strategies	: 920- 347- 2234									
EPA Spill Hotline: 312-353-23	18									
GEI Consultants Inc : 920-45	-8200 -8200									
Green Bay Fire Department :	920-448-3280 N Roy : 020 425 7042									
USCG Sector Lake Michigan	Tody : 920-455-7042 Command Center: 414-747-7182									
Wisconsin Department of Nat	ural Resource : 1-800-847-9367									
Wisconsin Department of Nat	ural Resource Spill Emergency Hotline: 1-800-943-0003									
	RESOURCES AT RISI	K CHARACTEF	RISTICS							
Managed Areas:	Leicht Memorial Park, The City Deck, Fox River The	rail								
Shoreline Type:	Sheltered Scarps in Bedrocks, Riprap Revetments	Groins and Jetties	S							
Sensitive Habitat:	Fox River, Bay Beach Wildlife Sanctuary, East Rive	er Park, Ashwaubo	omay Memorial R	iver Park						
Wildlife:	Bass, Walleye, Migratory Birds, Perch, Marine Bird	ls, Mammals								
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Northern Long-eared Bat (T)									
Socio-Economic Resources	South Bay Marina , Green Bay Yacht Club, Fox Riv	ver Trail, Grassy Is	sland Range Ligh	thouse,						
	SPILL RE	SPONSE								
Predicted Behavior:	. Sea Conditions: Worst in October and November time. In October, S through SW winds are most oft of 10 feet or more are encountered 3 to 5 percent of encountered. During the spring, high seas are infre	er, when, lakewide, en responsible, wh of the time from No equent, but 5- to 10	wave heights of ile by November ovember through ofoot seas develo	5 to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40						
	percent in the N. Summer seas climb above 10 fee 20 percent in June and July. By August, the fall bui Winds: Coastal winds are more localized and vari morning, when northerlies, easterlies, and southerl preponderance of winds out of the S, particularly w likelihood of encountering winds of 28 knots or more Green Bay recorded a 95-knot southwesterly one N Spring winds can still blow strong, with winds of 28 winter fierceness, with southerlies and southwester winds are infrequent in summer and mostly associa	It less than 1 perce ildup begins. iable. Along the Lal lies are among the <i>i</i> th the approach of re falls from a 4- to Vay; it is not unrea knots or more enc rlies becoming mon ated with thunderst	ent of the time, when the most common. End most common. End f summer. Summ 10-percent chan listic to expect a countered about 4 re frequent and n torms. S and SW	e, spring winds are variable, particularly in the by afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. It to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong winds prevail particularly in the N southeasterlies are						

Response	Consider	ations:	Ice: The fi from preva mentionec wind. Sho a circular o 10 to 15 m and an 80 week or tw Harbors: Menomine provided v are Muske	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above- mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build o 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table									Ilting e- of the addition, build out coverage ns a d ave been chigan	
Site ID	Latitude (Decima Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Railroad Along Shoreline (A12)	44.5231	-88.0131	Exclusion	These are going to be more land side response techniques such as barriers and trenching. These techniques are the best way to prevent discharged material from reaching the lake in these areas.		Dependant on discharge location	Dependant on discharge location	Dependant on discharge location	High	14-Oct- 2014		N/A	SLM	From Waukeg an to Michiga n City there are several railroad crossings that will need to be addresse d individu ally.
							Table							
						auto support		1		-				
Nam	e	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner	/ POC	Access mitations	Desc	ription	St	ate	Sector

Green Bay Fox River	Staging area	44.5373	-88.0036	100A Bay Beach	Brown	State of WI	None	Multi-lane boat ramp	WI	SLM
Public Docks				RD Green Bay WI				with large parking lot		-
				54301						
Green Bay Fox River	Boat Ramp	44.5373	-88.0036	100A Bay Beach	Brown	State of WI	None	Multi-lane boat ramp	WI	SLM
Public Docks 100A				RD Green Bay WI				with large parking lot		
				54301						
					-					
Brown County	Staging Area	44.4611	-88.0697	1500 Ft. Howard	Brown	State of WI	none	Large fair grounds	WI	SLM
Tangrounds				54115				adjacent to boat ramp		
DePere Boat Ramp	Staging Area	44.458	-88.068	608 Fairview Ave.	Brown	State of WI	none	Multi-lane boat ramp	WI	SLM
				DePere, WI				with large parking lot		
				544115						
				C	OMMENTS	5				
-From Waukegan to M	ichigan City there a	are several railroa	ad crossings that will	need to be addressed ind	ividually.					
	0,		0		,					



en Atkinson Dr and Hurlbut St.	GRS #	A13
High (A)		
LOCATION INFORMATION		
County: Brown		
CONTACT INFORMATION		
47- 2234		
a aaaa		
8-3280		
920-435-7042 Ind Center: 414-747-7182		
source : 1-800-847-9367		
source Spill Emergency Hotline: 1-800-943-0003		
RESOURCES AT RISK CHARACTE	RISTICS	
Bay Beach Amusement Park , Bay Beach Wildlife Sanctuary, Ken B	Euers Nature Park	, Pulliam Power Plant
Extensive Wetlands, Fringing Wetlands, Gravel and Mixed Sand Be	aches	
Barkhausen Waterfowl Preserve , Bay Beach Wildlife Sanctuary, Ca	it Island , Ken Eue	ers Nature Area,Willow Island
Bass, Walleye, Migratory Birds, Perch, Marine Birds, Mammals, Inse	ects	
Dwarf Lake Iris (T), Northern Long-eared Bat (T)		
Bay Beach Amusement Park, Bay Beach Island , South Bay Marina	, Green Bay Yach	nt Club,
University Boat Launch , Grassy Island Range Lighthouse		
SPILL RESPONSE		
Sea Conditions: Worst in October and November, when, lakewide,	wave heights of 5	to 10 feet are encountered about 35 percent of the
time. In October, S through SW winds are most often responsible, w	hile by November	W through N winds often generate rough seas. Seas
of 10 feet of more are encountered 3 to 5 percent of the time from N	O-foot seas develo	March. Extreme waves of 20 to 22 feet have been
percent in the N. Summer seas climb above 10 feet less than 1 perc	ent of the time, wh	hile those in the 5- to 10-foot category drop to less
than 20 percent in June and July. By August, the fall buildup begins.		
Winds: Coastal winds are more localized and variable. Along the L	ake Michigan shor	re, spring winds are variable, particularly in the
morning, when northerlies, easterlies, and southerlies are among the	e most common. E	By afternoon, aided by a lake-breeze effect, there are
a preponderance of winds out of the S, particularly with the approac	h of summer. Sum	mer also brings a slackening of wind speeds. The
likelihood of encountering winds of 28 knots or more falls from a 4- t	o 10-percent chan	ice in March to less than 3 percent by May. However,
Green Bay recorded a 95-knot southwesterly one May; it is not unre	alistic to expect a	wind extreme of 100 knots or more over open waters.
winter fierceness, with southerlies and southwesterlies becoming me	ore frequent and n	ortherlies less so as summer approaches. Strong
winds are infrequent in summer and mostly associated with thunder	storms. S and SW	winds prevail particularly in the N southeasterlies are
also common in the S. Northerlies are a secondary wind.		
	Atkinson Dr and Hurlbut St. High (A) LOCATION INFORMATION County: Brown CONTACT INFORMATION 477-2234 8-3280 320-435-7042 Ind Center: 414-747-7182 source Spill Emergency Hotline: 1-800-943-0003 RESOURCES AT RISK CHARACTE Bay Beach Amusement Park , Bay Beach Wildlife Sanctuary, Ken E Extensive Wetlands, Fringing Wetlands, Gravel and Mixed Sand Be Barkhausen Waterfowl Preserve , Bay Beach Wildlife Sanctuary, Ca Bass, Walleye, Migratory Birds, Perch, Marine Birds, Mammals, Inse Dwarf Lake Iris (T), Northern Long-eared Bat (T) Bay Beach Amusement Park, Bay Beach Island , South Bay Marina University Boat Launch , Grassy Island Range Lighthouse SPILL RESPONSE Sea Conditions: Worst in October and November, when, Iakewide, time. In October, S through SW winds are most often responsible, w of 10 feet or more are encountered 3 to 5 percent of the time from N encountered. During the spring, high seas are infrequent, but 5- to 1 percent in the N. Summer seas climb above 10 feet less than 1 perc than 20 percent in June and July. By August, the fall buildup begins. Winds: Coastal winds are more localized and variable. Along the L morning, when northerlies, easterlies, and southerlies are among th a preponderance of winds out of the S, particularly with the approac likelihood of encountering winds of 28 knots or more falls from a 4- t Green Bay recorded a 95-knot southwesterly one May; it is not unre spring winds can still blow strong, with winds of 28 knots or more er winter fierceness, with southerlies are a southwesterlies becoming m winds are infrequent in summer and mostly associated with thunder also common in the S. Northerlies are a secondary wind.	Atkinson Dr and Hurlbut St. GRS # High (A) LOCATION INFORMATION County: Brown County: Brown CONTACT INFORMATION County: Brown CONTACT INFORMATION CONTACT INFORMATION 447-2234 CONTACT INFORMATION 88-3280 20-435-7042 and Center: 414-747-7182 Source 1-800-847-9367 source Spill Emergency Hotline: 1-800-943-0003 RESOURCES AT RISK CHARACTERISTICS Bay Beach Amusement Park , Bay Beach Wildlife Sanctuary, Ken Euers Nature Park Extensive Wetlands, Fringing Wetlands, Gravel and Mixed Sand Beaches Barkhausen Waterfowl Preserve , Bay Beach Wildlife Sanctuary, Cat Island , Ken Euer Bass, Walleye, Migratory Birds, Perch, Marine Birds, Mammals, Insects Dwarf Lake Iris (T), Northern Long-eared Bat (T) Bay Beach Amusement Park, Bay Beach Island , South Bay Marina , Green Bay Yact University Boat Launch , Grassy Island Range Lighthouse Sea Conditions: Worst in October and November, when, lakewide, wave heights of 5 time. In October, S through SW winds are most often responsible, while by November of 10 feet or more are encountered 3 to 5 percent of the time from November through encountered. During the spring, high seas are infrequent, but 5- to 10-foot seas devele percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, wi than 20 percent and July. By August, the fall buildup begins. Winds: Coastal winds are more localized and variable. Along the Lake Michigan sh

Response (Considerati	ons:	Ice: The	first waters to for	m an ext	ensive ice	cover are Gr	een Bay and	the Bays	de Noc. The	se buildups	are aided	by windr	ows r	esulting
			from prev	vailing winds and	currents	. In a norm	ial winter, an	early ice cov	er is estal	blished by the	e end of Jar	luary and i	ncludes	the at)0Ve-
			wind Sh	ores exposed to t	be full fo	e S part or	the lake. The wind often ha	surface leat	ields of v	erv heavy bra	e ice ileias (ash extendir	change as	a direct	hore	on or the
			a circular	r current pattern i	n the S c	art of the l	ake distribute	es drifting floe	s along th	ne shore. Eve	en during a	mild winter	these f	loes c	an build
			out 10 to	15 miles into the	lake. A	mild winter	on Lake Mic	higan means	about 10	-percent cove	erage comp	ared to an	average	e 40-pe	ercent
			coverage	e and an 80-perce	ent cover	age during	a severe wir	nter. Maximur	n ice cov	erage occurs	by mid-Mai	ch, on the	average	, while	e decay
			begins a	egins a week or two later.											
			Harbors	arbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and										and	
			Menomir	Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have											
	been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake										Lake				
			Michigan	are Muskegon, (Calumet,	Chicago, I	Milwaukee, K	enosha, and	Green Ba	ау					
					Recomm	lended Sp	ill Response	e Strategy Ta	able						
Site ID	Latitude	Longitude	Response	Implementation	Min	Staging	Boat	Land Access	Priority	Date Last	<u>State</u>	County	<u>Secto</u>	<u>er</u>	Address
	(Decimal Degrees)	(Decimal Degrees)	Strategy		Boom Length	Area	Access			Verified					
Pipeline (A13)	44.5415	-88.0240	Exclusion:	Boom near the	250'	100A Bay Beach BD	100A Bay Beach BD	Dependant on discharge	High	14-Oct-2014	WI	Brown	SLM		1075 Hurlbut St
(A13)				boundary to		Green Bay	Green Bay	location							Green Bay,
				prevent the		WI 54301	WI 54301								WI
				material out of											
				the canals											
						L	OGISTICS								
						Logisti	cs Support 1	lable							
	I		-				A .I.I	6			A			CL - L -	Casta
N	lame		Туре	(Decimal Degrees)	Long (De Deg	cimal grees)	Address	County	Own	er / POC	Access Limitations	Descrip	otion	State	Sector
Green Bay Fo	x River Public	Staging are	ea	44.5373	-88.00	36 1	00A Bay Beach	Brown	State of V	MI	None	Multi-la	ne V	VI	SLM
Docks						R	D Green Bay WI 4301					boat rar with lar	np ze		
						5	4501					boat	50		
Green Bay Fo	x River Public	Boat Ramp)	44.5373	-88.00	36 1	00A Bay Beach	Brown	State of V	NI	None	Multi-la	ne V	VI	SLM
Docks 100A						R	D Green Bay WI					boat rar	np		
						5	+30T					boat	50		
						<u> </u>									
						00									



GRS:	Offshore Vessel	GRS #	A14	
Protection Priority Sites / Ranking:	High (A)			
	LOCATION IN	FORMATION		
State: Wisconsin		County: Door		
	CONTACT IN	FORMATION		
EPA Spill Hotline: 312-353-2318				
Veolia Environmental Services: 920-743-10	97			
Sturgeon Bay Fire Department: 920-746-29	16			
USCG Station Sturgeon Bay: 920-743-3367	7			
USCGC Mobile Bay: 920-743-2646				
USCG Sector Lake Michigan Command Ce	enter: 414-747-7182			
Wisconsin Department of Natural Resource	2:1-800-847-9367			
Wisconsin Department of Natural Resource	Spill Emergency Hotline: 1-800-943-0003			
	RESOURCES AT RISP	CHARACTERISTICS		
Managed Areas:	Cave Point County Park, Newport State F	Park, Schauer Park		
Shoreline Type:	Shelving Bedrock Shores, Sand Beaches	, Hard Man-made Structures		
Sensitive Habitat:	Bailey's Harbor Boreal Forest and Wetlar	nds, North Bay State Natural Area	a, Moonlight Bay Bedrock Beach State Natural Area	
Wildlife:	Terrestrial Plants, Gamefish			
Federally Threatened / Endangered	Dwarf Lake Iris (T), Pitcher's Thistle (T), I	Hine's Emerald Dragonfly (E), No	orthern Long-eared Bat (T)	
Species:				
Socio-Economic Resources:	Cana Island Lighthouse, Public Drinking	Water Source (44.79447, -87.313	342)	
	SPILL RE	SPONSE		
Predicted Behavior:	Sea Conditions: Worst in October and N	lovember, when, lakewide, wave	heights of 5 to 10 feet are encountered about 35 perce	ent
	of the time. In October, S through SW wir	nds are most often responsible, w	while by November W through N winds often generate	
	rough seas. Seas of 10 feet or more are	encountered 3 to 5 percent of the	e time from November through March. Extreme waves o	of
	20 to 22 feet have been encountered. Du	ring the spring, high seas are infr	requent, but 5- to 10-foot seas develop 15 to 30 percen	nt
	of the time in the S and 20 to 40 percent	in the N. Summer seas climb abo	ove 10 feet less than 1 percent of the time, while those i	in
	the 5- to 10-foot category drop to less that	In 20 percent in June and July. B	y August, the fall buildup begins.	_
	the merning, when pertherline, appendix	and variable. Along the Lake M	nort common, By offernoon, eided by a lake brooze	1
	effect there are a preponderance of wind	and southernes are among the r	host common. By alternoon, alled by a lake-breeze	aina
	of windspeeds. The likelihood of encount	ering winds of 28 knots or more f	falls from a 4- to 10-percent chance in March to less that	an
	3 percent by May. However, Green Bay r	ecorded a 95-knot southwesterly	one May: it is not unrealistic to expect a wind extreme	e of
	100 knots or more over open waters. Spr	ing winds can still blow strong, wi	ith winds of 28 knots or more encountered about 4 to 8	8
	percent of the time. They do slacken from	their winter fierceness, with sou	therlies and southwesterlies becoming more frequent a	and
	northerlies less so as summer approache	s. Strong winds are infrequent in	summer and mostly associated with thunderstorms. S	3
	and SW winds prevail particularly in the N	I southeasterlies are also commo	on in the S. Northerlies are a secondary wind.	

Response Considerations:	Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows
	resulting from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and
	includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change
	as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash
	extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the
	shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means
	about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter.
	Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later.
	Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox
	and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and
	some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important
	harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay
	Recommended Spill Response Strategy Table

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Offshore Vessel (A14)	44.91577	-86.81765	Diversion:	Initial is to circle the stricken vessel with offshore boom (3 X ships length) in an effort to prevent total loss. Diversion boom will allow to funnel discharge to a natural collection point or to a skimming barge. Deploy from nearest marina with boom and skimming vessels to prevent or minimize landfall of the discharge. Chevron diversion booming will be used to funnel missed discharge to an area of shore with the deepest beach.	2x the length of the vessel	Dependant on discharge location	Dependant on discharge location	Dependant on discharge location	High	14-Oct-2014	WI	Door	SLM	Anywhere offshore, 2 miles or greater, with the winds out of the north.
						LOG	ISTICS							
						Logistics S	Support Tal	ble						
	Name		Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Addres	5	County	Owner / POC	Access Limitations	D	escription	State	Sector

Sawyer Park	Staging Area	44.8288	87.3813	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	State of WI	None	Public Boat ramp with large parking lot	WI	SLM
USCG Station Sturgeon Bay	Boat Ramp	44.7950	87.3134	2501 Canal Rd, Sturgeon Bay, WI 54235	Door	USCG	None	Coast guard small boat station	WI	SLM
				COMMEN	ITS		<u></u>			



GRS:	Near Shore Ves	ssel with Offshore	e Winds		GRS #	A15					
Protection Prio	rity Sites / Ranking	:	High (A)								
			LOCAT	TION INFORMATION							
State: Wisconsin				County: Door							
			CONT	ACT INFORMATION							
EPA Spill Hotlin	e: 312-353-2318										
Veolia Environm	ental Services: 920-	743-1097									
Sturgeon Bay Fi	re Department: 920-	746-2916									
USCG Station S	turgeon Bay: 920-74	3-3367									
	Bay: 920-743-2646 ke Michigan Comm	and Center: $111_{-}717$	7-7182								
Wisconsin Dena	rtment of Natural Re	and Center. 414-747	367								
Wisconsin Depa	rtment of Natural Re	source Spill Emerge	ncv Hotline: 1-800-943	3-0003							
	RESOURCES AT RISK CHARACTERISTICS										
Managed Areas	:	Cave Point County	Park, Newport State	Park, Schauer Park							
Shoreline Type	:	Shelving Bedrock	Shores, Sand Beaches	s, Hard Man-made Structu	res						
Sensitive Habit	at:	Bailey's Harbor Bo	real Forest and Wetla	nds, North Bay State Natur	ral Area, Moonlig	ght Bay Bedrock Beach State Natural Area, Whitefish					
		Dunes State Park									
Wildlife:		Terrestrial Plants,	Aquatic Plants, Game	fish, Terrestrial and marine	e birds						
Federally Threa	itened /	Dwarf Lake Iris (T)	, Pitcher's Thistle (T),	Hine's Emerald Dragonfly	(E), Northern Lo	ng-eared Bat (T)					
Endangered Sp	ecies:										
Socio-Econom	c Resources:	Cana Island Lighth	ouse, Public Drinking	Water Source (44.79447,	-87.31342)						
			SP	ILL RESPONSE							
Predicted Beha	vior:	Sea Conditions: V	Norst in October and N	November, when, lakewide	, wave heights c	of 5 to 10 feet are encountered about 35 percent of					
		the time. In Octobe	er, S through SW wind	s are most often responsib	ole, while by Nov	ember W through N winds often generate rough					
		seas. Seas of 10 fe	eet or more are encou	ntered 3 to 5 percent of the	e time from Nove	ember through March. Extreme waves of 20 to 22 feet					
		have been encoun	tered. During the sprin	ng, high seas are infrequen	nt, but 5- to 10-fo	ot seas develop 15 to 30 percent of the time in the S					
		and 20 to 40 perce	ent in the N. Summer s	eas climb above 10 feet le	ess than 1 percer	nt of the time, while those in the 5- to 10-foot category					
		drop to less than 2	0 percent in June and	July. By August, the fall bu	uildup begins.						
		Winds: Coastal w	inds are more localize	d and variable. Along the l	Lake Michigan sl	hore, spring winds are variable, particularly in the					
		morning, when nor	therlies, easterlies, an	d southerlies are among th	ne most commor	h. By afternoon, aided by a lake-breeze effect, there					
		are a preponderan	ce of winds out of the	S, particularly with the app	proach of summe	er. Summer also brings a slackening of wind speeds.					
			ncountering winds of 2	co knots or more fails from	a 4- to 10-perce	ent chance in March to less than 3 percent by May.					
		nowever, Green B	ay recorded a 95-Knot	southwesterly one May; It	is not unrealistic	c to expect a wind extreme of 100 knots of more over					
		open waters. Sprin	ig winds can still blow	strong, with winds of 28 kh	torling becoming	builtered about 4 to 8 percent of the time. They do					
		approaches Strop	winter herceness, with	i southenies and southwes	certes becoming	understorms. S and SW winds prevail particularly in					
		the N southeasterli	ies are also common i	n the S. Northerlies are a s	secondary wind						
L											

Respons	e Consider	ations:	Ice: The f from prev mentioned the wind. addition, a can build 40-percer while deca Harbors: Menomine been prov Michigan	irst waters ailing wind d waters p Shores ex a circular out 10 to at coverag ay begins The harb ee Rivers ided with are Musk	s to form an ei ds and current plus the extrem xposed to the current pattern 15 miles into t ge and an 80-p s a week or two ors on the W which empty s stilling basins regon, Calume Recomm	Attensive ice of as. In a norma the S part of the full force of the in the S part he lake. A mil bercent covera b later. side of the lake nto Green Ba . Some harbo t, Chicago, Min mended Spill	over are Gre I winter, an e le lake. The e wind often of the lake of d winter on l age during a e are genera y. The entra r entrances ilwaukee, Ke Response	een Bay early ice surface have la distribut Lake Mi severe ally at th nces to are prot enosha, Strateg	and the E e cover is features arge ice fid res drifting ichigan m winter. M he mouths the harbo tected by and Gree y Table	Bays estab and I elds (floe eans axim of si ors al detac n Ba	de Noc. Thes blished by the ocation of the of very heavy s along the sl about 10-per um ice cover mall rivers, th re generally p ched breakwary	e buildups e end of Jan e ice fields o brash externore. Even rorent covera age occurs e only large rotected by aters. The m	are aideo Juary and change as nding 1 to during a r age comp by mid-M e streams parallel p nost impo	I by win include s a direc 2 mile mild wir pared to farch, o larch, o being t piers, au rtant ha	drows es the ct func s offsh iter, th an av n the he Fo nd sor arbors	resulting above- above- tion of nore. In rese floes rerage average, average, x and ne have in Lake
Site ID	Latitude (Decimal Degrees)	Longitu (Decim Degree	de Response al Strategy s)	Impleme	entati Min Boom Length	Staging Area	Boat Access	Lan Acce	d Prio	ority	Date Last Verified	<u>State</u>	County	<u>Sector</u>		Address
Near Shore Vessel with Offshor e Wind (A15)	44.81002	-87.174	04 Containment and Collection	Prevent loss of v cargo f the immed vicinity o casual Prote sensit shorel alon southe portion o lake fr signific impa	total 3x vessel Length from of e Vessel liate of the lty. ect tive line ern of the rom cant act	Dependant on discharge location	Dependant on discharge location	Depend on discha locati	dant Hi arge ion	gh	14-Oct-201	4 WI	Door	SLM	Lo va en c wit of s w bas	cation will ry, but will compass a lischarge hin 2 miles shore. This ill also be sed upon a d out of the south.
						LOC	BISTICS	ble								
	Name		Туре	Type Latitude Longitude Address County Owner / POC Access Description State Sector (Decimal (Decimal Degrees) Degrees) Degrees) Degrees) Degrees) Degrees)												
Sawyer Pa	rk		Boat Ramp		44.8288	87.3813	Sawyer Par Michigan St Sturgeon Ba 54235	rark 421 Door State of WI None Public Boat WI SLM ramp with large parking lot				SLM				
Station Stu	urgeon bay		Staging Area		44.7950	87.3134	2501 Canal Sturgeon Ba 54235	501 Canal Rd, Door USCG None Coast guard WI SLM surgeon Bay, WI 4235 station				SLM				

COMMENTS



RS: Australasia Ship	Australasia Shipwreck GRS # A16									
Protection Priority Sites / Ranking:	Medium (B)									
	LOCATION INFORM	IATION								
State: Wisconsin	County	/: Door								
	CONTACT INFORM	IATION								
EPA Spill Hotline: 312-353-2318										
Veolia Environmental Services: 920-74	43-1097									
Sturgeon Bay Fire Department: 920-74	46-2916									
USCG Station Sturgeon Bay: 920-743	j-3367									
USCGC Mobile Bay: 920-743-2646										
USCG Sector Lake Michigan Commar	1d Center: 414-747-7182									
Wisconsin Department of Natural Res	OUICE : 1-800-847-9367									
Wisconsin Historical Society State Are	chaeologist: 608- 264-6496									
	RESOURCES AT RISK CHA	RACTERIST	TICS							
Managed Areas:	Cave Point County Park, Whitefish Dunes State Park, Tow	nship Park, Suc	Iccess Shipwre	eck						
		• ·	·							
Shoreline Type:	Shelving Bedrock Shores, Sand Beaches, Gravel Beaches	s, Exposed Rock	cky Cliffs							
Sensitive Habitat:	Whitefish Dunes State Natural Area									
Wildlife:	Terrestrial Plants, Aquatic Plants, Gamefish, Migratory Bir	ds								
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Di	ragonfly (E), No	orthern Long-e	eared Bat (T)						
Socio-Economic Resources:	Caves used for Kayaking, Public Drinking Water Source (4	4.92647, -87.18	8182)							
	SPILL RESPON	ISE								
	time. In October, S through SW winds are most often response of 10 feet or more are encountered 3 to 5 percent of the time encountered. During the spring, high seas are infrequent, to percent in the N. Summer seas climb above 10 feet less th 20 percent in June and July. By August, the fall buildup beg Winds: Coastal winds are more localized and variable. All morning, when northerlies, easterlies, and southerlies are a preponderance of winds out of the S, particularly with the a likelihood of encountering winds of 28 knots or more falls fit Green Bay recorded a 95-knot southwesterly one May; it is Spring winds can still blow strong, with winds of 28 knots or winter fierceness, with southerlies and southwesterlies bec	onsible, while by ne from Noveml but 5- to 10-foot han 1 percent of gins. ong the Lake M among the most approach of sum rom a 4- to 10-p s not unrealistic or more encount coming more fre	by November V her through M of seas develop of the time, while Alichigan shore st common. By mmer. Summe percent chanc c to expect a w intered about 4 equent and no	V through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the e afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The e in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. to 8 percent of the time. They do slacken from their rtherlies less so as summer approaches. Strong						

			also com	mon in th	e S. Northerlie	s are a second	larv wind									-
Bosnonso Co	nc:	and common in the C. Nother lines are a secondary wind.														
		from pre mentione wind. Sh a circula 10 to 15 and an 8 week or Harbors Menomir provided are Mush	 Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay 													
					Recon	innended Spin	Response Si	lategy	Table							
Site ID	Latitude (Decimal	Longitude (Decimal	Response Strategy	Implemen ation	nt Min Boom	Staging Area	Boat Access	Land	Access	Priority	Date La Verifie	st <u>State</u> d	County	<u>Sector</u>	Address	Γ
AUSTRALASIA shipwreck (A16)	44.9216	-87.1870	Exclusion	Use anchored deep-sea boom to exclude o divert oi from are: around wreck. Wreck lie at depth o 20', water in bay known fo being choppy.	1000' d a b b o r i l a a b o r i c a a b o r i c a a b o c c a a b o c c a a a b o c c a a a a a a a b o c c a a a a a a a a a a a a a a a a a	Sawyer Park 421 Michigan ST Sturgeon Bay WI 54235	White Fish Bay Ramp 44 54 20.2N 087 12 57.9W	3275 Clarks Lake Rd, Sturgeon Bay, WI 54235		Medium	1-Dec-	16 WI	Door	SLM	3275 Clarks Lake Rd, Sturgeon Bay, WI 54235	
						LO	GISTICS									
						Logistics	Support Tab	le								
Name			Type Latitude (Decimal Degrees)		Longitude (Decimal Degrees)	Address		County	Owner / POC		Access Limitations	Descripti	on State	e Sector	Ī	
Sawyer Park		Staging Area		44.8288	-87.3813	Sawyer Park 42 Michigan ST st bay WI 54235	21 urgeon	Door	WI DNR		None	Public Boa ramp with large parki lot	t WI	SLM		

Whitefish bay Boat ramp	Boat ramp	44.90561	-87.2161	3700 Whitefish Bay Road, Sturgeon Bay WI 54235	Door	State of WI	Small vessels only, prone to getting sanded in	Public Boat ramp –if unusable use Sawyer Park ramp	WI	SLM	
									<u> </u>		
COMMENTS											
 Potential of recreational divers on the Wreck Wreck is on the National Register of Historic Places Lying in about 20 feet of water, the shipwreck site is easily accessible by boat or kayak. Australasia is a popular shipwreck for beginner divers, and the bow and stern sections remain partially intact. The site is marked with a seasonal Wisconsin Historical Society shipwreck mooring buoy, allowing boats to tie up directly above the site while protecting the shipwreck from inadvertent anchor damage and providing a safe point of ascent and descent for divers. 											


GRS:	Christina Nilsson	n Shipwreck			GRS #	A17
Protection Prior	ity Sites / Ranking:		Medium (B)			
			LOCATIO	N INFORMATION		
State: Wisconsin				County: Door		
			CONTAC	T INFORMATION		
EPA Spill Hotline	: 312-353-2318					
Veolia Environm	ental Services: 920-74	43-1097				
Sturgeon Bay Fir	e Department: 920-74	46-2916				
USCG Station St	urgeon Bay: 920-743	-3367				
	3ay: 920-743-2646	d Conton 444 747 7	400			
Wiegenein Dene	tmont of Notural Room	10 Center: 414-747-7	182			
Wisconsin Depai	tment of Natural Reso	ource Spill Emorgons	07 V Hotlino: 1 800 043 0003	5		
Wisconsin Histor	ical Society State Arc	chaeologist: 608- 264	-6496			
			RESOURCES AT	RISK CHARACTER	ISTICS	
Managed Areas		Baileys Harbor Rido	jes Park			
Shoreline Type:		Shelving Bedrock S	hores, Sand Beaches, Gr	avel Beaches, Exposed	Rocky Cliffs, Rip	rap, Fringing Wetlands, Sheltered Scarps in Bedrock
Sensitive Habita	it:	Toft Point Wildlife A	rea, The Ridges Sanctuar	ry State Natural Area		
Wildlife:		Terrestrial Plants, A	quatic Plants, Gamefish,	Migratory Birds, Bald Eag	gle	
Federally Threa Endangered Sp	tened / ecies:	Dwarf Lake Iris (T),	Pitcher's Thistle (T), Hine	's Emerald Dragonfly (E)), Northern Long-	eared Bat (T)
Socio-Economi	c Resources:	Marina in Baileys H	arbor, Anclam Park (Beac	ch)		
			SPIL	L RESPONSE		
Predicted Beha	vior:	Sea Conditions: W time. In October, S of 10 feet or more a encountered. During percent in the N. Su 20 percent in June a Winds: Coastal wir morning, when north preponderance of w likelihood of encourn Green Bay recorded Spring winds can st winter fierceness, w	Yorst in October and Nove through SW winds are mo re encountered 3 to 5 per g the spring, high seas are immer seas climb above 1 and July. By August, the fa nds are more localized an herlies, easterlies, and so rinds out of the S, particula thering winds of 28 knots of a 95-knot southwesterly ill blow strong, with winds with southerlies and southy t in summer and mostly as	mber, when, lakewide, w ost often responsible, whi cent of the time from Nov e infrequent, but 5- to 10- 10 feet less than 1 percer all buildup begins. d variable. Along the Lak- utherlies are among the arly with the approach of or more falls from a 4- to one May; it is not unreal of 28 knots or more enco- vesterlies becoming mor-	vave heights of 5 ile by November vember through I foot seas develo nt of the time, wh we Michigan shore most common. B summer. Summ 10-percent chan- istic to expect a ountered about 4 e frequent and ne parms. S and SW	to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40 ille those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the by afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. It to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong winds prevail particularly in the N southeasterlies are

		also commo	n in the S. Northerlies a	re a secondary	/ wind.								
Response Considera	sponse Considerations: Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build or 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent covera and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have be provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigar are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table												ulting ve- of the addition, build out coverage ins a ind ave been lichigan
			Recomm	ended Spill Ro	esponse	Strategy Ta	adie						
Site ID Latitu (Decir Degre CHRISTINA 45.05 NILSSON shipwreck (A17)	ude Longitude mal (Decimal ces) Degrees) 544 -87.0979	Response I Strategy I Exclusion 0 N N	esponse StrategyImplementationMin Boom LengthStaging AreaBoat AccessLand AccessPriorityDate Last VerifiedStateCountySectorAddressStatesUse anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck1000'Sawyer Park 421Baileys HarborBaileys HarborMedium Town Town Town Baileys1-Dec-16WIDoorSLMBailey's Harbor WIStrate deep-sea boom to exclude or divert oil from area around wreck. Wreck54235Some Sturgeon SturgeonMarina Baileys Harbor, WIMarina Baileys BaileysMedium Harbor, Harbor, Harbor, WI1-Dec-16WIDoorSLMBailey's Harbor WIStore of Historic1000'Sawyer Park 421Baileys Harbor, WI BaileysMedium Harbor, Harbor, WI1-Dec-16WIDoorSLMBailey's Harbor WIWI5423557 Baileys Harbor, WI S4202Harbor, WIWIIntervention Harbor, WIIntervention Harbor, WIIntervention Harbor, WIIntervention Harbor, WIIntervention 										ddress y's Harbor, WI
		- I - I -		LOGI	STICS	- I							
				Logistics S	upport Ta	able							
Name	Туре	Latitude (Decima Degrees)	al Longitude (Decimal Degrees)	Addres	is	County	Owner / POC	Access Limitations		Description		State	Sector
Sawyer Park 9	er Park Staging Area 44.8288 N 087.3813 W Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235 Door WI DNR None Public Boat ramp with large parking lot WI DNR VI D												
Bailey's Harbor Town Marina	Bailey's Harbor Town Boat Ramp 45.06575 N 87.122778 W 8132 HWY 57 Baileys Door State of WI none Public marina with boat WI SLM Marina Marina Harbor, WI 54202 Marina												
				COM	IENTS								

- Potential of recreational divers on the Wreck
- Wreck is on the National Register of Historic Places
- Located one-tenth of a mile east-southeast of the Baileys Harbor lighthouse, the Christina Nilsson's bilge section sits upright on the cobble and bedrock lake bottom in approximately 15 feet of water.



GRS:	Fleetwing Shipw	/reck			GRS #	A18
Protection Prior	ity Sites / Ranking:		Medium (B)			
			LOCATION INF	ORMATION		
State: Wisconsin				County: Door		
			CONTACT INF	ORMATION		
EPA Spill Hotline	: 312-353-2318					
Veolia Environm	ental Services: 920-74	43-1097				
Sister Bay – Libe	rty Grove Fire Depart	tment: 920-854-4021				
Sturgeon Bay Fi	e Department: 920-74	46-2916				
USCG Station St	urgeon Bay: 920-743	-3367				
USCGC Mobile I	Bay: 920-743-2646		100			
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7	182			
Wisconsin Depa	tment of Natural Reso	ource : 1-800-847-936)/ v Hatlina: 1 800 042 0002			
Wisconsin Depar	inell of Natural Res	chaeologist: 608- 264	-6496			
	ical Obclety, Otale An		RESOURCES AT RISK	CHARACTER		
Managed Areas	•	Door Bluff Co Park		ONANAOTEN		
······g·····	-					
Shoreline Type:		Shelving Bedrock S	hores, Sand Beaches, Gravel Be	eaches, Riprap		
Sensitive Habita	at:	Europe Bay Woods	State Natural Area, Ellison Bluff	State Natural Are	ea, Mink River Es	stuary State Natural Area
Wildlife:		Terrestrial Plants, A	quatic Plants, Gamefish, Migrato	ory Birds, Bald Ea	gle	
Federally Threa Endangered Sp	tened / ecies:	Dwarf Lake Iris (T),	Pitcher's Thistle (T), Hine's Emer	rald Dragonfly (E)), Northern Long	-eared Bat (T)
	_					
Socio-Economi	c Resources:	Door County Washin	ngton Island Ferry, Weborg Dock	(Tourist Spot)		
			SPILL RES	SPONSE		
Predicted Beha	vior:	Sea Conditions: W	orst in October and November, v	vhen, lakewide, w	vave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S t	hrough SW winds are most often	n responsible, whi	ile by November	W through N winds often generate rough seas. Seas
		of 10 feet or more a	re encountered 3 to 5 percent of	the time from No	vember through	March. Extreme waves of 20 to 22 feet have been
		encountered. During	j the spring, high seas are infrequ	uent, but 5- to 10	-toot seas develo	op 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Su	mmer seas climb above 10 feet I	less than 1 perce	nt of the time, wr	nile those in the 5- to 10-toot category drop to less than
		20 percent in June a	and July. By August, the fail build	lup begins.	ke Michigan shoi	re spring winds are variable particularly in the
		morning when north	herlies easterlies and southerlie	is are among the	most common F	By afternoon, aided by a lake-breeze effect there are a
		preponderance of w	inds out of the S. particularly with	h the approach of	summer. Summ	her also brings a slackening of windspeeds. The
		likelihood of encoun	tering winds of 28 knots or more	falls from a 4- to	10-percent chan	ice in March to less than 3 percent by May. However.
		Green Bay recorded	a 95-knot southwesterly one Ma	ay; it is not unreal	listic to expect a	wind extreme of 100 knots or more over open waters.
		Spring winds can st	II blow strong, with winds of 28 k	nots or more enc	ountered about 4	4 to 8 percent of the time. They do slacken from their
		winter fierceness, w	ith southerlies and southwesterlie	es becoming mor	e frequent and n	ortherlies less so as summer approaches. Strong

			winds are also comr	infrequent in su non in the S. No	mmer and r	mostly a e a secc	ssociate	ed with thun <i>r</i> ind.	derstorr	ns. S ar	nd SW w	/inds pre	vail partic	ularly in t	he N sout	heasterli	es are
Response Co	onsideration	IS:	Ice: The f from prev mentioned wind. Sho a circular 10 to 15 n and an 80 week or tw Harbors: Menomine provided w are Muske	irst waters to for ailing winds and d waters plus the res exposed to t current pattern i niles into the lak l-percent covera wo later. The harbors on ee Rivers which with stilling basir egon, Calumet, 0	m an extens currents. Ir e extreme S the full force n the S part e. A mild wi ge during a the W side empty into is. Some ha Chicago, Mi Recomme	sive ice a norm part of e of the t of the l inter on severe of the la Green E arbor en ilwaukee nded Sj	cover a nal winte the lake wind ofte ake dist Lake Mi winter. Ake are g Bay. The strances b, Kenos pill Res	re Green Ba er, an early i e. The surfa- en have larg ributes drifti ichigan mea Maximum ic generally at e entrances are protecte sha, and Gr ponse Stra	ay and the ce cover ce featuring ing floes ins abour ce cover the mour to the ha een Bay tegy Ta	he Bays r is esta res and elds of v along t along t along t tat 10-pe age occ uths of s arbors a etached	de Noc ablished location very heav he shore rcent co curs by n small rive are gene breakwa	These by the end of the id vy brash e. Even d verage d nid-Marc ers, the d rally prot aters. Th	buildups a nd of Janu ce fields cl extending during a m compared h, on the poly large tected by e most im	are aided uary and i nange as g 1 to 2 m nild winter to an ave average, streams parallel p portant h	by windro includes the a direct full inles offshort these floc erage 40-p while dec being the iers, and s arbors in	ws resul ne above unction c ore. In a percent c ay begin Fox and some ha Lake Mic	ting e- of the ddition, ouild out overage s a ve been chigan
Site ID	Latitude (Decimal	Longitude (Decimal	Response Strategy	Implementation	Min Boom	Stagin	g Area	Boat Access	Land	l I ss	Priority	Date Last	<u>State</u>	County	<u>Sector</u>	Add	ress
FLEETWING Shipwreck (A18)	Degrees) 45.2854	Degrees) -87.0444		Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies in two major locations.	Length Weborg 131 2000' Sawyer Park Weborg 131 to 421 Michigan St Dock, 919 Garret rt Sturgeon Bay Cottage Roa WI 54235 Rd, Gills Ellisor wo - - -) M Bay I, WI O	Лedium	1edium 8 May WI 2017			SLM	Gills Ro	ock, WI
			1	,		L	OGIST	TICS		<u> </u>			1				
						Logist	ics Sup	port Table									
Name	Ту	pe	Latitude (D	ecimal Degrees)	Longitude (I Degree	Decimal es)		Address		County	Own PC	ier / DC L	Access imitations	Desc	ription	State	Sector
Sawyer Park	Staging Area		44.8288 N		087.3813 W		Sawyer St., Stur	Park 421 Mich geon Bay, WI	iigan 54235	Door	WIDN	IR N	lone	Public Bo with larg lot	at ramp e parking	WI	SLM
Weborg Dock Boat ramp 45.287556 N 87.022472 W 919 Cottage Rd, Gills Rock, WI Door Private None Public boat ramp WI SLM																	
						C	OMME	INTS									

- Potential of recreational divers on the Wreck
- Wreck is on the National Register of Historic Places

GRP/GRS MAP



GRS:	IRIS Shipwreck		GRS #	A19
Protection Prior	ity Sites / Ranking:	Medium (B)		
		LOCATION INFORMATION	N	
State: Wisconsin		County: Door		
		CONTACT INFORMATION	l	
Washington Islar	d Ferry Line: 920-847	7-2546		
Jackson Harbor I	Varina: 920-847-2522	2		
EPA Spill Hotline	: 312-353-2318			
Veolia Environme	ental Services: 920-74	13-1097		
Washington Islan	a Department: 92	20-535-0108		
LISCG Station St	urgeon Bay: 920-743	-3367		
USCGC Mobile F	3av: 920-743-2646	0007		
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7182		
Wisconsin Depar	tment of Natural Reso	ource : 1-800-847-9367		
Wisconsin Depar	tment of Natural Reso	purce Spill Emergency Hotline: 1-800-943-0003		
Wisconsin Histor	ical Society, State Arc	chaeologist: 608- 264-6496		
		RESOURCES AT RISK CHARACTI	ERISTICS	
Managed Areas	:	Rock Island State Park		
Shoreline Type:		Shelving Bedrock Shores, Sand Beaches, Mixed Sand and Gravel	Beaches, Gravel Be	eaches, Fringing Wetlands, Sheltered Man-made
		Structures		
Sensitive Habita	it:	Jackson Harbor Ridges State Natural Area, Coffey Swamp State N	atural Area	
Wildlife:		Terrestrial Plants, Aquatic Plants, Salmonids, Gamefish, Migratory	Birds	
Federally Threat	tened /	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly	(E), Northern Long-	eared Bat (T)
Endangered Spo	ecies:			
Socio-Economi	c Resources:	Rock Island State Park Ferry, Washington Island Ferry Line, Drinki	ng Water Intake (45	i.39904, -86.85552), Jackson Harbor Marina
		SPILL RESPONSE		
Predicted Behav	vior:	Sea Conditions: Worst in October and November, when, lakewide	, wave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S through SW winds are most often responsible,	while by November	W through N winds often generate rough seas. Seas
		of 10 feet or more are encountered 3 to 5 percent of the time from	November through	March. Extreme waves of 20 to 22 feet have been
		encountered. During the spring, high seas are infrequent, but 5- to	10-toot seas develo	p 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Summer seas climb above 10 feet less than 1 per	cent of the time, wr	life those in the 5- to 10-foot category drop to less than
		Winds: Coastal winds are more localized and variable. Along the	ake Michigan shor	e spring winds are variable particularly in the
		morning, when northerlies, easterlies, and southerlies are among the	ne most common. B	y afternoon, aided by a lake-breeze effect, there are a
		preponderance of winds out of the S, particularly with the approach	of summer. Summ	er also brings a slackening of wind speeds. The
		likelihood of encountering winds of 28 knots or more falls from a 4-	to 10-percent chan	ce in March to less than 3 percent by May. However,
		Green Bay recorded a 95-knot southwesterly one May; it is not unr	ealistic to expect a	wind extreme of 100 knots or more over open waters.

-															
	Spring winds can still blow strong, with winds of 28 knots or more encountered about 4 to 8 percent of the time. They do slacken from their winter fierceness, with southerlies and southwesterlies becoming more frequent and northerlies less so as summer approaches. Strong winds are infrequent in summer and mostly associated with thunderstorms. S and SW winds prevail particularly in the N southeasterlies are also common in the S. Northerlies are a secondary wind.													n from their . Strong asterlies are	
Response Considerations: Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These from prevailing winds and currents. In a normal winter, an early ice cover is established by the mentioned waters plus the extreme S part of the lake. The surface features and location of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brase a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-Ma week or two later											ese buildu he end of the ice field orash exter ven during age compa March, on	ups are a January ds chang nding 1 f a mild a mild ared to a the ave	aided by v and inclu ge as a d to 2 miles winter, th an averag rage, whi	windrows udes the irect func offshore ese floes le 40-per le decay	resulting above- tion of the . In addition, can build out cent coverage begins a
week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox at Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some I provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake I are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay.											x and ne have been ke Michigan				
					Recomme	ended Sp	ill Response	e Strategy	Table						
	Site ID	Latitude (Decimal Degrees)	Longtitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
	IRIS shipwreck (A19)	45.4004	-86.8552	Exclusion	Likely to be included in event of Jackson Harbor response, protect with boom anchored to pier. Wreck lies in water as shallow as 5'.	3000'	Sawyer Park 421 Michigan St Sturgeon Bay, WI 54235	Liberty Grove Boat Ramp, 12030 Cedar Road, Ellison	1899 Jackson Harbor Rd, Washingt on, WI 54246	Medium	1-Dec-16	WI	Door	SLM	1899 Jackson Harbor Rd, Washington, WI 54246

LOGISTICS

Bay, WI 54210

Logistics Support Table Туре Latitude (Decimal Degrees) Longitude (Decimal Name Address County Owner / Access Description State Sector Degrees) POC Limitations Sawyer Park 44.8288 N 087.3813 W Sawyer Park 421 Michigan Door WI DNR None Public Boat ramp WI SLM Staging Area St., Sturgeon Bay, WI 54235 with large parking lot 12030 Cedar Road, Ellison Liberty Grove 45.2546N 87.0747 W State of WI None Public boat ramp SLM Boat ramp Door WI Bay, WI 54210 Ramp

COMMENTS

- Potential of recreational divers on the Wreck
- Wreck is on the National Register of Historic Places
- Between the Rock Island ferry dock and the Ellefson fishing pier in Jackson Harbor ... lays the remains of the 74 foot Iris. Mostly buried beneath dredge spoil from an adjacent pier, much of the Iris' lower hull remains intact with the exception of a portion of the centerboard and centerboard trunk, a 23 foot section of the forward hull from the stempost aft, and a 25 foot section of the after hull from the rudder shoe forward."

GRP/GRS MAP



GRS:	JOYS Shipwreck	k			GRS #	A20
Protection Prior	ity Sites / Ranking:		Medium (B)			
			LOCATION I	NFORMATION		
State: Wisconsin				County: Door		
			CONTACT I	NFORMATION		
EPA Spill Hotline	: 312-353-2318					
Veolia Environme	ental Services: 920-74	43-1097				
City of Sturgeon	Bay: 920-746-2900					
Sturgeon Bay Fir	e Department: 920-74	46-2916				
USCG Station St	urgeon bay. 920-743	5-3307				
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7	182			
Wisconsin Depar	tment of Natural Res	ource : 1-800-847-936	67			
Wisconsin Depar	tment of Natural Res	ource Spill Emergenc	y Hotline: 1-800-943-0003			
Wisconsin Histor	ical Society, State Are	chaeologist: 608- 264	-6496			
			RESOURCES AT RIS	SK CHARACTER	RISTICS	
Managed Areas	:	Sunset Park, Shore	line Boat Launch, George K. I	Pinney County Park,	Bayview Park, O)tumba Park
Shoreline Type:		Gravel Beaches, Ha	ard Man-made Structures, She	eltered Man-made S	tructures, Mixed S	Sand and Gravel Beaches, Fringing Wetlands (just E
		of JOYS Shipwreck), Sand Beaches			
Sensitive Habita	it:	Dunlap Reef (44.83	757, -87.38834), Empire State	e Shipwreck (44.840	86, -87.39495)	
Wildlife:		Terrestrial Plants, A	quatic Plants, Migratory Birds	s, Bald Eagle, Smallr	nouth Bass, Blue	gill, Perch, Lake Sturgeon
Federally Threat Endangered Spe	tened / ecies:	Dwarf Lake Iris (T),	Pitcher's Thistle (T), Hine's E	merald Dragonfly (E), Northern Long-	eared Bat (T)
Socio-Economic	c Resources:	Walking Trail at Bay	view Park, Marina north of M	ichigan Street Bridge	e, Shipwrecks Poi	int in Sturgeon Bay (N of Empire State Shipwreck), Ice
		Age National Scenic	c Trail,			
		1	SPILL R	ESPONSE		
Predicted Behav	/ior:	Sea Conditions: W	orst in October and Novembe	er, when, lakewide, v	vave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S	through SVV winds are most o	itten responsible, wh	ile by November	W through N winds often generate rough seas. Seas
		encountered During	the spring high seas are inf	requent but 5- to 10	-foot seas develo	in 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Su	immer seas climb above 10 fe	et less than 1 perce	nt of the time, wh	ile those in the 5- to 10-foot category drop to less than
		20 percent in June a	and July. By August, the fall b	uildup begins.	· · · · · · ,	
		Winds: Coastal wir	nds are more localized and va	ariable. Along the La	ke Michigan shore	e, spring winds are variable, particularly in the
		morning, when north	herlies, easterlies, and southe	erlies are among the	most common. B	y afternoon, aided by a lake-breeze effect, there are a
		preponderance of w	rinds out of the S, particularly	with the approach of	f summer. Summe	er also brings a slackening of wind speeds. The
		likelihood of encoun	tering winds of 28 knots or m	ore falls from a 4- to	10-percent chan	ce in March to less than 3 percent by May. However,
		Green Bay recorded	a 95-knot southwesterly one	e May; it is not unrea	listic to expect a v	wind extreme of 100 knots or more over open waters.
		winter fierceness, w	ith southerlies and southwest	erlies becoming more	e frequent and no	ortherlies less so as summer approaches. Strong

		wi al Fo	inds are infrequent in summer and mostly associated with thunderstorms. S and SW winds prevail particularly in the N southeasterlies are so common in the S. Northerlies are a secondary wind. og: The shores of Lake Michigan are subject to varying amounts of fog. Upwelling along the northwest shores increases the possibility of dvection fog in the spring and summer.											
Response Co	Response Considerations: Ide: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are alded by windrows festiling from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent covera and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Temperature: The W shore waters in general are 5 to 10 degrees cooler than the E shore waters. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have be provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michiga are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table Recommended Spill Response Strategy Table												sulting ove- n of the addition, in build out it coverage gins a nd have been Michigan	
				Recomme	nded Spi	II Response	Strategy T	able						
Site ID	Latitude (Decimal Degrees)	Longtitude (Decimal Degrees)	e Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
JOYS shipwred (A20)	k 44.8491	-87.3891		Surround with boom anchored for exclusion Wreck is in as little as 5' of water.	1000'	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Sawyer Park 421 Michiga n St., Sturgeon Bay, WI 54235	Sunset Park, 747 North 3 rd Ave., Sturgeon Bay WI 54235	Medium	1-Dec-16	WI	Door	SLM	747 North 3 rd Ave., Sturgeon Bay WI 54235
		<u> </u>	I	1	LC	GISTICS	<u> </u>					<u> </u>		
					Logistic	s Support Ta	able							
Name	Туре	L	Latitude (Decimal Degrees) Longitude (Decimal Degrees) Address County Owner / Access Description State Sector Limitations											
Sawyer Park	Staging Area	44	4.8288 N	087.3813 W		Sawyer Park 422 St., Sturgeon Ba	L Michigan y, WI 54235	Door	WIDNR	None	Puk wit lot	blic Boat ramp h large parkin	o WI g	SLM
Sawyer Park	Boat Ramp	44	44.8288 N 087.3813 W Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235 Door WI DNR None Public Boat ramp with large parking lot WI SLM											

COMMENTS
 Potential of recreational divers on the Wreck Wreck is on the National Register of Historic Places
GRP/GRS MAP



GRS:	LOUISIANA Shi	pwreck	GRS #	A21
Protection Prior	ity Sites / Ranking:	Medium (B)		
		LOCATION INFORMATION		
State: Wisconsin		County: Door		
		CONTACT INFORMATION		
EPA Spill Hotline	: 312-353-2318			
Veolia Environme	ental Services: 920-74	43-1097		
Washington Islar	d Volunteer Fire Dep	artment: 920-535-0108		
Sturgeon Bay Fir	e Department: 920-74	46-2916		
Town of Washing	ton Island: 920-847-2	2522		
USCG Station St	av: 920-743-26/6	-3307		
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7182		
Wisconsin Depar	tment of Natural Res	ource : 1-800-847-9367		
Wisconsin Depar	tment of Natural Reso	ource Spill Emergency Hotline: 1-800-943-0003		
Wisconsin Histor	ical Society, State Arc	chaeologist: 608- 264-6496		
		RESOURCES AT RISK CHARACTER	RISTICS	
Managed Areas	:	Rock Island State Park, Schoolhouse Beach Park		
Shoreline Type:		Shelving Bedrock Shores, Gravel Beaches, Sand Beaches		
Sensitive Habita	ıt:	Little Lake State Natural Area, Coffey Swamp State Natural Area, Mu	ltiple Archaeolog	gical Sites around Washington Harbor
Wildlife:		Terrestrial Plants, Aquatic Plants, Migratory Birds, Salmonids		
Federally Threa Endangered Sp	tened / ecies:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E), Northern Long	g-eared Bat (T)
Socio-Economi	c Resources:	Bowyer Bluff (tourists)		
		SPILL RESPONSE		
Predicted Beha	vior:	Sea Conditions: Worst in October and November, when, lakewide, w	vave heights of s	5 to 10 feet are encountered about 35 percent of the
		of 10 feet or more are encountered 3 to 5 percent of the time from No	vember through	March. Extreme waves of 20 to 22 feet have been
		encountered. During the spring, high seas are infrequent, but 5- to 10)-foot seas devel	op 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Summer seas climb above 10 feet less than 1 perce	ent of the time, w	hile those in the 5- to 10-foot category drop to less than
		20 percent in June and July. By August, the fall buildup begins.		
		Winds: Coastal winds are more localized and variable. Along the La	ke Michigan sho	re, spring winds are variable, particularly in the
		morning, when northerlies, easterlies, and southerlies are among the	most common. I	By atternoon, aided by a lake-breeze effect, there are a
		preponderance of winds out of the S, particularly with the approach o	10 porcent above	ner also brings a slackening of wind speeds. The
		Green Bay recorded a 95-knot southwesterly one May: it is not uprea	listic to expect a	wind extreme of 100 knots or more over open waters
		Spring winds can still blow strong, with winds of 28 knots or more end	countered about	4 to 8 percent of the time. They do slacken from their

			winter fierc winds are i also comm Fog: The s advection f	eness, with soun nfrequent in su on in the S. No shores of Lake log in the spring	utherlies an mmer and r rtherlies are Michigan ar g and summ	d southy mostly a e a seco e subjeo ner.	weste issoc ondar ct to	erlies becoming ciated with thun ry wind. varying amount	g more f derstorr ts of fog	requent ns. S an J. Upwe	and northe d SW winds lling along t	rlies less s prevail he north	so as : particu west sh	summer ap Ilarly in the nores incre	proache N south ases the	es. Stror easterli possib	ng es are ility of
Response Co	nsideratior	IS:	rce: The fir from preva mentioned wind. Shor a circular of 10 to 15 m and an 80- week or tw Water Ten Harbors: T Menomine- provided w are Musker	st waters to for iling winds and waters plus the es exposed to t urrent pattern i iles into the lak percent covera o later. nperature : The The harbors on e Rivers which ith stilling basir gon, Calumet, (m an exten currents. Ir e extreme S the full force n the S part e. A mild wi ge during a W shore w the W side empty into ns. Some ha Chicago, Mi	a norm part of of the la t of the la inter on severe aters in of the la Green B arbor en	cove the li wind ake o Lake winto gene ake a 3ay.	er are Green Ba vinter, an early id lake. The surfact l often have large distributes drifting e Michigan mea ver. Maximum ic eral are 5 to 10 are generally at The entrances to ces are protected enosha, and Green vinter an early of the enosha, and Green vinter an early of the end of the early of the end of the end of the early of the end of the	ay and t ce cove ce featu ge ice fie ng floes ns abou e cover degree the mo to the h ed by de een Bay	r is estal res and elds of vo along th t 10-per age occi s cooler uths of s arbors a etached l	than the E mall rivers, re generally	the end o the ice fie trash exter ven durir age comp March, or shore wa the only protecte s. The mo	tups ar f Janua elds cha ending ig a mi pared to n the a large s ed by p post imp	te alded by ary and inc ange as a 1 to 2 mile Id winter, th o an avera verage, wh streams be arallel pier portant hark	ing the F s, and so	vs result e above nction o re. In ac es can b ercent c y begin fox and ome hav ake Mic	Ing - f the Idition, wild out overage s a ve been shigan
				Recommended Spill Response Strategy Table													
Site ID	Latitude (Decimal Degrees)	Longtitude (Decimal Degrees)	Response Strategy	Response StrategyImplementation Boom LengthMin Staging AreaStaging Boat AccessBoat AccessLand AccessPriorityDate Last VerifiedStateCountySectorAddress								dress					
LOUISIANA shipwreck (A21)	45.4009	-86.9220	Exclusion	Anchored exclusionary boom from the beach around fa end of wreck, poms poms on rocky beach.	1000' r	Sawye Park 4: Michiga Sturge Bay, V 5423:	er 21 In St con WI 5	Liberty Grove Boat Ramp, 12030 Cedar Road, Ellison Bay, WI 54210	19 Washi Harbor Washii WI 54	69 ngton Road, ngton, 1246	Medium	1-Dec-16	WI	Door	SLM	1 Was Hi R Wasi WI	969 hington arbor oad, nington, 54246
		L		L		L	OG	ISTICS			<u> </u>		1	<u> </u>		<u> </u>	
						Logisti	ics S	Support Table									
Name	Ту	ре	Latitude (De	Latitude (Decimal Degrees) Longitude (Decimal Degrees) Address County Owner / POC Access Description State Sector													
Sawyer Park	Staging Area		44.8288 N		087.3813 W		Saw St.,	vyer Park 421 Mich Sturgeon Bay, WI 5	igan 54235	Door	WIDNR	None		Public Boat with large p lot	ramp arking	WI	SLM
Liberty Grove	Boat ramp		45.2546N	5.2546N 87.0747 W 12030 Cedar Road, Ellison Door State of WI None Public boat ramp WI SLM Bay, WI 54210													

COMMENTS

- Potential of recreational divers on the Wreck
- Wreck is on the National Register of Historic Places
- The wreck of the Louisiana lies on the southeast side of Washington Harbor, with her stern lying in 18 feet of water and her bow almost reaching the surface (GPS : N 45 o 23.98' / W 86 o 55.36'). A 16-foot section of the bow lies exposed on the rocky beach, approximately 100 feet south of the site. The remaining 240 feet of the bilge lie on a gradually sloping rocky bottom, flanked by charred and broken pieces of the vessel's sides, machinery, sheet metal, and fastenings. At the bow, the hull is broken off at the turn of the bilge, but in the stern it rises to a height of approximately 13 feet. A large debris field of the boat's fallen sides and machinery lies off the starboard quarter, and much of this material extends into deeper water to the northwest. It is believed that additional parts of the hull, including portions of the upper sides, deck , and superstructure, remain to be found in deeper water to the west and northwest of the site

GRP/GRS MAP



RS:	MERIDIAN Ship	owreck			GRS #	A22
Protection Prior	ity Sites / Ranking:		Medium (B)			
			LOCATION II	NFORMATION		
State: Wisconsin				County: Door		
			CONTACT IN	FORMATION		
EPA Spill Hotline	: 312-353-2318					
Veolia Environme	ental Services: 920-74	43-1097				
Sister Bay/ Libert	y Grove Fire Departn	ment: 920-854-4021				
Washington Islan	d Fire Department (E	Ephraim): 920-854-402	2			
Sturgeon Bay Fire	e Department: 920-74	46-2916				
Village of Sister E	3ay: 920-854-4118	2267				
USCG Station St	urgeon bay. 920-743	5-3307				
USCG Sector Lak	ke Michigan Commar	nd Center: 414-747-71	82			
Wisconsin Depart	tment of Natural Res	ource : 1-800-847-936	7			
Wisconsin Depart	tment of Natural Res	ource Spill Emergency	Hotline: 1-800-943-0003			
Wisconsin Histori	cal Society, State Ar	chaeologist: 608- 264-	6496			
			RESOURCES AT RIS	K CHARACTER	RISTICS	
Managed Areas:		Sister Islands				
Shoreline Type:		Fringing Wetlands a	nd Extensive Wetlands along	Fish Creek Harbor	Sand Beaches	Fravel Beaches, Shelving Bedrock Shores, Sheltered
		Scarps in Bedrock				
Sensitive Habita	t:	Sister Islands State I	Natural Area, Sister Bluffs			
Wildlife:		Terrestrial Plants, Ac	quatic Plants, Migratory Birds,	Salmonids, Walley	e	
Federally Threat	ened /	Dwarf Lake Iris (T), F	Pitcher's Thistle (T), Hine's En	merald Dragonfly (E), Northern Long-	eared Bat (T)
Endangered Spe	ecies:					
Socio-Economic	Resources:	Marinas along shore	line of Sister Bay, Private doc	ks along shoreline	of Door County P	eninsula
			SPILL RI	ESPONSE		
Predicted Behav	/ior:	Sea Conditions: Wo	orst in October and November	r, when, lakewide, v	vave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S th	nrough SW winds are most of	ten responsible, wh	ile by November	W through N winds often generate rough seas. Seas
		of 10 feet or more ar	e encountered 3 to 5 percent	of the time from No	vember through N	March. Extreme waves of 20 to 22 feet have been
		encountered. During	the spring, high seas are intro	equent, but 5- to 10	-toot seas develo	p 15 to 30 percent of the time in the S and 20 to 40
		20 percent in lune a	ninei seas ciinib above 10 lee nd July By August the fall bi	uildun hegine	ant of the time, wh	
		Winds: Coastal win	ds are more localized and var	riable. Along the La	ke Michigan shore	e, spring winds are variable, particularly in the
		morning, when north	erlies, easterlies, and souther	rlies are among the	most common. B	y afternoon, aided by a lake-breeze effect. there are a
		preponderance of wi	nds out of the S, particularly v	with the approach o	f summer. Summe	er also brings a slackening of wind speeds. The
		likelihood of encount	ering winds of 28 knots or mo	ore falls from a 4- to	10-percent chance	ce in March to less than 3 percent by May. However,
		Green Bay recorded	a 95-knot southwesterly one	May; it is not unrea	listic to expect a v	wind extreme of 100 knots or more over open waters.

	 Spring winds can still blow strong, with winds of 28 kilots of more encountered about 4 to 8 percent of the time. They do stacker norm then winter fierceness, with southerlies and southwesterlies becoming more frequent and northerlies less so as summer approaches. Strong winds are infrequent in summer and mostly associated with thunderstorms. S and SW winds prevail particularly in the N southeasterlies are also common in the S. Northerlies are a secondary wind. Fog: The shores of Lake Michigan are subject to varying amounts of fog. Upwelling along the northwest shores increases the possibility of advection fog in the spring and summer. 													
Response C	Conside	rations:	Ice: The fin from preva mentioned wind. Shor a circular of 10 to 15 m and an 80 week or tw Water Ten Harbors: Menomine provided w are Muske	rst waters to form a niling winds and cur waters plus the ex- res exposed to the current pattern in the illes into the lake. A opercent coverage to later. nperature : The W The harbors on the e Rivers which em- vith stilling basins. S	In extensive rents. In a full force of the S part of a mild winte during a se shore wate W side of t pty into Gre Some harbo	e ice cover normal win rt of the lak the wind o the lake dis r on Lake N vere winter rs in genera he lake are een Bay. Th or entrance	are Gree ter, an ea ke. The su ften have stributes of Michigan i . Maximu al are 5 to e generall ne entrance s are proto osha, and	n Bay and the B rly ice cover is e inface features a large ice fields drifting floes alor means about 10 m ice coverage 0 10 degrees cor y at the mouths ces to the harbo rected by detach Green Bay	ays de Noc. The established by and location of of very heavy h ng the shore. E -percent cover occurs by mid- oler than the E of small rivers rs are generall ned breakwater	nese buildu the end of the ice field orash exter even during age compa March, on shore wate , the only la y protected rs. The mos	Ips are a January ds chang nding 1 to a mild w ared to ar the avera ers. arge strea I by para st importa	ided by wi and incluc te as a dire o 2 miles o vinter, thes n average age, while ams being llel piers, a ant harbor	ndrows re les the abo ect function offshore. In se floes ca 40-percer decay be the Fox a and some rs in Lake	sulting ove- n of the n addition, in build out nt coverage gins a and have been Michigan
				Re	commende	ed Spill Re	sponse \$	Strategy Table						
Site ID	Latitud (Decim Degree	le Longitude al (Decimal s) Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Acc	Land Acce	ss Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
MERIDIAN shipwreck (A22)	45.221	0 -87.1407	Exclusion	Anchored exclusionary boom from the beach around far end of wreck, pom pom boom on beach.	1000'	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	10733 N Bay Sho Drive, Si Bay, V 54234	orth none ore ster /I 1	Medium	1-Dec-16	WI	Door	SLM	Sister Bay, WI
			•			LOGIS	STICS	•						
					Lo	gistics Su	pport Ta	ble						
Name	2	Туре		Latitude (Decim	al Degrees)	Long (Decima	gitude I Degrees)	Address	County	Owner / POC	Access Limitat ions	Descript	ion Stat	te Sector
Sawyer Park		Staging Area	rea 44.8288 N -87.3813 W Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235 Door Bay, WI 54235 VI 54235 VI 54235											

Sister Bay Municipal	Boat Ramp	45. 19202 N	-87.1193 W	10733 North	Door	WI	None	Public Boat	WI	SLM
Marina				Bay Shore				Ramp		
				Drive, Sister						
				Bay, WI 54234						
										<u> </u>
	COMMENTS									
- Potent	al of recreational divers	on the Wreck								
- Wreck	- Wreck is on the National Register of Historic Places									
- The ver portsid disartio with m There the cer	ssel Meridian is broken e, w/portions of the keel sulated stern (incl. stern ore covered by gravel. 7 s a small 4th fragment ju ter trunk."	in 3 major sections in 40 son & forward deadwoo oost, sternsan knee, ext. 1' of the starboard side ust forward and to starbo	D feet of water d, and numero . planking) lies lies another 50 oard of the ste	the largest ous pieces o 50 feet eas 0' east of the rn section; i	section, 10 f what appe t of the bow e stern, com t is mostly b	5', inclu ear to be v; 28 fee oprising ouried u	des an e cordv et of thi the 3rc nder gi	almost inta vood. The s section is d major frag ravel & corr	expo expo ment. espor	w and sed ids to
		(GRP/GRS MAP							



GRS:	Plum Island Life	e-Saving and Light Station	GRS #	A23
Protection Prior	ity Sites / Ranking:	Medium (B)		
		LOCATION INFORMATION		
State: Wisconsin		County: Door		
		CONTACT INFORMATION		
EPA Spill Hotline	: 312-353-2318			
Veolia Environm	ental Services: 920-74	43-1097		
Sister Bay/ Liber	y Grove Fire Departn	nent: 920-854-4021		
Washington Islar	d Fire Department (E	-phraim): 920-854-4022		
Village of Sister	e Department: 920-74	40-2910		
USCG Station St	urgeon Bay: 920-743	-3367		
USCGC Mobile E	Bav: 920-743-2646			
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7182		
Wisconsin Depar	tment of Natural Res	ource : 1-800-847-9367		
Wisconsin Depar	tment of Natural Res	ource Spill Emergency Hotline: 1-800-943-0003		
		RESOURCES AT RISK CHARACTER	RISTICS	
Managed Areas	:	Grand Traverse Island State Park		
Shoreline Type:		Fringing Wetlands and Extensive Wetlands on N side of Plum Island,	Exposed Rocky	Cliffs, Gravel Beaches, Sandy Beaches
Sensitive Habita	it:	Richters Point, Lobdells Point, Detroit Harbor State Natural Area		
Wildlife:		Terrestrial Plants, Aquatic Plants, Migratory Birds, Salmonids, Walley	ve, Yellow Perch	
Federally Threa Endangered Sp	ened / ecies:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E	i), Northern Long	g-eared Bat (T)
Socio-Economi	Resources:	Door County Washington Island Ferry travels to the W of Plum Island	I, Northpoint Pier	r
		SPILL RESPONSE		
Predicted Beha	/ior:	Sea Conditions: Worst in October and November, when, lakewide, w	wave heights of s	5 to 10 feet are encountered about 35 percent of the
		time. In October, S through SW winds are most often responsible, wh	nile by November	r W through N winds often generate rough seas. Seas
		of 10 feet or more are encountered 3 to 5 percent of the time from No	vember through	March. Extreme waves of 20 to 22 feet have been
		percent in the N. Summer seas climb above 10 feet less than 1 percent	of the time w	bile those in the 5- to 10-foot category drop to less than
		20 percent in June and July. By August, the fall buildup begins.	she of the time, w	
		Winds: Coastal winds are more localized and variable. Along the La	ke Michigan sho	re, spring winds are variable, particularly in the
		morning, when northerlies, easterlies, and southerlies are among the	most common.	By afternoon, aided by a lake-breeze effect, there are a
		preponderance of winds out of the S, particularly with the approach of	f summer. Sumr	ner also brings a slackening of wind speeds. The
		likelihood of encountering winds of 28 knots or more falls from a 4- to	10-percent chai	nce in March to less than 3 percent by May. However,
		Green Bay recorded a 95-knot southwesterly one May; it is not unreal	llistic to expect a	wind extreme of 100 knots or more over open waters.
		Spring winds can suit blow strong, with winds of 26 knots of more end		4 to o percent of the time. They do stacken from their

Name	Т	уре	Latitude	(Decimal Degrees) Longitude (Decimal Degrees) Address County Owner / POC Access Description State Sector												
						Logistic	s Support Ta	able								
							GISTICS									
Life-Saving and Light Station (A23)	1515152			exclusionary boom from pier around the boat house	1500	Park 421 Michigan St Sturgeon Bay, WI 54235	Grove Boat Ramp, 12030 Cedar Road, Ellison Bay, WI 54210							Rear F Lighth Washing 542	lange ouse, ;ton, WI !46	
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	State	County	SLM	Add	ress	
				F	Recommo	ended Spi	II Response	Strategy Tak	le							
			provided are Musl	with stilling basing	s. Some h	arbor entra ilwaukee.	ances are pro Kenosha, an	otected by det d Green Bav	ached brea	akwaters. T	ne most im	portant ha	rbors in L	ake Mic	higan	
			Harbors	: The harbors on t	 >mperature: The W shore waters in general are 5 to 10 degrees cooler than the E shore waters. The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and 											
			week or Water T	two later.	b later. perature: The W shore waters in general are 5 to 10 degrees cooler than the E shore waters.											
			and an 8	miles into the lake	e during	a severe w	inter. Maxim	um ice covera	ge occurs	it coverage by mid-Mar	compared ch, on the a	to an aver average, w	age 40-pe /hile deca	ercent co ly begins	overage s a	
			a circula	r current pattern in	the S pa	rt of the la	e distributes	drifting floes	along the s	hore. Even	during a m	ild winter,	these floe	es can b	uild out	
			mentione	ed waters plus the	extreme	S part of the	e lake. The s	surface feature	es and loca	ation of the i	ce fields ch	nange as a	direct fu	nction of	the	
Response Co	onsideratio	ns:	Ice: The	first waters to form	n an extei currents.	nsive ice co In a norma	over are Gree I winter, an e	en Bay and th arlv ice cover	e Bays de is establisl	Noc. These ned by the e	buildups a and of Janu	re aided b arv and in	y windrov cludes th	vs result e above∙	ing -	
			Fog: The advectio	e shores of Lake N n fog in the spring	lichigan a and sumi	are subject mer.	to varying an	nounts of fog.	Upwelling	along the r	northwest s	shores incr	eases the	e possibi	lity of	
			also com	mon in the S. Nor	therlies a	re a secon	dary wind.							., .		
			winter fie winds an	nter fierceness, with southerlies and southwesterlies becoming more frequent and northerlies less so as summer approaches. Strong ands are infrequent in summer and mostly associated with thunderstorms. S and SW winds prevail particularly in the N southeasterlies are												

Sawyer Park	Staging Area	44.8288 N	087.3813 W	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	WI DNR	None	Public Boat ramp with large parking lot	WI	SLM
Liberty Grove	Boat ramp	45.2546N	87.0747 W	12030 Cedar Road, Ellison Bay, WI 54210	Door	State of WI	None	Public boat ramp	WI	SLM
			C	OMMENTS						
			GR	P/GRS MAP						



GRS:	Plum Island Re	ar Range Light	GRS #	A24
Protection Prior	ity Sites / Ranking:	Medium (B)		
		LOCATION INFORMATION		
State: Wisconsin		County: Door		
		CONTACT INFORMATION		
EPA Spill Hotline	: 312-353-2318			
Veolia Environme	ental Services: 920-74	43-1097		
Sister Bay/ Liber	y Grove Fire Departn	nent: 920-854-4021		
Washington Islar	d Fire Department (E	phraim): 920-854-4022		
Sturgeon Bay Fir	e Department: 920-74	46-2916		
Village of Sister I	020-004-4110 urgeon Bay: 020-7/3	-3367		
USCGC Mobile F	av: 920-743-2646	-3307		
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7182		
Wisconsin Depar	tment of Natural Res	ource : 1-800-847-9367		
Wisconsin Depar	tment of Natural Res	ource Spill Emergency Hotline: 1-800-943-0003		
		RESOURCES AT RISK CHARACTER	RISTICS	
Managed Areas	:	Grand Traverse Island State Park		
Shoreline Type:		Fringing Wetlands and Extensive Wetlands on N side of Plum Island,	Exposed Rocky	Cliffs, Gravel Beaches, Sandy Beaches
Sensitive Habita	it:	Richters Point, Lobdells Point, Detroit Harbor State Natural Area		
Wildlife:		Terrestrial Plants, Aquatic Plants, Migratory Birds, Salmonids, Walley	e, Yellow Perch	
Federally Threa Endangered Sp	ened / ecies:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E	i), Northern Long	p-eared Bat (T)
Socio-Economi	Resources:	Door County Washington Island Ferry travels to the W of Plum Island	I, Northpoint Pier	
		SPILL RESPONSE		
Predicted Behav	/ior:	Sea Conditions: Worst in October and November, when, lakewide, w	wave heights of 5	5 to 10 feet are encountered about 35 percent of the
		time. In October, S through SW winds are most often responsible, wh	ile by November	W through N winds often generate rough seas. Seas
		of 10 feet or more are encountered 3 to 5 percent of the time from No	vember through	March. Extreme waves of 20 to 22 feet have been
		encountered. During the spring, high seas are infrequent, but 5- to 10	P-TOOT Seas devel	op 15 to 30 percent of the time in the S and 20 to 40 bile those in the 5- to 10-foot category drop to less than
		20 percent in June and July By August the fall buildup begins	ant of the time, w	
		Winds: Coastal winds are more localized and variable. Along the La	ke Michigan sho	re, spring winds are variable, particularly in the
		morning, when northerlies, easterlies, and southerlies are among the	most common. I	By afternoon, aided by a lake-breeze effect, there are a
		preponderance of winds out of the S, particularly with the approach o	f summer. Sumn	ner also brings a slackening of windspeeds. The
		likelihood of encountering winds of 28 knots or more falls from a 4- to	10-percent char	nce in March to less than 3 percent by May. However,
		Green Bay recorded a 95-knot southwesterly one May; it is not unrea	listic to expect a	wind extreme of 100 knots or more over open waters.
		Spring winds can still blow strong, with winds of 28 knots or more end	countered about	4 to 8 percent of the time. They do slacken from their

			winter fierce	eness, with sou	utherlies and sout	hweste	erlies becor	ierceness, with southerlies and southwesterlies becoming more frequent and northerlies less so as summer approaches. Strong									
		I	winds are in	frequent in su	mmer and mostly	associ	iated with t	hunderstor	ms. S and	d SW winds p	prevail partic	ularly in t	he N sout	heasterli	es are		
			also commo	on in the S. No	ortherlies are a se	condar	y wind.										
			Fog: The sh	nores of Lake	Michigan are sub	ect to v	varying am	ounts of to	g. Upwell	ing along the	e northwest s	shores inc	creases th	e possib	ility of		
-			advection to	g in the spring	g and summer.			D		- NI - TI							
Response Co	nsideratio	ons:	ice: The firs	t waters to for	m an extensive ic	e cove	r are Greer	h Bay and i	the Bays (de Noc. Thes	se buildups a	are aided	by windro	ws resul	ling		
			from prevail	ing winds and	currents. In a no	mai wi	nter, an ea		er is estad	olisned by the	end of Jani	lary and	Includes tr	ne above	;- 		
			mentioned v	vaters plus the	e extreme S part of		ake. The su	Intace teatu	ires and i	ocation of the	e ice fieids ci	nange as	a direct fu		r the		
			wind. Shore	s exposed to		e wina	onen nave	large ice ii	eids of ve	ery neavy bra	ish extending	J 1 tO ∠ II ilaluuia tau		ore. In ad			
			a circular cu	inent pattern i	n the S part of the	e lake u	Michigon		s along in	e shore. Eve	n during a n		r, these no	es can L			
						n Lake	Movimu			re by mid M	e compareu		while door		overage		
			anu an ou-p		ge during a sever	e winte		The cove	lage occu		arch, on the	average,	writte dec	ay begin	sa		
			week or two	later.													
			Water Tem	perature: The	W shore waters	n gene	eral are 5 to	10 degree	es cooler t	han the E sh	ore waters.						
			Harbors: If	he harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and													
			Menominee	ee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been with a filling having. Once have been and the bar and the second													
			provided wit	ed with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan													
	are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay																
					Recommended	эрш к	esponse a	strategy 1	adie								
Site ID	Latitude	Longitude	Response	Implementatio	on Min Boom	Staging	Boat	Land	Priority	Date Last	<u>State</u>	County	<u>Sector</u>	Addr	ess		
	(Decimal	(Decimal	Strategy		Length	Area	Access	Access		Verified							
	Degrees)	Degrees)															
Plum Island	45.3075	-86.9578	Exclusion	On Land Lay	1000'	Sawyer	Liberty	none	Medium	1-Dec-16	WI	Door	SLM	Plum Is	land		
Range Rear				boom on beau	ch	Park	Grove							Rear R	ange		
Light (A24)				no impact to		421 Michig	Boat							Lightho	Juse,		
						an St	12030							542	.011, VV1 46		
						Sturge	Cedar								-		
						on Bay	Road,										
						WI F 4225	Ellison										
						54235	54210										
							51210										
						LOGI	STICS										
					Logi	stics S	upport Tal	ble									
Name		Туре	Latitude (Dec	imal Degrees)	Longitude (Decima	1	Addres	SS	County	Owner /	Access	Desc	ription	State	Sector		
				Degrees) POC Limitations													
Courses Deals	Chaping An		44.0200 N		007 2012 \\	Caur	ver Derly 421 I	Aishings	Deer		Nana	Dublic De) A (1	CLM		
Sawyer Park	Staging Are	2a	44.8288 N		087.3813 W	Saw St. S	yer Park 421 i Sturgeon Bay	WI 54235	Door	WIDNR	None	with larg	at ramp e parking	WI	SLIVI		
						00.70	, , , , , , , , , , , , , , , , , , , ,					lot	e particip				

Liberty Grove	Boat ramp	45.2546N	87.0747 W	12030 Cedar Road, Ellison Bay, WI 54210	Door	State of WI	None	Public boat ramp	WI	SLM				
	COMMENTS													
- The nes	e United States Fi ting migratory bir	sh and Wildlife ds." The life-sav	Service closed Plue ving station can be	m Island to public acc seen at a distance fro BRP/GRS MAP	cess to om the	"ensure n Northport-	ecessar Washin	y protection of g gton Island ferr	ground y.					



RS: Sturgeon Bay (Canal Lighthouse	GRS #	A25
Protection Priority Sites / Ranking:	High (A)		
	LOCATION INFORMATION		
State: Wisconsin	County: Door		
	CONTACT INFORMATION		
EPA Spill Hotline: 312-353-2318			
Veolia Environmental Services: 920-7	743-1097		
City of Sturgeon Bay: 920-746-2900			
Sturgeon Bay Fire Department: 920-7	746-2916		
USCG Station Sturgeon Bay: 920-743	3-3367		
USCGC Mobile Bay: 920-743-2646			
USCG Sector Lake Michigan Comma	Ind Center: 414-747-7182		
Wisconsin Department of Natural Res	Source : 1-800-847-9367		
Wisconsin Department of Natural Res		DISTICS	
Managod Aroas:	Sunset Park Shareling Best Launch George K Dinney County Park		Numba Park
Manageu Areas.	Sunset Faik, Shoreine Boat Launch, George K. Finney County Faik	, bayview Faik, C	
Shoreline Type:	Gravel Beaches, Hard Man-made Structures, Sheltered Man-made S	Structures, Mixed	Sand and Gravel Beaches, Fringing Wetlands (just E
	of JOYS Shipwreck), Sand Beaches		
Sensitive Habitat:	Dunlap Reef (44.83757, -87.38834), Empire State Shipwreck (44.84)	086, -87.39495)	
Wildlife:	Terrestrial Plants, Aquatic Plants, Migratory Birds, Bald Eagle, Small	mouth Bass, Blue	gill, Perch, Lake Sturgeon
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E	E), Northern Long-	eared Bat (T)
Socio-Economic Resources:	Walking Trail at Bayyiew Park Marina porth of Michigan Street Bridg	e Shipwrecks Po	int in Sturgeon Bay (N of Empire State Shipwreck) Ice
	Age National Scenic Trail,		
	SPILL RESPONSE		
Predicted Behavior:	Sea Conditions: Worst in October and November, when, lakewide,	wave heights of 5	to 10 feet are encountered about 35 percent of the
	time. In October, S through SW winds are most often responsible, w	nile by November	W through N winds often generate rough seas. Seas
	of 10 feet or more are encountered 3 to 5 percent of the time from Ne	ovember through I	March. Extreme waves of 20 to 22 feet have been
	encountered. During the spring, high seas are infrequent, but 5- to 10	D-foot seas develo	op 15 to 30 percent of the time in the S and 20 to 40
	percent in the N. Summer seas climb above 10 feet less than 1 percent	ent of the time, wh	ile those in the 5- to 10-foot category drop to less than
	20 percent in June and July. By August, the fall buildup begins.		
	Winds: Coastal winds are more localized and variable. Along the La	ake Michigan shor	e, spring winds are variable, particularly in the
	morning, when northerlies, easterlies, and southerlies are among the	e most common. B	y atternoon, aided by a lake-breeze effect, there are a
	preponderance of winds out of the 5, particularly with the approach of likelihood of encountering winds of 28 knots or more falls from a 4_{-} to	n summer. Summ	er also prings a stackening of wind speeds. The
	Green Bay recorded a 95-knot southwesterly one May: it is not upres	alistic to expect a v	wind extreme of 100 knots or more over open waters
	Spring winds can still blow strong with winds of 28 knots or more en	countered about 4	to 8 percent of the time. They do slacken from their
	winter fierceness, with southerlies and southwesterlies becoming mo	re frequent and no	ortherlies less so as summer approaches. Strong
	winds are infrequent in summer and mostly associated with thunders	torms. S and SW	winds prevail particularly in the N southeasterlies are

	also common in the S. Northerlies are a secondary wind.
	Fog: The shores of Lake Michigan are subject to varying amounts of fog. Upwelling along the northwest shores increases the possibility of
	advection fog in the spring and summer.
Response Considerations:	Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting
	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above-
	mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the
	wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition,
	a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out
	10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage
	and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a
	week or two later.
	Water Temperature: The W shore waters in general are 5 to 10 degrees cooler than the E shore waters.
	Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and
	Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been
	provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan
	are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay
	Recommended Spill Response Strategy Table

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implement ation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Sturgeon Bay Canal Lighthouse (A25)	44.7950	-87.3134	Exclusion	No impact to actual structure use exclusion boom to keep oil away from boat ram and dock	1000'	Sawyer Park 421 Michigan St., Sturgeon Bay WI 54235	Sawyer Park 421 Michigan St., Sturgeon Bay WI 54235	Station Sturgeon Bay 2501 canal rd Sturgeon Bay WI 54235	High	1-Dec-16	WI	Door	SLM	2501 canal rd Sturgeon Bay WI 54235

LOGISTICS

Logistics Support Table

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
Sawyer Park	Staging Area	44.8288	87.3813	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	State of WI	None	Public Boat ramp with large parking lot	WI	SLM

Sawyer Park	Boat Ramp	44.8288 N	087.3813 W	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	WIDNR	None	Public Boat ramp with large parking lot	WI	SLM
COMMENTS										
GRP/GRS MAP										


GRS: Builhead Point S	Shipwrecks	GRS #	A26
Protection Priority Sites / Ranking:	Medium (B)		
	LOCATION INFORMATION		
State: Wisconsin	County: Door		
	CONTACT INFORMATION		
EPA Spill Hotline: 312-353-2318			
Veolia Environmental Services: 920-74	43-1097		
Sturgeon Bay Fire Department: 920-74	46-2916		
USCG Station Sturgeon Bay: 920-743	3-3367		
USCGC Mobile Bay: 920-743-2646			
USCG Sector Lake Michigan Commar	nd Center: 414-747-7182		
Wisconsin Department of Natural Res	ource : 1-800-847-9367		
Wisconsin Department of Natural Res	ource Spill Emergency Hotiline: 1-800-943-0003		
Wisconsin Historical Society, State Alt			
Managod Aroas:	Lave Shipwrock Sunset Park Shoreling Boat Launch Goorge K Din	NOV County Park	Parking Park Otumba Park
Mallageu Areas.	Juss Sillpweck, Suiset Faik, Siloleline Boat Laulich, George K. Fill	iney County Fark,	Dayview Faik, Olumba Faik
Shoreline Type:	Gravel Beaches, Hard Man-made Structures, Sheltered Man-made S	Structures, Mixed S	Sand and Gravel Beaches, Fringing, Sand Beaches
Sensitive Habitat:	Dunlap Reef (44.83757, -87.38834), Joys Shipwreck		
Wildlife:	Terrestrial Plants, Aquatic Plants, Migratory Birds, Bald Eagle, Small	Imouth Bass, Blue	gill, Perch, Lake Sturgeon
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E), Northern Long-	eared Bat (T)
Socio-Economic Resources:	Walking Trail at Bayview Park, Marina north of Michigan Street Bridg	e, Ice Age Nationa	al Scenic Trail,
	SPILL RESPONSE		
	 Sea Conditions: Worst in October and November, when, lakewide, when in a constraints: worst in October and November, when, lakewide, when in the information of 10 feet or more are encountered 3 to 5 percent of the time from Not encountered. During the spring, high seas are infrequent, but 5- to 10 percent in the N. Summer seas climb above 10 feet less than 1 perceres 20 percent in June and July. By August, the fall buildup begins. Winds: Coastal winds are more localized and variable. Along the Lamorning, when northerlies, easterlies, and southerlies are among the preponderance of winds out of the S, particularly with the approach or likelihood of encountering winds of 28 knots or more falls from a 4- to Green Bay recorded a 95-knot southwesterly one May; it is not unread Spring winds can still blow strong, with winds of 28 knots or more encounter fierceness, with southerlies and southwesterlies becoming more winter fierceness, with southerlies and southwesterlies becoming more factored and southered and southwesterlies becoming more factored and southwesterl	wave neights of s nile by November N povember through N D-foot seas develo ent of the time, wh ke Michigan shore most common. By f summer. Summe o 10-percent chance listic to expect a v countered about 4 re frequent and no	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the y afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. to 8 percent of the time. They do slacken from their portherlies less so as summer approaches. Strong

	also common in the S. Northerlies are a secondary wind.														
Response Co	nsideratio	ns:	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above- mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay Recommended Spill Response Strategy Table												
		1	-												
Site ID	Latitude (Decimal Degrees)	Longtitud e (Decimal Degrees)	Response Strategy	nse Implement Min Staging Area Boat Access Land Access Priority Date Last Verified County Address Address Address											
Bullhead Point shipwrecks (A26)	44.83933 8	-87.3995	Exclusion	ExclusionUse anchored deep-sea1000'Sawyer Park 421 Michigan ST Sturgeon950 North Duluth Ave., Sturgeon Bay, WI 54235Medium Use Nut 542351-Dec-16WIDoorSLM950 North Duluth Ave., Sturgeon Bay, Sturgeon Bay, WI 54235wirekWi SturgeonSawyer Park 421 Michigan ST Sturgeon950 North Duluth Ave., Sturgeon Bay, WI 54235Medium Sturgeon Bay, WI 542351-Dec-16WIDoorSLM950 North Duluth Ave., Sturgeon Bay, WI 54235wirekWi StargeonBay WI 54235Bay WI 54235WI 54235WI 54235WI 54235SturgeonSturgeon Sturgeon Bay, WI 54235wirekWreckWreckWirek lies at depth of 20', waters in bay known for beingNown for beingNown for beingNown for beingNown for beingNorthNown for beingNorthNorth and contract and c								950 North Duluth Ave., Sturgeon Bay, WI 54235			
						LO	GISTICS								
						Logistics	Support Tab	le							
	Name		Туре	Type Latitude Longtitude Address County Owner / POC Access Description State Sector (Decimal (Decimal Degrees) Degrees) Degrees											
Sawyer Park			Staging Area	ng Area 44.8288 -87.3813 Sawyer Park 421 Door WI DNR None Public Boat WI SLM Michigan ST sturgeon bay WI 54235											

Sawyer Park		Boat Ramp	44.8288 N	087.3813 W	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	WIDNR	None	Public Boat ramp with large parking lot	WI	SLM
				CO	MMENTS						
- Three - Poter - All th	e individual ship ntial of recreation ree shipwrecks	owrecks off sou onal divers on t are on the Nat	itheast corne he Wreck ional Registe	r of Bullhea	id Point: <i>Ida Co</i> c Places	orning, E	Empire State,	Oak Leaf			
				GRP/	GRS MAP						



GRS: Clafiin Point Shi	pwreck	GRS #	A27
Protection Priority Sites / Ranking:	Medium (B)		
	LOCATION INFORMATION		
State: Wisconsin	County: Door		
	CONTACT INFORMATION		
EPA Spill Hotline: 312-353-2318			
Veolia Environmental Services: 920-74	43-1097		
Sturgeon Bay Fire Department: 920-74	46-2916		
USCG Station Sturgeon Bay: 920-743	-3367		
USCGC Mobile Bay: 920-743-2646	- 1 O - 1		
USCG Sector Lake Michigan Comman	nd Center: 414-747-7182		
Wisconsin Department of Natural Res	00100 . 1-000-047-9307 ource Spill Emergency Hotline: 1_800-043-0003		
Wisconsin Historical Society State Are	chaeologist: 608- 264-6496		
	RESOURCES AT RISK CHARACTER	RISTICS	
Managed Areas:	Wave Pointe Marina		
Shoreline Type:	Gravel Beaches, Hard Man-made Structures, Sheltered Man-made S	tructures, Mixed S	Sand and Gravel Beaches, Fringing, Sand Beaches
Sensitive Habitat:	Squaw Island, Rileys Bay		
Wildlife:	Terrestrial Plants, Aquatic Plants, Migratory Birds, Bald Eagle, Small	mouth Bass, Blue	gill, Perch, Lake Sturgeon
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E), Northern Long-	eared Bat (T)
Socio-Economic Resources:	Local marina, resorts, and rental cottages		
	SPILL RESPONSE		
	time. In October, S through SW winds are most often responsible, wh of 10 feet or more are encountered 3 to 5 percent of the time from No encountered. During the spring, high seas are infrequent, but 5- to 10 percent in the N. Summer seas climb above 10 feet less than 1 perce 20 percent in June and July. By August, the fall buildup begins. Winds: Coastal winds are more localized and variable. Along the Lal morning, when northerlies, easterlies, and southerlies are among the preponderance of winds out of the S, particularly with the approach of likelihood of encountering winds of 28 knots or more falls from a 4- to Green Bay recorded a 95-knot southwesterly one May; it is not unrea Spring winds can still blow strong, with winds of 28 knots or more encountering winter fierceness, with southerlies and southwesterlies becoming more	 by November November November through November through November through November through November to the time, when the time, the time, the time the time through the time	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than e, spring winds are variable, particularly in the y afternoon, aided by a lake-breeze effect, there are a er also brings a slackening of wind speeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong

			also common in the S. Northerlies are a secondary wind.													
Response Co	nsideratio	ns:	Ice: The from pre- mentione wind. Sh a circular 10 to 15 and an 8 week or Harbors Menomir provided are Musk	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above- mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Harbors: The harbors on the West side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay												
Cite ID	Latituda	Lawatitud	Deserves	luce a la seco	ant Bain	Chaoling Area	Deat Asses	l and	A	Daiaaita	Data L		Country	Castar		
Site ID	Latitude (Decimal Degrees)	Longtitud e (Decimal Degrees)	Response Strategy	Implement Min Staging Area Boat Access Land Access Priority Date Last State County Sector Address ation Boom Length Length State County Sector Address												
Claflin Point shipwreck (A27)	44.8462	-87.5502	Exclusion	vector									3698 Claflin Park Road, turgeon 3ay, WI 54235			
						LO	GISTICS									
						Logistics	Support Tab	le								
	Name		Туре	Type Latitude Longtitude Address County Owner / POC Access Description State Sector (Decimal (Decimal Degrees) Degrees) Degrees) Degrees) Degrees) State Sector												
Sawyer Park			Staging Area		44.8288	-87.3813	Sawyer Park 42 Michigan ST st bay WI 54235	21 urgeon	Door	WIDNR		None	Public Bo ramp wit large par lot	at Wi h king		SLM

Little Sturgeon Boat Launch	Boat Ramp	44.8439 N	87.5599 W	8845 Fuzz Lane, Sturgeon Bay, WI 54235	Door	WI DNR	None	Public Boat ramp with large parking lot	WI	SLM
			CO	MMENTS						
 Unidentified shipwr Potential of recreat Shipwreck and pier 	eck and subme ional divers on are on the Nat	erged, historio the Wreck tional Registe	c pier shipw	recks off southe	east cor	ner Claflin Po	oint County	⁷ Park		
			GRP	GRS MAP						



GRS:	Grape Shot Ship	owreck		GRS #	A28
Protection Prior	ity Sites / Ranking:	Medium (B)			
		LOCATION IN	IFORMATION		
State: Wisconsin			County: Door		
		CONTACT IN	FORMATION		
EPA Spill Hotline	: 312-353-2318				
Veolia Environme	ental Services: 920-74	43-1097			
Washington Islan	d Volunteer Fire Dep	artment: 920-535-0108			
Sturgeon Bay Fir	e Department: 920-74	46-2916			
USCG Station St	JIOH ISIAHU. 920-047-2 Urgeon Rav: 920-743	2322			
USCGC Mobile E	Bav: 920-743-2646				
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7182			
Wisconsin Depar	tment of Natural Reso	ource : 1-800-847-9367			
Wisconsin Depar	tment of Natural Reso	ource Spill Emergency Hotline: 1-800-943-0003			
Wisconsin Histor	ical Society, State Arc	chaeologist: 608- 264-6496			
		RESOURCES AT RISP	CHARACTER	RISTICS	
Managed Areas	:	Plum Island Life-Saving Station, Plum Island Wildlif	fe Refuge		
Shoreline Type:		Shelving Bedrock Shores, Gravel Beaches, Sand B	Beaches		
Sensitive Habita	it:	Plum Island Wildlife Refuge			
Wildlife:		Terrestrial Plants, Aquatic Plants, Migratory Birds, S	Salmonids		
Federally Threa Endangered Sp	ened / ecies:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Em	erald Dragonfly (E), Northern Long-e	eared Bat (T), Piping Plover
Socio-Economi	Resources:	Bowyer Bluff (tourists)			
		SPILL RE	SPONSE		
Predicted Behav	/ior:	Sea Conditions: Worst in October and November,	when, lakewide, v	vave heights of 5 t	o 10 feet are encountered about 35 percent of the
		time. In October, S through SW winds are most offe	en responsible, wh	ile by November V	V through N winds often generate rough seas. Seas
		of 10 feet or more are encountered 3 to 5 percent of	of the time from No	vember through N	Arch. Extreme waves of 20 to 22 feet have been
		encountered. During the spring, high seas are infe	quent, but 5- to 10	-1001 seas develop	5 15 to 30 percent of the time in the 5 and 20 to 40 let those in the 5- to 10-foot category drop to less than
		20 percent in June and July By August the fall bui	Idup begins	ant of the time, whi	ie those in the 3- to 10-hoot category drop to less than
		Winds: Coastal winds are more localized and vari	able. Along the La	ke Michigan shore	, spring winds are variable, particularly in the
		morning, when northerlies, easterlies, and southerli	ies are among the	most common. By	v afternoon, aided by a lake-breeze effect, there are a
		preponderance of winds out of the S, particularly wi	ith the approach o	f summer. Summe	er also brings a slackening of wind speeds. The
		likelihood of encountering winds of 28 knots or mor	e falls from a 4- to	10-percent chanc	e in March to less than 3 percent by May. However,
		Green Bay recorded a 95-knot southwesterly one N	May; it is not unrea	listic to expect a w	vind extreme of 100 knots or more over open waters.
		Spring winds can still blow strong, with winds of 28	KHOIS OF MORE END	countered about 4	to a percent of the time. They do slacken from their

			winter fierce winds are in also comm Fog: The s advection f	 vinter fierceness, with southerlies and southwesterlies becoming more frequent and northerlies less so as summer approaches. Strong vinds are infrequent in summer and mostly associated with thunderstorms. S and SW winds prevail particularly in the N southeasterlies are ilso common in the S. Northerlies are a secondary wind. cog: The shores of Lake Michigan are subject to varying amounts of fog. Upwelling along the northwest shores increases the possibility of idvection fog in the spring and summer. co: The first waters to form an extensive ice source are Green Pay and the Pays de Nes. These buildups are aided by windrows resulting 												
Response Co	nsideration	15:	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above- mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Temperature: The W shore waters in general are 5 to 10 degrees cooler than the E shore waters. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay													
				Recommended Spill Response Strategy Table												
Site ID	Latitude (Decimal Degrees)	Longtitude (Decimal Degrees)	Response Strategy	isponse Implementation Min Staging Boat Access Land Access Priority Date Last Verified Sector Address Address												
Grape Shot shipwreck (A28)	45.3139	-86.9513	Exclusion	Use anchored deep-sea boom to exclude or divert oil from area around wreck.	1000'	Sawye Park 42 Michigau Sturgee Bay, W 5423	er 21 In St on VI 5	Liberty Grove Boat Ramp, 12030 Cedar Road, Ellison Bay, WI 54210	NO	NE	Medium	1-Dec-16	WI	Door	SLM	
		1				L	OGI	ISTICS							I	
						Logisti	ics S	upport Table								
Name	Ту	pe	Latitude (De	atitude (Decimal Degrees) Longitude (Decimal Address County Owner / Access Description State Sector Degrees)												
Sawyer Park	Staging Area		44.8288 N	1.8288 N 087.3813 W Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235 Door WI DNR None Public Boat ramp with large parking lot WI SLM 5.2546N 87.0747.W 12020 Coder Bood Ellicon Door WI DNR None Public Boat ramp with large parking lot WI SLM												
Liberty Grove	Boat ramp		45.2546N	i46N 87.0747 W 12030 Cedar Road, Ellison Door State of WI None Public boat ramp WI SLM Bay, WI 54210												

COMMENTS

- Potential of recreational divers on the Wreck
- Wreck is on the National Register of Historic Places
- Wreck lies in 5-7 feet of water west of Plum Island Lifesaving station pier.
- Washington Island Ferry Line runs west of this location

GRP/GRS MAP



GRS:	Hanover Shipwre	eck	GRS #	A29
Protection Prior	ity Sites / Ranking:	Medium (B)		
		LOCATION INFORMATION		
State: Wisconsin		County: Door		
		CONTACT INFORMATION		
EPA Spill Hotline	: 312-353-2318			
Veolia Environme	ental Services: 920-74	43-1097		
Washington Islar	nd Volunteer Fire Dep	artment: 920-535-0108		
Sturgeon Bay Fir	e Department: 920-74	46-2916		
Town of Washing	gton Island: 920-847-2	2522		
USCG Station St	urgeon Bay: 920-743	-3367		
	3ay: 920-743-2646	- O		
Wisconsin Donar	te Michigan Commar	Id Center: 414-747-7182		
Wisconsin Depar	tment of Natural Reso	Juice Spill Emergency Hotline: 1-800-943-0003		
Wisconsin Histor	ical Society State Arc	shaeologist: 608- 264-6496		
		RESOURCES AT RISK CHARACTER	RISTICS	
Managed Areas	:	Penninsula State Park		
0				
Shoreline Type:		Shelving Bedrock Shores, Gravel Beaches, Sand Beaches		
Sensitive Habita	at:	Chambers, Adventure and other islands		
Wildlife:		Terrestrial Plants, Aquatic Plants, Migratory Birds, Salmonids, Walley	'e	
Federally Threa Endangered Sp	tened / ecies:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E), Northern Long-	eared Bat (T)
Socio-Economi	c Resources:	Peninsula State Park, Fish Creek (tourism), Ephraim (tourism)		
		SPILL RESPONSE		
Predicted Behav	vior:	Sea Conditions: Worst in October and November, when, lakewide, w	vave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S through SW winds are most often responsible, wh	ile by November	W through N winds often generate rough seas. Seas
		of 10 feet or more are encountered 3 to 5 percent of the time from No	vember through I	March. Extreme waves of 20 to 22 feet have been
		encountered. During the spring, high seas are infrequent, but 5- to 10	-toot seas develo	p 15 to 30 percent of the time in the S and 20 to 40
		20 percent in the N. Summer seas climb above 10 feet less than 1 perce	ent of the time, wh	life those in the 5- to 10-root category drop to less than
		Winds: Coastal winds are more localized and variable. Along the La	ke Michigan shor	e spring winds are variable particularly in the
		morning, when northerlies, easterlies, and southerlies are among the	most common R	v afternoon, aided by a lake-breeze effect, there are a
		preponderance of winds out of the S. particularly with the approach of	f summer. Summ	er also brings a slackening of wind speeds. The
		likelihood of encountering winds of 28 knots or more falls from a 4- to	10-percent chan	ce in March to less than 3 percent by May. However.
		Green Bay recorded a 95-knot southwesterly one May; it is not unrea	listic to expect a v	wind extreme of 100 knots or more over open waters.
		Spring winds can still blow strong, with winds of 28 knots or more end	countered about 4	to 8 percent of the time. They do slacken from their

			winter fierce winds are in also comm Fog: The s advection f	vinter fierceness, with southerlies and southwesterlies becoming more frequent and northerlies less so as summer approaches. Strong vinds are infrequent in summer and mostly associated with thunderstorms. S and SW winds prevail particularly in the N southeasterlies are also common in the S. Northerlies are a secondary wind. Fog: The shores of Lake Michigan are subject to varying amounts of fog. Upwelling along the northwest shores increases the possibility of advection fog in the spring and summer.												
Response Co	nsideration	IS:	from prevailing winds and currents. In a normal winter, an early ice cover is established by the end of January and includes the above- mentioned waters plus the extreme S part of the lake. The surface features and location of the ice fields change as a direct function of the wind. Shores exposed to the full force of the wind often have large ice fields of very heavy brash extending 1 to 2 miles offshore. In addition, a circular current pattern in the S part of the lake distributes drifting floes along the shore. Even during a mild winter, these floes can build out 10 to 15 miles into the lake. A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Temperature : The W shore waters in general are 5 to 10 degrees cooler than the E shore waters. Harbors: The harbors on the W side of the lake are generally at the mouths of small rivers, the only large streams being the Fox and Menominee Rivers which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. The most important harbors in Lake Michigan are Muskegon, Calumet, Chicago, Milwaukee, Kenosha, and Green Bay													
				Recommended Spill Response Strategy Table												
Site ID	Latitude (Decimal Degrees)	Longtitude (Decimal Degrees)	Response Strategy	sponse rategy Implementation Min Boom Area Length Boat Access Land Access Priority Date Last Verified County Sector Address												
Hanover Shipwreck (A29)	45 09.128'	87 15.475'	Exclusion	Use anchored deep-sea boom to exclude or divert oil from area around wreck.	1000'	Sawye Park 42 Michigar Sturgeo Bay, W 5423	er 21 In St Ioon VI 5	Liberty Grove Boat Ramp, 12030 Cedar Road, Ellison Bay, WI 54210	NO	NE	Medium	1-Dec-16	WI	Door	SLM	
			<u> </u>			L	OGI	ISTICS					I		1	
						Logisti	ics S	Support Table								
Name	Ту	pe	Latitude (De	atitude (Decimal Degrees) Longitude (Decimal Degrees) Address County Owner / Access Description State Sector Degrees)												
Sawyer Park	Staging Area		44.8288 N	1288 N 087.3813 W Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235 Door WI DNR None Public Boat ramp with large parking lot WI SLM												
Fish Creek Ramp	Boat ramp		45.1294N		87.2459 W	459 W 9448 Spruce St. Fish Creek, Door State of WI One lane Public boat ramp WI SLM WI 54212 VI State of WI One lane ramp with										

Ephraim Boat Ramp	Boat Ramp	45.1543	-87.1699	9965 Water Street South, Ephraim, WI 54211	Door	WI	very limited parking Narrow channel from ramp to deep water	Limited Parking	WI	SLM
			C	COMMENTS						
- Pote - Wre	ential of recreation eck is on the Nation	al divers on the Wre	eck ric Places							
			GF	RP/GRS MAP						



GRS: Jacksonport Wr	narf Historic District	GRS #	A30
Protection Priority Sites / Ranking:	Medium (B)		
	LOCATION INFORMATION		
State: Wisconsin	County: Door		
	CONTACT INFORMATION		
EPA Spill Hotline: 312-353-2318			
Veolia Environmental Services: 920-7	43-1097		
Sturgeon Bay Fire Department: 920-7	46-2916		
USCG Station Sturgeon Bay: 920-743	3-3367		
USCGC Mobile Bay: 920-743-2646			
USCG Sector Lake Michigan Comma	nd Center: 414-747-7182		
Wisconsin Department of Natural Res	Source : 1-800-847-9367		
Wisconsin Department of Natural Res	Source Spill Emergency Hotline: 1-800-943-0003		
Managad Araga	RESOURCES AT RISK CHARACTER		
Manayeu Areas.	Dalleys Halbor Ridges Faik, Cave Folin, Whitehsh Dulles State Faik	X .	
Shoreline Type:	Shelving Bedrock Shores, Sand Beaches, Gravel Beaches, Exposed	Rocky Cliffs, Rip	rap, Fringing Wetlands, Sheltered Scarps in Bedrock
Sensitive Habitat:	Toft Point Wildlife Area, The Ridges Sanctuary State Natural Area		
Wildlife:	Terrestrial Plants, Aquatic Plants, Gamefish, Migratory Birds, Bald Ea	agle	
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragonfly (E), Northern Long	-eared Bat (T)
Socio-Economic Resources:	Marina in Baileys Harbor, Anclam Park (Beach)		
	SPILL RESPONSE		
Predicted Benavior:	 Sea Conditions: Worst in October and November, when, lakewide, when in a conditions: Worst in October and November, when, lakewide, when it is a conditional sector of the sector of the sector of the time from November of 10 feet or more are encountered 3 to 5 percent of the time from November encountered. During the spring, high seas are infrequent, but 5- to 10 percent in the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the N. Summer seas climb above 10 feet less than 1 percerection of the S. Coastal winds are more localized and variable. Along the La morning, when northerlies, easterlies, and southerlies are among the preponderance of winds out of the S, particularly with the approach or likelihood of encountering winds of 28 knots or more falls from a 4- to Green Bay recorded a 95-knot southwesterly one May; it is not unreas Spring winds can still blow strong, with winds of 28 knots or more encounter fierceness, with southerlies and southwesterlies becoming more winter fierceness. 	wave neights of 5 hile by November prember through 0-foot seas develo ent of the time, which was developed and the most common. End of summer. Summon 10-percent chan allistic to expect a countered about 4 re frequent and n	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40 hile those in the 5- to 10-foot category drop to less than re, spring winds are variable, particularly in the By afternoon, aided by a lake-breeze effect, there are a her also brings a slackening of wind speeds. The lice in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. 4 to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong

	also common in the S. Northerlies are a secondary wind. ponse Considerations: Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting														
Response Con	sideratio	ns:	Ice: The fi from preva mentioned wind. Sho a circular 10 to 15 m and an 80 week or tw Harbors: Menomine provided w are Muske	irst waters to forr ailing winds and d waters plus the res exposed to th current pattern ir hiles into the lake -percent coverage vo later. The harbors on t ee Rivers which e with stilling basing egon, Calumet, C	n an exter currents. I extreme ne full forc the S pa e. A mild v ge during the W side empty into s. Some h chicago, M	nsive ice cover In a normal wir S part of the la ce of the wind of rt of the lake d vinter on Lake a severe winte e of the lake ar o Green Bay. T harbor entrance filwaukee, Ker	r are Gree hter, an ea ke. The s often have istributes Michigan r. Maximu e general he entran es are pro nosha, and	n Bay and t arly ice cove urface featu e large ice fid drifting floes means abou m ice cover ly at the mo ces to the h tected by de d Green Bay	he Bays de N er is establish ires and locat elds of very h s along the sh ut 10-percent rage occurs b uths of small arbors are ge etached break	loc. These bu ed by the end ion of the ice eavy brash e ore. Even du coverage co y mid-March rivers, the or enerally prote kwaters. The	uildups a d of Janu fields cl extending uring a m mpared , on the ally large cted by most im	are aided b uary and ir hange as a g 1 to 2 mi hild winter, to an aver average, v streams b parallel pie portant ha	by windro noludes the a direct fulles offsho these flo rage 40-p while dec eing the ers, and s proors in	ws res ne abo unction ore. In pes car percent ay beg Fox ar some h Lake M	ulting ve- a of the addition, a build out t coverage jins a ad nave been <i>l</i> ichigan
					Recomm	ended Spill Re	esponse	Strategy Ta	able						
Site ID	Latitude (Decimal	Longtitude (Decimal	Response Strategy	Implementation	Min Boom	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	Sector	A	ddress
Reynolds Pier Historic District (A30)	44.9779	-87.1813	Exclusion	Image: Construction of the second of the s										Park, 6296 Park Drive, geon Bay, 'I 54235	
						LOGI	STICS								
						Logistics Su	upport Ta	ble							
Name		Туре	Latitude (Deci Degrees)	imal Longtitude Degre	(Decimal ees)	Addres	S	County	Owner / POC	Access Limitations		Description		State	Sector
Sawyer Park	Stag	ing Area	44.8288 N	087.3813 W	1	Sawyer Park 421 Michigan St., Stu Bay, WI 54235	L urgeon	Door	WIDNR	None	Public E large pa	Boat ramp wi arking lot	th	WI	SLM
Bailey's Harbor To Marina	own Boat	Ramp	45.06575 N	O6575 N 87.122778 W 8132 HWY 57 Baileys Harbor, WI 54202 Door State of WI none Public marina with boat WI SLM											

COMMENTS

- Potential of recreational divers on the Wreck
- Three shipwrecks (Annie Dall, Cecelia, and Perry Hannah) and adjacent pier pilings, cribs, and associated artifacts are on the National Register of Historic Places.
- Reynolds Pier, Cecelia, and Perry Hannah shipwrecks are located off the end of Lake Park Drive and extend approximately 1500' to the south, southeast.
- The Annie Dall shipwreck lies by itself in approximately 8 feet of water approximately 1500 feet north of the submerged pier.

GRP/GRS MAP



GRS. Success Shipwi	eck	GRS #	A31
Protection Priority Sites / Ranking:	Medium (B)		
	LOCATION INFORMAT	ON	
State: Wisconsin	County: Doo	ſ	
	CONTACT INFORMATI	N	
EPA Spill Hotline: 312-353-2318			
Veolia Environmental Services: 920-74	43-1097		
Sturgeon Bay Fire Department: 920-74	46-2916		
USCG Station Sturgeon Bay: 920-743	-3367		
USCGC Mobile Bay: 920-743-2646			
USCG Sector Lake Michigan Commar	nd Center: 414-747-7182		
Wisconsin Department of Natural Res	ource : 1-800-847-9367		
Wisconsin Department of Natural Reso	ource Spill Emergency Hotline: 1-800-943-0003		
		TEDISTICS	
Managod Aroas:	Cave Point County Park Whitefich Dunos State Park Townshir	Park Success Shipw	rock
Manageu Areas.		Faik, Success Shipw	ICUN
Shoreline Type:	Shelving Bedrock Shores, Sand Beaches, Gravel Beaches, Exp	osed Rocky Cliffs	
Sensitive Habitat:	Whitefish Dunes State Natural Area		
Wildlife:	Terrestrial Plants, Aquatic Plants, Gamefish, Migratory Birds		
Federally Threatened / Endangered Species:	Dwarf Lake Iris (T), Pitcher's Thistle (T), Hine's Emerald Dragor	fly (E), Northern Long	-eared Bat (T)
Socio-Economic Resources:	Caves used for Kayaking, Public Drinking Water Source (44.926	47, -87.18182)	
	SPILL RESPONSE		
	time. In October, S through SW winds are most often responsib of 10 feet or more are encountered 3 to 5 percent of the time fro encountered. During the spring, high seas are infrequent, but 5- percent in the N. Summer seas climb above 10 feet less than 1 20 percent in June and July. By August, the fall buildup begins. Winds: Coastal winds are more localized and variable. Along t morning, when northerlies, easterlies, and southerlies are amon preponderance of winds out of the S, particularly with the appro likelihood of encountering winds of 28 knots or more falls from a Green Bay recorded a 95-knot southwesterly one May; it is not Spring winds can still blow strong, with winds of 28 knots or more	e, while by November m November through to 10-foot seas developercent of the time, while bercent of the time, while a Lake Michigan shor g the most common. E ach of summer. Summ 4- to 10-percent chan unrealistic to expect a e encountered about 4	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40 hile those in the 5- to 10-foot category drop to less than re, spring winds are variable, particularly in the By afternoon, aided by a lake-breeze effect, there are a her also brings a slackening of wind speeds. The line in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. 4 to 8 percent of the time. They do slacken from their ortherline less so as summer approaches. Strong

			also com	imon in t	the S. Northerl	es are a second	ary wind.								
Response Co	nsideratio	ns:	Ice: The from pre- mentione wind. Sh a circula 10 to 15 and an 8 week or Harbors Menomir provided are Must	first wat vailing w ed waters ores exp r current miles int 0-percen two later : The ha nee Rive with still kegon, C	ers to form an vinds and curre s plus the extre- bosed to the fu pattern in the to the lake. A n int coverage du r. arbors on the W ers which empty ling basins. So calumet, Chica Reco	extensive ice co nts. In a normal eme S part of the I force of the wir S part of the lake nild winter on La ring a severe wi / side of the lake / into Green Bay me harbor entra go, Milwaukee, F mmended Spill	ver are Green winter, an earl a lake. The sur ad often have l e distributes dr ke Michigan m nter. Maximum a are generally 7. The entrance nces are prote (enosha, and (Response St	Bay ar y ice co face fe arge ic ifting fl eans a n ice co at the es to th cted by Green	nd the Bay over is es eatures an e fields of loes along about 10-p overage of mouths of e harbors y detache Bay / Table	ys de No tablished d locatio very hea the sho percent c ccurs by f small rin are gen d breakv	c. These I by the end of the id avy brash re. Even of overage of mid-Marc vers, the of erally profest vaters. Th	buildups are and of Janua e fields cha extending during a mil ompared to h, on the av only large si ected by pa e most imp	e aided by w ry and inclu- nge as a dir to 2 miles d winter, the an average erage, while reams being arallel piers, ortant harbo	indrows re des the ab rect functio offshore. Ir se floes ca a 40-percer e decay be g the Fox a and some rs in Lake	sulting ove- n of the n addition, in build out nt coverage gins a ind have been Michigan
Site ID	Latitude (Decimal Degrees)	Longtitud e (Decimal Degrees)	Response Strategy	Implem ation	ent Min Boom Length	Staging Area	Boat Access	Land	Access	Priority	Date La Verifie	ist <u>State</u> d	County	<u>Sector</u>	Address
Success shipwreck (A31)	44 55.020'	87 12.176	Exclusion	usion Use anchored anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 20', waters in bay known for being choppy.											
						LO	GISTICS								
				Logistics Support Table											
	Name		Туре		Latitude (Decimal Degrees)	Longtitude (Decimal Degrees)	Address		County	Owne	er / POC	Access Limitations	Descript	ion State	e Sector
Sawyer Park			Staging Area44.8288-87.3813Sawyer Park 421 Michigan ST sturgeon bay WI 54235DoorWI DNRNonePublic Boat ramp with large parking lotWISLM												

Whitefish bay Boat ramp	Boat ramp	44.90561	-87.2161	3700 Whitefish Bay Road, Sturgeon Bay WI 54235	Door	State of WI	Small vessels only, prone to getting sanded in	Public Boat ramp –if unusable use Sawyer Park ramp	WI	SLM	
			CO	MMENTS							
 Potential of recrea Wreck is on the Na Partially covered by Nearly all of her her 	 Potential of recreational divers on the Wreck Wreck is on the National Register of Historic Places Partially covered by sand in Whitefish Bay, 500 feet south of Whitefish Dunes State Park, the <i>Success</i> lies in eight feet of water. Nearly all of her hull structure, artifacts, and some rigging, remain intact beneath the sand. 										
			GRP	/GRS MAP							



GRS:	Tug Ludington H	listoric Vessel			GRS #	A32
Protection Prior	ity Sites / Ranking:		Medium (B)			
			LOCATION II	NFORMATION		
State: Wisconsin				County: Kewaunee	2	
			CONTACT IN	NFORMATION		
EPA Spill Hotline	: 312-353-2318					
Veolia Environm	ental Services: 920-74	43-1097				
Sturgeon Bay Fi	e Department: 920-74	46-2916				
USCG Station S	urgeon Bay: 920-743	-3367				
USCGC Mobile I	Bay: 920-743-2646					
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7	⁷ 182			
Wisconsin Depa	tment of Natural Reso	ource : 1-800-847-930	67 			
VVIsconsin Depa		ource Spill Emergenc	y Hotline: 1-800-943-0003			
City of Kewaune	920-366-5025					
Managad Araga		Doint Dooph State			131103	
Managed Areas	•		orest			
Shoreline Type		Shelving Bedrock S	hores, Sand Beaches, Gravel	Beaches, Exposed	Rocky Cliffs	
Sensitive Habita	at:	Large wetlands wes	st of turning basin			
Wildlife:		Terrestrial Plants, A	Aquatic Plants, Gamefish, Migr	ratory Birds		
Federally Threa Endangered Sp	tened / ecies:	Dwarf Lake Iris (T),	Pitcher's Thistle (T), Hine's Er	merald Dragonfly (E), Northern Long-	-eared Bat (T)
Socio-Economi	c Resources:	Kayaking, Public Dr	inking Water Source			
		•	SPILL RI	ESPONSE		
Predicted Beha	vior:	Sea Conditions: W time. In October, S of 10 feet or more a encountered. During percent in the N. Su 20 percent in June a Winds: Coastal win morning, when nort preponderance of w likelihood of encour Green Bay recorded Spring winds can st winter fierceness, w	Vorst in October and November through SW winds are most of are encountered 3 to 5 percent g the spring, high seas are infru- ummer seas climb above 10 fer and July. By August, the fall bu- nds are more localized and var herlies, easterlies, and souther vinds out of the S, particularly winds of 28 knots or mo d a 95-knot southwesterly one till blow strong, with winds of 28 vith southerlies and southwester	r, when, lakewide, w ften responsible, wh of the time from No requent, but 5- to 10 et less than 1 perce uildup begins. riable. Along the Lal rlies are among the with the approach of ore falls from a 4- to May; it is not unreal 8 knots or more ence erlies becoming mor	vave heights of 5 ile by November vember through 1 -foot seas develo nt of the time, wh ke Michigan shor most common. B f summer. Summ 10-percent chan listic to expect a countered about 4 re frequent and n	to 10 teet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40 hile those in the 5- to 10-foot category drop to less than re, spring winds are variable, particularly in the By afternoon, aided by a lake-breeze effect, there are a her also brings a slackening of wind speeds. The ce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. 4 to 8 percent of the time. They do slacken from their ortherlies less so as summer approaches. Strong winds prevail particularly in the N southeasterlies are

		also common in the S. Northerlies are a secondary wind.														
Response Co	nsideratio	ns:	Ice: The from pre- mentione wind. Sh a circula 10 to 15 and an 8 week or Harbors Menomir provided are Mush	first waters vailing wind ed waters p ores expos r current pa miles into 0-percent two later. : The harb nee Rivers with stilling kegon, Cal	s to form an eds and currer olus the extre sed to the full attern in the S the lake. A m coverage dur ors on the W which empty g basins. Sor umet, Chicag	extensive ice co tts. In a normal me S part of th force of the wi S part of the lake ild winter on La ing a severe w side of the lake into Green Ba ne harbor entra o, Milwaukee,	over are Green winter, an earl e lake. The sur nd often have I te distributes dr ake Michigan m inter. Maximum e are generally y. The entrance ances are prote Kenosha, and	Bay ar ly ice co face fe arge icc rifting fl neans a n ice co at the es to th ected by Green l	nd the Ba over is e atures at e fields c oes alon about 10- overage c mouths c e harbor y detache Bay	ays de Nor stablished nd location of very hea g the shor percent co percent co percent shor percent co percent	c. These I by the e n of the id avy brash re. Even d overage d mid-Marc vers, the erally pro vaters. Th	buildu nd of e field exter during compa h, on boly la tectec e mos	ups are a January ds chan nding 1 t a mild ared to a the ave arge strea t by para st impor	aided by wi and incluc ge as a dir to 2 miles o winter, the n average rage, while eams being allel piers, tant harbon	indrows re des the ab ect function offshore. I se floes c 40-perce de decay be decay be the Fox and some rs in Lake	esulting pove- on of the In addition, an build out ont coverage egins a and have been Michigan
					Recor	nmended Spil	I Response St	trategy	7 Table							
Site ID	Latitude (Decimal Degrees)	Longtitud e (Decimal Degrees)	Response Strategy	Implement tegyMin Boom LengthStaging AreaBoat AccessLand AccessPriorityDate Last VerifiedStateCountySectorAddressIsionUse anchored400'Kewaunee Public Launch,201 HarrisonMedium1-Dec-16WIKewaune eeSLM201 Harrison												
Tug Ludington (A32)	44.4598	-87.5018	Exclusion	xclusionUse anchored deep-sea boom to exclude or divert oil from area around vessel.400'Kewaunee Public Launch, Peterson St.201 Harrison St., Peterson St. Kewaunee, WI 54216Medium St., Kewaunee, WI 542161-Dec-16WIKewaun eeKewaun SLM201 Harrison St., Kewaunee, WI 54216iwith the second sec												
						LO	GISTICS									<u>. </u>
				Logistics Support Table												
	Name		Туре		Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	;	County	Owne	er / POC	Ao Limi	ccess itations	Description	on Stat	e Sector
Kewaunee Publi	c Launch		Staging Area	4	4.4642	-87.5037	Peterson : Kewaunee, WI 44.4642, -87.5	St. 54216 037	Kewaun ee	WI DNR		None	2	Public Boat ramp with large parkin lot	: WI	SLM

Kewaunee Public Launch	Boat Ramp	44.4642	-87.5037	Peterson St. Kewaunee, WI 54216 44.4642, -87.5037	Kewaun ee	WI DNR	None	Public Boat ramp with large parking lot	WI	SLM
			CON	IMENTS						
 Vessel is on the National Register of Historic Places Vessel is permanent moored on the south wall of the turning basin. 										
			GRP/	GRS MAP						



GRS: Po	tawatomi State Park		GRS #	A33
Protection Priority S	ites / Ranking:	Medium (B)		
		LOCATION INFORM	IATION	
State: Wisconsin		County	r: Door	
		CONTACT INFORM	IATION	
EPA Spill Hotline: 312	2-353-2318			
Veolia Environmental	Services: 920-743-1097			
Sturgeon Bay Fire De	partment: 920-746-2916			
USCG Station Sturge	on Bay: 920-743-3367			
USCGC Mobile Bay: 9	920-743-2646 Johiann Command Contor: 414 747 71	92		
Wisconsin Departmen	tof Natural Resource : 1-800-847-936	02 7		
Wisconsin Departmen	t of Natural Resource Spill Emergency	/ Hotline: 1-800-943-0003		
Wisconsin Historical S	Society, State Archaeologist: 608- 264-6	6496		
		RESOURCES AT RISK CHA	RACTERISTICS	
Managed Areas:	Potawatomi State Pa	rk		
Shoreline Type:	Shelving Bedrock Sh	ores, Sand Beaches, Gravel Beaches	s, Exposed Rocky Cliffs, Ha	ard Man-made Structures, Sheltered Man-made
Sensitive Habitat:	Wetlands in Sawyer	Harbor		
Wildlife	Terrestrial Plants A	quatic Plants, Gamefish, Migratory Bir	rds	
Federally Threatened	d / Dwarf Lake Iris (T), F	Pitcher's Thistle (T), Hine's Emerald Di	ragonfly (E), Northern Long	g-eared Bat (T)
Socio-Economic Res	sources: Small marinas, resor	ts, and rental cottages; kayaking, publ	lic drinking water source	
		SPILL RESPON	ISE	
Predicted Benavior:	time. In October, S th of 10 feet or more are encountered. During percent in the N. Sur 20 percent in June ar Winds: Coastal wind morning, when north- preponderance of win likelihood of encount Green Bay recorded Spring winds can still winter fierceness, wit	biss in October and November, when, i prough SW winds are most often respon- e encountered 3 to 5 percent of the time the spring, high seas are infrequent, b nmer seas climb above 10 feet less the hod July. By August, the fall buildup beg ds are more localized and variable. All erlies, easterlies, and southerlies are a hods out of the S, particularly with the a ering winds of 28 knots or more falls fr a 95-knot southwesterly one May; it is blow strong, with winds of 28 knots o h southerlies and southwesterlies bed	akewide, wave heights of a possible, while by November ne from November through out 5- to 10-foot seas devel an 1 percent of the time, w gins. ong the Lake Michigan sho among the most common. I approach of summer. Summ rom a 4- to 10-percent chai is not unrealistic to expect a or more encountered about coming more frequent and r	r W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been lop 15 to 30 percent of the time in the S and 20 to 40 while those in the 5- to 10-foot category drop to less than ore, spring winds are variable, particularly in the By afternoon, aided by a lake-breeze effect, there are a mer also brings a slackening of wind speeds. The nce in March to less than 3 percent by May. However, wind extreme of 100 knots or more over open waters. 4 to 8 percent of the time. They do slacken from their northerlies less so as summer approaches. Strong

	also common in the S. Northerlies are a secondary wind.													
Response Co	nsideratio	ns:	Ice: The from pre- mentione wind. Sh a circula 10 to 15 and an 8 week or Harbors Menomir provided are Mush	first waters to vailing winds ed waters plus ores exposed r current patte miles into the 0-percent cov two later. : The harbors nee Rivers wh with stilling b kegon, Calum	o form an e and currer s the extre I to the full ern in the S lake. A m verage dur s on the W nich empty asins. Sor et, Chicag	extensive ice conts. In a normal me S part of the force of the wi S part of the lak- ild winter on La ing a severe w est side of the into Green Ba ne harbor entra jo, Milwaukee,	over are Green winter, an earl e lake. The sur nd often have I te distributes dr ake Michigan m inter. Maximum lake are genera y. The entrance ances are prote Kenosha, and	Bay and the ly ice cover is face features arge ice field rifting floes al neans about 7 n ice coverag ally at the mo es to the hark ected by deta Green Bay	Bays de No establishe and locatio s of very he ong the sho 0-percent o e occurs by uths of sma ors are ger ched break	bc. These build d by the end of on of the ice fi- avy brash ext bre. Even durin coverage com mid-March, of all rivers, the of herally protect waters. The m	dups are of January elds chan ending 1 ng a mild pared to a on the ave nly large ed by par lost impor	aided by wi v and incluc ge as a dir to 2 miles o winter, these an average rage, while streams be allel piers, a tant harbor	indrows re des the ab ect functio offshore. I se floes ca 40-perce e decay be eing the Fo and some rs in Lake	esulting pove- on of the n addition, an build out nt coverage egins a box and have been Michigan
					Recor	mmended Spil	Response St	trategy Table	9					
Site ID	Site ID Latitude (Decimal Degrees) Longtitud e Response Strategy Implementa tion Min Boom Length Staging Area Length Boat Access Land Access Priority Date Last Verified State County Sector Address Potawatomi 44.86556 -87.41187 Exclusion Anchored 15,000' Sawyer Park Sawyer Park 3740 Park Medium WI Door SLM 3740 Park													
Potawatomi State Park (A33)	44.86556	-87.41187	Exclusion	Anchored exclusionary boom15,000'Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235Sawyer Park 421 Michigan St., Sturgeon Bay, WI 542353740 Park Drive, Sturgeon Bay, WI 54235Weium HeiumWIDoorSLMSTAD Park Drive, Sturgeon Bay, WI 54235VI 54235Sawyer Park (111111111111111111111111111111111111										
						LO	GISTICS							
			Logistics Support Table											
	Name		Туре	(Latitude Decimal Degrees)	Longitude (Decimal Degrees)	Address	s Cou	nty Own	er / POC Li	Access mitations	Descriptio	on Stat	e Sector
Sawyer Park			Staging Area	44.8	288 N	087.3813 W	Sawyer Park 42 Michigan St., Sturgeon Bay, 54235	21 Door WI	WIDN	R No	ne	Public Boat ramp with large parkin lot	t WI	SLM

Sawyer Park	Boat Ramp	44.8288 N	087.3813 W	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	WIDNR	None	Public Boat ramp with large parking lot	WI	SLM
			CON	IMENTS						
 Alternate launch ramp and small parking lot within state park on Sawyer Harbor Commercial shipping channel along length of park shoreline in Sturgeon Bay 										
			GRP/	GRS MAP						



GRS:	Little Sturgeon B	Bay			GRS #	A34
Protection Prior	ity Sites / Ranking:		Medium (B)	L		
			LOCATION IN	FORMATION		
State: Wisconsin				County: Door		
			CONTACT IN	FORMATION		
EPA Spill Hotline	: 312-353-2318					
Veolia Environm	ental Services: 920-74	43-1097				
Sturgeon Bay Fi	e Department: 920-74	46-2916				
USCG Station S	urgeon Bay: 920-743-	-3367				
USCGC Mobile I	Bay: 920-743-2646		400			
USCG Sector La	ke Michigan Comman	id Center: 414-747-7	182			
Wisconsin Depa	tment of Natural Reso	Durce: 1-800-847-936	0/ v Hatling: 1,800,042,0002			
Wisconsin Depa	ical Society State Are	burce Spill Emergenc	e406			
WISCONSITT IISTO	ical Society, State Alt	naeologisi. 000-204				
Managed Areas		Wave Pointe Marina	Claffin Point Shipwrack			
Managed Aleas						
Shoreline Type		Gravel Beaches, Ha	ard Man-made Structures, Shelt	ered Man-made St	tructures, Mixed	Sand and Gravel Beaches, Fringing, Sand Beaches
Sensitive Habita	at:	Squaw Island, Riley	rs Bay			
Wildlife:		Terrestrial Plants, A	Aquatic Plants, Migratory Birds,	Bald Eagle, Smallr	mouth Bass, Blu	legill, Perch, Lake Sturgeon
Federally Threa Endangered Sp	tened / ecies:	Dwarf Lake Iris (T),	Pitcher's Thistle (T), Hine's Em	erald Dragonfly (E)), Northern Long	g-eared Bat (T)
Socio-Economi	c Resources:	Local marina, resort	ts, and rental cottages			
			SPILL RE	SPONSE		
Predicted Beha	vior:	Sea Conditions: W	orst in October and November,	when, lakewide, w	vave heights of §	5 to 10 feet are encountered about 35 percent of the
		time. In October, St	through SW winds are most ofte	en responsible, whi	ile by November	r W through N winds often generate rough seas. Seas
		of 10 feet or more a	re encountered 3 to 5 percent o	of the time from Nor	vember through	March. Extreme waves of 20 to 22 feet have been
		encountered. During	g the spring, high seas are infre	quent, but 5- to 10-	-foot seas devel	lop 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Su	immer seas climb above 10 feet	t less than 1 perce	nt of the time, w	hile those in the 5- to 10-foot category drop to less that
		20 percent in June a	and July. By August, the fall buil	Idup begins.	NA 1 1 1	
		winds: Coastal wir	nds are more localized and varia	able. Along the Lak	ke Michigan sho	re, spring winds are variable, particularly in the
		morning, when north	neriles, easteriles, and southerly	its are among the		By alternoon, alded by a lake-breeze effect, there are a
		likelihood of encour	nius out of the S, particularly winds of 28 knots or more	a falls from a A - to	10-nercent char	net also billings a slacker ling of will a speeds. The nee in March to less than 3 percent by May, However
		Green Bay recorder	a 95-knot southwesterly one M	lav: it is not unreal	listic to expect a	wind extreme of 100 knots or more over open waters
		Spring winds can st	ill blow strong with winds of 28	knots or more enc	ountered about	4 to 8 percent of the time. They do slacken from their
		winter fierceness. w	ith southerlies and southwester	lies becomina mor	e frequent and r	northerlies less so as summer approaches. Strong
		winds are infrequen	t in summer and mostly associa	ated with thunderst	orms. S and SW	/ winds prevail particularly in the N southeasterlies are

	also common in the S. Northerlies are a secondary wind. esponse Considerations: Ice: The first waters to form an extensive ice cover are Green Bay and the Bays de Noc. These buildups are aided by windrows resulting															
Response Co	nsideratio	ns:	Ice: The from pre- mentione wind. Sh a circular 10 to 15 and an 8 week or Harbors Menomir provided are Must	first waters vailing wind ed waters pl ores expose r current pa miles into th 0-percent c two later. : The harbo nee Rivers v with stilling kegon, Calu	to form an els and curren lus the extremed to the full ttern in the S the lake. A m coverage dur ors on the We which empty basins. Son imet, Chicag Recor	extensive ice co its. In a normal me S part of th force of the win part of the lak ild winter on La ing a severe win est side of the l into Green Bay ne harbor entra o, Milwaukee, nmended Spil	over are Green winter, an earl e lake. The sur nd often have I e distributes dr ike Michigan m nter. Maximum ake are genera /. The entrance inces are prote Kenosha, and I Response St	Bay ar ly ice co face fe arge icc rifting fl neans a n ice co ally at th es to th ected by Green l trategy	nd the Ba over is es atures ar e fields o oes alon about 10- overage o he mouth e harbors y detache Bay r Table	ys de No stablished nd locatio f very hea g the sho percent co percent co percent so percent co percent co per	c. These I by the end of the ic avy brash re. Even c overage c mid-Marc I rivers, th erally prot vaters. Th	buildu nd of e field exter during compa h, on he only tected e mos	ps are a January ds chang ding 1 t a mild u rred to a the ave y large s by para st import	aided by w and includ ge as a dir o 2 miles o winter, the n average rage, while streams be allel piers, tant harbo	indrows r des the al ect functi offshore. se floes c 40-perce e decay b eing the F and some rs in Lake	esulting pove- on of the In addition, an build out ent coverage egins a ox and e have been Michigan
Site ID	Site ID Latitude (Decimal Degrees) Longtitud e Response Strategy Implement ation Min Boom Length Staging Area Boat Access Land Access Priority Date Last Verified State County Sector Address Little 44.8462 -87.5502 Exclusion Use 1000' Sawyer Park 8845 Fuzz 3698 Claflin Medium 1-Dec-16 WI Door SLM 3698															
Little Sturgeon Bay (A34)	44.8462	-87.5502	Exclusion	Image: Construction of the sector of the s										3698 Claflin Park Road, Sturgeon Bay, WI 54235		
						LO	GISTICS	-								
						Logistics	Support Tab	le								
	Name		Туре		Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	5	County	Owne	er / POC	Ac Limi	ccess tations	Descripti	on Sta	te Sector
Sawyer Park			Staging Area	44	.8288 N	087.3813 W	Sawyer Park 42 Michigan St., Sturgeon Bay, 54235	21 WI	Door	WI DNR		None		Public Boat ramp with large parki lot	ng WI	SLM

Sawyer Park	Boat Ramp	44.8288 N	087.3813 W	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	WI DNR	None	Public Boat ramp with large parking lot	WI	SLM
COMMENTS										
- Claflin Point Shipwreck is on the National Register of Historic Places										
GRP/GRS MAP										


GRS:	Sawyer Harbor				GRS #	A35
Protection Prior	ity Sites / Ranking:		High (A)			
			LOCATION	NFORMATION		
State: Wisconsin				County: Door		
			CONTACT I	NFORMATION		
EPA Spill Hotline	: 312-353-2318					
Veolia Environme	ental Services: 920-7	43-1097				
Sturgeon Bay Fir	e Department: 920-7	46-2916				
USCG Station St	urgeon Bay: 920-743	3-3367				
	Bay: 920-743-2646	nd Conton 444 747 7	400			
USCG Sector La	ke Michigan Comma	nd Center: 414-747-7	182			
Wisconsin Depai	tment of Natural Res	Source Spill Emergency	y Hotline: 1-800-943-0003			
			PESOLIDCES AT RIS			
Managed Areas		Potawatomi State P				
Manageu Areas	•	1 olawatomi olate i				
Shoreline Type:		Mixed Sand and Gra	avel Beaches, Riprap structur	es, Freshwater Mars	shes	
Sensitive Habita	at:	Freshwater Emerge	nt Wetlands, Forested/ Shrub	Wetlands		
Wildlife:		Terrestrial Plants, A	Aquatic Plants, Gamefish, Mig	ratory Birds		
Federally Threa	tened /	Dwarf Lake Iris (T),	Pitcher's Thistle (T), Hine's E	merald Dragonfly (E), Northern Long-	eared Bat (T)
Endangered Sp	ecies:					
Socio-Economi	c Resources:	Canoeing and Kaya	king, Recreational Fishing Ar	ea, Hiking Trails in F	Potawatomi State I	Park
			SPILL R	ESPONSE		
Predicted Behav	vior:	Sea Conditions: W	orst in October and Novembe	er, when, lakewide, v	vave heights of 5 t	to 10 feet are encountered about 35 percent of the
		time. In October, St	through SW winds are most o	ften responsible, wh	ile by November \	W through N winds often generate rough seas. Seas
		of 10 feet or more a	re encountered 3 to 5 percent	t of the time from No	vember through N	March. Extreme waves of 20 to 22 feet have been
		encountered. During	the spring, high seas are inf	requent, but 5- to 10	foot seas develo	p 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Su	mmer seas climb above 10 fe	et less than 1 perce	ent of the time, whi	lie those in the 5- to 10-toot category drop to less than
		20 percent in June a	and July. By August, the fall b	ulidup begins.	ko Michigan shar	a coring winds are variable, particularly in the
		morning when north	harlies easterlies and south	arlies are among the	most common By	y afternoon, aided by a lake-breeze affect, there are a
		preponderance of w	vinds out of the S particularly	with the approach of	f summer Summe	er also brings a slackening of wind speeds. The
		likelihood of encoun	itering winds of 28 knots or m	ore falls from a 4- to	10-percent chance	ce in March to less than 3 percent by May. However,
		Green Bay recorded	a 95-knot southwesterly one	May; it is not unrea	listic to expect a w	vind extreme of 100 knots or more over open waters.
		Spring winds can st	ill blow strong, with winds of 2	8 knots or more end	countered about 4	to 8 percent of the time. They do slacken from their
		winter fierceness, w	ith southerlies and southwest	erlies becoming mor	re frequent and no	ortherlies less so as summer approaches. Strong
		winds are infrequen	t in summer and mostly assoc	ciated with thunderst	torms. S and SW	winds prevail particularly in the N southeasterlies are
		also common in the	S. Northerlies are a seconda	ry wind.		

Response Co	nsideratio	ns:	Ice: The	first wat	ers to	form an e	extensive ice co	over are Green	Bay a	nd the Ba	ys de No	c. These	buildu	ips are a	aided by wir	ndrows re	esulting	
			from pre	vailing w	inds a	and currer	nts. In a normal	winter, an earl	y ice c	cover is es	stablished	d by the e	nd of	January	and includ	es the ab	ove-	
			mentione	ed water	s plus	the extre	me S part of th	e lake. The sur	face fe	eatures ar	nd locatio	n of the ic	ce fiel	ds chan	ge as a dire	ect function	on of the	9
			wind. Sh	ores exp	posed	to the full	force of the wi	nd often have l	arge ic	ce fields o	f very he	avy brash	exter	nding 1 t	to 2 miles o	ffshore. I	n additio	on,
			a circula	r current	t patte	rn in the S	S part of the lak	e distributes di	rifting f	loes alon	g the sho	re. Even o	during	a mild	winter, thes	e floes ca	an build	out
			10 to 15	miles in	to the	lake. A m	ild winter on La	ike Michigan m	ieans a	about 10-	percent c	overage o	compa	ared to a	n average	40-perce	nt cove	rage
			and an 8	0-perce	nt cov	erage dur	ing a severe wi	nter. Maximum	n ice co	overage o	ccurs by	mid-Marc	h, on	the ave	rage, while	decay be	egins a	
			week or	two late	r.													
			Harbors	: The ha	arbors	on the W	side of the lake	e are generally	at the	mouths c	of small riv	vers, the	only la	arge stre	eams being	the Fox a	and	
			Menomir	nee Rive	ers wh	ich empty	into Green Bay	I. The entrance	es to th	ne harbors	s are gen	erally pro	tected	l by para	allel piers, a	and some	have b	een
			provided	with stil	ling ba	asins.												
			Danger:	Sherwo	od Po	oint Shoal,	a detached sh	oal with a least	t depth	n of 11 ft is	s marked	on the no	orth si	de by a	lighted horr	n buoy 2	miles	
			northwes	st of She	erwood	d Point Lig	ht. The shoal	is a hazard to v	/essels	s approad	hing Stur	geon Bay	from	south.				
						Recor	nmended Spil	I Response St	trategy	y Table								
Site ID	Latitude	Longtitud	Response	Implem	enta	Min	Staging Area	Boat Access	Land	Access	Priority	Date L	ast	State	County	Sector	Addre	ss
	(Decimal	e	Strategy	tior	า	Boom	00					Verifi	ed					
	Degrees)	(Decimal				Length												
		Degrees)	·			5 000/									_	<u> </u>		
Sawyer Harbor (A35)	44.88362	-87.43257	Exclusion	Ancho	ored	5,000'	South Sawyer	South Sawyer	4 Shore	1200 alina Rd	Medium	1-Aug-	17	WI	Door	SLM	N/A	
				boo	m		Shoreline Boat	Shoreline Boat	Sturg	eon Bay.								
							Launch	Launch	WI	54235								
		1		1			LO	GISTICS	<u> </u>					1	<u> </u>		<u>.</u>	
							Logistics	Support Tab	le									
_								_		-	_							
	Name		Туре		L	atitude	Longitude	Address	;	County	Owne	er / POC	A	ccess	Descriptio	n Stat	e Sec	tor
					(1	Decimal	(Decimal						Limi	tations				
						Jegrees)	Degrees											
North Sawyer Ha	arbor Ramp		Boat Ramp		44.88	3633	-87.425944	Robin Dr, Sturg	geon	Door	DNR		None	9	Little area fo	or WI	SLM	
								Bay, WI 54235							parking, 55	ft		
															gap betwee	n		
															docks to get			
															harbor from			
															the boat rar	nn		

South Sawyer Harbor Ramp/ Shoreline Boat Launch	Boat Ramp/ Staging Area	44.878	-87.426861	4200 Shoreline Rd., Sturgeon Bay, WI 54235	Door	WI DNR	None	Large Parking Area	WI	SLM
Sawyer Park	Staging Area	44.8288 N	087.3813 W	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	WI DNR	None	Public Boat ramp with large parking lot	WI	SLM
Sawyer Park	Boat Ramp	44.8288 N	087.3813 W	Sawyer Park 421 Michigan St., Sturgeon Bay, WI 54235	Door	WI DNR	None	Public Boat ramp with large parking lot	WI	SLM
			COI	MMENTS						<u> </u>
- Highly populated re	ecreational area	during sum	nmer months	>						
			GRP/	GRS MAP						



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- B7: Kohler Andrea State Park
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- B24 Continental Shipwreck

GRS:	Milwaukee Harb	or			GRS #	B1
Protection Priority Site	s / Ranking:		Milwaukee Harbor, High (A)			
			LOCATION INFO	RMATION		
State: Wisconsin				County: Milwau	kee	
			CONTACT INFO	RMATION		
McKinley Marina: (414)2	273-5224					
South Shore Yacht Club	: (414)481-2331					
Federal Marine Terminal	I: (414)769-2900					
USCG Sector Lake Mich	ligan Command Cente	er: (414)/4/-/182				
EPA Spill Hotline: (312)	353-2318					
City of Milwaukee [.] (414)	286-3521					
	200 0021	RE	SOURCES AT RISK C	HARACTERIS	STICS	
Managed Areas:		Bradford Beach				
Shoreline Type:		Sheltered scarps i	n bedrock, Riprap and jetties	, man-made struc	ctures, Sand beaches	S
Sensitive Habitat:		Sand Beaches				
Wildlife:		Recreational Beac	ches - Migratory birds such a	s ducks, geese ar	nd piping plovers. Va	rious small mammals.
		Marina/Yacht Club	o/Commercial Port - Migrator	y birds such as du	ucks and geese. Vari	ious species of fish including salmon, steelhead,
		trout and bass. As	well as various small mamm	nals.		
Federally Threatened /	Endangered	Threatened - Nor	thern Long Eared Bat, Rufa F	Red Knot (Bird)		
Species:		Endangered - Pipi	ng Plover, Hines Emerald Dr	agon Fly, Karner	Blue Butterfly and W	/hooping Crane.
Socio-Economic Reso	urces:	Recreational beac	hes North of McKinley Marin	a, McKinley Marir	na, South Shore Yac	ht Club, Commercial port at Federal Marine
		Terminal				
			SPILL RESP	ONSE		
Predicted Behavior:		Sea Conditions:	Worst in October and Novem	ber, when, lakew	ide, wave heights of	5 to 10 feet are encountered about 35 percent of
		the time. In Octobe	er, S through SW winds are r	most often respon	sible, while by Nove	mber W through N winds often generate rough
		seas. Seas of 10 f	eet or more are encountered	3 to 5 percent of	the time from Noven	nber through March. Extreme waves of 20 to 22
		feet have been en	countered. During the spring	, high seas are in	frequent, but 5- to 10	0-foot seas develop 15 to 30 percent of the time
		in the S and 20 to	40 percent in the N. Summe	r seas climb abov	e 10 feet less than 1	percent of the time, while those in the 5- to 10-
		foot category drop	to less than 20 percent in Ju	ine and July. By A	August, the fall buildu	up begins.
		Winds: The prove	iling wind direction in Mast	lorthwoot which h	unner. as roachad a gust of	70 knots in 1084. The highest sucress wind
		speed of 10 mph of	anny wind direction is west-iv	t average wind or	as reached a gust of	e around August
		Weather Annual	precipitation is 32 inches with	the maximum or	curring during the s	a lound August. Immer There is a yearly average of 36
		thunderstorms ear	ch year. The hottest month is	July with an aver	age of 80F and the	coldest month is January with an average high
		of 27F.		eary mar an avor		enset month is cancery with an avoidgo high
		1				

Response Co	nsiderations:		Ice: A mild v percent cove or two later. Water Dept	vinter on Lake Michigan me erage during a severe winte h: Averages from 15 feet to Recommended Spi	eans about er. Maximu e around 6 Il Respon	t 10-percent im ice cover 0 feet deep	coverage rage occurs in the harb	compare s by mid- or.	d to an averag March, on the	ge 40-perce average, w	nt coverage and an 80- hile decay begins a week
				Recommended Spir	ii kespoli	se Strategy	Table				
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Milwaukee Harbor	(Decimal Degrees)(Decimal Degrees)StrategyBorn LengthLast VerifiedIntervIntervIntervMilwaukee Harbor43.025514-87.89511Containment and CollectionContain source of discharge (vessel) with 3 times the ship's length in boom. Surround source of discharge with boom and use the best viable skimmer as there is no restriction in terms of water depth for operation. J-boom product outside of containment towards the2100'High Pinterv27-Apr- 2016WIMilwaukee SLMSLMDredged shipping Channel at the mouth of the Milwaukee River as it enters Lake Michigan.										
					GISTIC	S					
				Logistic	s Support	: Table					

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
McKinley Marina	Staging Area	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414)273- 5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM
USCG – Sector Lake Michigan	Staging Area	43.00162	87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
South Shore Yacht Club	Boat Ramp	42.99758	-87.88394	2300 E. Nock Street. Milwaukee, WI 53207	Milwaukee	South Shore Yacht Club (414)481-2331	None	Boat launch with two docks. Lots of parking.	WI	SLM
USCG – Sector Lake Michigan	ICP	43.00162	87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
McKinley Marina	Boat Ramp	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414)273- 5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM
	•		•	C	OMMENTS					
-Safety Shou -Logistically e	ld be stressed easy to get to o	as always! downtown Mil	waukee, Inter	states and mult	iple other bo	pat ramps.				
				GR	P/GRS MAI	P				



GRS:	Milwaukee River GRS # B2											
Protection Priority Site	es / Ranking:	Milwaukee River, Priority A	A (High)									
		LOCATION INFO	ORMATION									
State: Wisconsin			County: Milwauk	ee								
		CONTACT INFO	ORMATION									
Milwaukee County Boat	Launch: (414)273-5	224										
USCG Sector Lake Mich	nigan Command Cer	nter: (414)747-7182										
EPA Spill Hotline: (312)	353-2318											
City of Milwaukoo: (414)	00)943-0003											
	1200-3321	RESOURCES AT RISK O	CHARACTERIS	TICS								
Managed Areas:		None										
Shoreline Type:		Sheltered man-made structures										
Sensitive Habitat:		N/A – Urban area										
Wildlife:		Wooded areas along the river holds migratory	birds, deer, coyote	s, turkeys, ducks,	geese, seagulls, rust patched bumble bees and							
		other small mammals.										
		The river holds Steelhead, Trout, bass and Sa	Ilmon (seasonal)									
Federally Threatened /	Endangered	Threatened - Northern Long Eared Bat, Rufa	Red Knot (Bird)									
Species:		Endangered - Piping Plover, Hines Emerald D	ragon Fly and Karr	er Blue Butterfly, I	Rusty Patched Bumble Bee.							
Socio-Economic Reso	urces:	Recreational marinas and docks, Lighthouse of	on North side of ent	rance								
		SPILL RESP	PONSE									
Predicted Behavior:		Sea Conditions: Worst in October and Noven	nber, when, lakewig	de, wave heights o	of 5 to 10 feet are encountered about 35 percent of							
		the time. In October, S through SW winds are	most often response	ible, while by Nov	ember W through N winds often generate rough							
		seas. Seas of 10 feet or more are encountered	d 3 to 5 percent of t	he time from Nove	ember through March. Extreme waves of 20 to 22							
		feet have been encountered. During the spring	g, high seas are inf	requent, but 5- to	10-foot seas develop 15 to 30 percent of the time							
		in the S and 20 to 40 percent in the N. Summe	er seas climb above	e 10 feet less than	1 percent of the time, while those in the 5- to 10-							
		Currents: Attain velocities up to 4 mph	une and July. By A	ugust, the fail build	dup begins.							
		Winds: The prevailing wind direction is West-N	Northwest which ha	s reached a qust (of 70 knots in 1984. The highest average wind							
		speed of 10 mph occurs in January. The lowes	st average wind sp	eed of 7 mph occu	irs around August.							
		Weather: Annual precipitation is 32 inches with	h the maximum oc	curring during the	summer. There is a yearly average of 36							
		thunderstorms each year. The hottest month is	s July with an avera	age of 80F, and the	e coldest month is January with an average high							
		of 27F.										
Response Considerati	ons:	Ice: A mild winter on Lake Michigan means ab	out 10-percent cov	erage compared t	o an average 40-percent coverage and an 80-							
		percent coverage during a severe winter. Maxi	imum ice coverage	occurs by mid-Ma	arch, on the average, while decay begins a week							
		Water Depth: Averages from 5' to 10'										
		The second secon										

					Recommended S	pill Resp	onse	Strate	gy Table						
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	e Response Strategy	Implement	ation	Min Boom Length	Prior	rity	Date Last Verified	<u>State</u>	County		Sector	Address	
Milwaukee River	43.025474	87.90303	3 Exclusion	Protect the pleasure cra that use this commerce a The Milwau 400 ft. wide extra boom river flow ra allow entrai Numerous s manmade s the river to points	boat slips, afts and public s area for and pleasure. kee River is 250- back Bringing along to account for ates as to not nment. slips and tructures along find attachment	1200'	High		27-Apr-2016	WI	Milwauk	ee	SLM	End of the Milwauke meets the Kinnickinn	e River as it e nic River.
		·	·		L	OGIST	ICS								
Logistics Support Table															
Name	Туре		Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	Count	ÿ	Own	er / POC	Acces Limita	s ations	Descr	iption	State	Sector
Milwaukee County Boa Launch	Boat L	aunch	43.025	-87.90408	600 S. Water St, Milwaukee, WI	Milwa	ukee	Publi	c/Municipal	Some Steep	what grade	Boat I with o dock, parkir	launch one minimal ng	WI	SLM
Milwaukee County Boa Launch	Stagin; t	g Area	43.025	-87.90408	600 S. Water St, Milwaukee, WI	Milwa	ukee	Publi	c/Municipal	Some steep	what grade	Boat I with o dock, parkir	launch one minimal ng	WI	SLM
USCG – Sector Lake Michigan	ICP		43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwa	ukee	U.S. (Coast Guard	Secur escor requi	ity ting rements	Secto Michi	r Lake gan	WI	SLM
					C	OMME	NTS					1			1
- Log	gistically e	asy to ge	et to downto	wn Milwaukee	e, Interstates a	nd multi	iple of	ther b	oat ramps.						
					GF	RP/GRS	5 MAP	0							



GRS:	Milwaukee Flush	ning Channel		GRS	#	B3
Protection Prior	ity Sites / Ranking:		Milwaukee Flushing Channel, Priority A			1
			LOCATION INFORMAT	ION		
State: Wisconsin			County: Mi	lwaukee		
			CONTACT INFORMAT	ION		
Milwaukee Coun	ty Boat Launch: (414)	273-5224				
South Shore Yac	tt Club: (414)481-23	31				
McKinley Marina	: (414)273-5224 ka Miahigan Cammar	ad Captary (111)717 -	71.00			
EPA Spill Hotling	ke Michigan Commar 1. (312)353-2318	nd Center: (414)/4/-/	182			
WI DNR Spill Ho	tline: (800)943-0003					
City of Milwauke	e: (414)286-3521					
			RESOURCES AT RISK CHARA	CTERISTIC	S	
Managed Areas	:	McKinley Park				
Shoreline Type:		Sheltered man-mac	le structure			
Ormalities Habit	-1-	N1/A				
Sensitive Habita	at:	N/A				
Wildlife:		Area around the tra	il holds small concentrations of coyotes, de	er, ducks, gees	se, seagu	lls, bees and other small mammals.
		Discharge from the	flushing channel may affect aquatic birds su	uch as ducks, g	geese and	d seagulls. There are several species of fish in the
Forderseller Three	(l /	river not limited to s	almon, steelhead, trout and bass.			
Federally Inrea	tened /	Inreatened - North	ern Long Eared Bat, Ruta Red Knot (Bird)			ty Databand Durable Data
Endangered Sp		Endangered - Fipin	g Flover, filles Effetald Diagon Fly and Ka		eniy, Rus	
Socio-Economi	c Resources:	Recreational marina	as and docks, Oak Leaf Trail			
			SPILL RESPONSE			
Predicted Beha	vior:	Sea Conditions: W	orst in October and November, when, lake	wide, wave heig	ghts of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S	through SW winds are most often responsit	ole, while by No	ovember \	W through N winds often generate rough seas. Seas
		of 10 feet or more a	are encountered 3 to 5 percent of the time fr	om November	through N	March. Extreme waves of 20 to 22 feet have been
		encountered. Durin	g the spring, high seas are infrequent, but 5	- to 10-foot sea	as develo	p 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Su	ummer seas climb above 10 feet less than 1	percent of the	time, wh	ile those in the 5- to 10-foot category drop to less than
		20 percent in June	and July. By August, the fall buildup begins.			
		Currents: Attain ve	locities up to 4 mph.			
	0 knots in 1984. The highest average wind speed of					
		Weather: Appuel p	anuary. The lowest average wind speed of a	mpn occurs a	nound Au	igusi. Imer There is a vearly average of 26 thunderstorms
		each year. The hot	est month is July with an average of 80F, a	nd the coldest r	month is	January with an average high of 27F.
Response Cons	iderations:	Ice: A mild winter o	n Lake Michigan means about 10-percent c	overage compa	ared to ar	n average 40-percent coverage and an 80-percent
		average, while decay begins a week or two later.				
		Water Depth: Aver	ages from 5' to 10'			

				Recommended	Spill Response	e Strategy 1	Table					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verifi ed	<u>State</u>	County	<u>Sector</u>	Address	
Milwaukee Flushing Channel	43.052983	87.886924	Exclusion	Contact the Milwauke Metropolitan Sewer District to shut off the pumps and deploy har boom to exclude acces from river to lake	e 400' bor ss	High	27- Apr- 2016	WI	Milwauk ee	SLM	1819-1879 N Memorial Dr, Milwaukee, V	Lincoln VI 53202
					LOGISTICS							
News	Truce	Latituda	Lauritu	da Adduara	Country	Ourser (DOC		-	Description	Chata	Castar
Name	туре	(Decimal Degrees)	(Decim Degree	al es)	County	Owner /	PUC	Limit	ations	Description	State	Sector
McKinley Marina	Staging Area	43.05126	5 -87.882	255 1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwauk Parks (41 5224	ee Count L4)273-	y None		Large ramp with 4 docks. Lots of parking	WI	SLM
Milwaukee County Boat Launch	Staging Area	43.025	-87.904	408 600 S. Water St, Milwaukee, WI	Milwaukee	Public/N	lunicipal	Some steep	what grade	Boat launch with one dock, minimal parking	WI	SLM
USCG – Sector Lake Michigan	Staging Area	43.00162	2 -87.888	35 2420 S. Lincoln Memorial Dr Milwaukee, WI	Milwaukee	U.S. Coas	st Guard	Secur escor requi	ity ting rements	Sector Lake Michigan	WI	SLM
South Shore Yacht Club	Staging Area	42.99758	3 -87.883	394 2300 E. Nock Street. Milwaukee, WI 53207	Milwaukee	South Sh Club (414	ore Yach 4)481-23	t None 31		Boat launch with two docks. Lots of parking.	WI	SLM
USCG – Sector Lake Michigan	ICP	43.00162	2 -87.888	35 2420 S. Lincoln Memorial Dr Milwaukee, WI	, Milwaukee	U.S. Coas	st Guard	Secur escor requi	ity ting rements	Sector Lake Michigan	WI	SLM

McKinley Marina	Boat Ramp	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414)273- 5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM	
Milwaukee County Boat Launch	Boat Ramp	43.025	-87.90408	600 S. Water St, Milwaukee, WI	Milwaukee	Public/Municipal	Somewhat steep grade	Boat launch with one dock, minimal parking	WI	SLM	
South Shore Yacht Club	Boat Ramp	42.99758	-87.88394	2300 E. Nock Street. Milwaukee, WI 53207	Milwaukee	South Shore Yacht Club (414)481-2331	None	Boat launch with two docks. Lots of parking.	WI	SLM	
	-			C	OMMENTS						
- Logist	ically easy to	get to downto	wn Milwaukee	, Interstates ar	nd multiple o	ther boat ramps.					
				GR	P/GRS MAI	D					



GRS:	Buckeye Partne	ers, LP Pipeline			GRS #	B4						
Protection Prior	ity Sites / Ranking:		Low (C)									
			LOCATIO	N INFORMATION								
State: Wisconsin				County: Ozaukee								
			CONTAC	T INFORMATION								
USCG Sector La	ke Michigan Comma	nd Center: 414-747-71	82									
EPA: 312-886-78	398 - I.D. Dinalina Eman		4445									
Port Washington	S, LP Pipeline Emerg	Jency Line: 1-800-331-	4115									
1 ort Washington	Port Wasnington Marina: 262-284-6606 RESOURCES AT RISK CHARACTERISTICS											
Managed Areas	:	N/A										
Shoreline Type:		Wooded shoreline, r	rip rap,									
Sensitive Habita	at:	Migratory bird nestir	ng area, Farmland									
Wildlife:		Area around the pip The river holds seve	eline and river holds deer, eral species of fish, closer	coyotes, small mamma to lake Michigan salmor	ils, bats, bees and n and steelhead m	d birds such as ducks, geese and seagulls. hay be present.						
Federally Threa	tened /	Threatened - Northe	ern Long Eared Bat, Rufa I	Red Knot (Bird), Easterr	n Massasauga.							
Endangered Sp	ecies:	Endangered - Piping Prairie Fringed Orch	g Plover, Hines Emerald D iid.	ragon Fly and Karner B	lue Butterfly, Rust	ty Patched Bumble Bee, Whooping Crane, Eastern						
Socio-Economi	c Resources:	River flows through	farmland and towns									
			SPILL	RESPONSE								
Predicted Beha	vior:	Sea Conditions: W time. In October, S to of 10 feet or more a encountered. During percent in the N. Su 20 percent in June a Currents: Attain vel	orst in October and Nover through SW winds are most re encountered 3 to 5 perc the spring, high seas are mmer seas climb above 1 and July. By August, the fat ocities up to 4 mph.	nber, when, lakewide, w st often responsible, wh eent of the time from No infrequent, but 5- to 10 0 feet less than 1 perce Il buildup begins.	vave heights of 5 t ile by November V vember through N -foot seas develop nt of the time, whi	to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than						
		Winds: The prevailing 10 mph occurs in Ja Weather: Annual pre each year. The hotte	ng wind direction is West- nuary. The lowest average ecipitation is 32 inches wit est month is July with an a	Northwest which has rea e wind speed of 7 mph o h the maximum occurrir verage of 80F, and the	ached a gust of 7(occurs around Au ng during the sum coldest month is .) knots in 1984. The highest average wind speed of gust. mer. There is a yearly average of 36 thunderstorms January with an average high of 27F.						
Response Cons	iderations:	Water depth varies;	periods of rain may cause	flooding, ice forms in w	vinter. River flows	through farmland and towns.						
		1	Recommended Sp	ill Response Strategy	Table							

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementa tion	Min Boom Length	Staging Area	Boat Access	Land Access	Priorit Y	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Buckeye Partners, LP Pipeline (B4)	43.414089	-88.120394	Containmen t and Collection	Monitor situation and ensure Buckeye Partners, LP is following proper containment and collection efforts	500'	Port Washing ton Marina	No	Yes	Low	28-Apr-2016	WI	Ozaukee	SLM	Corner of S Oak Rd and Decorah Rd, West Bend, WI 53095
					L	OGISTIC	S							
					Logisti	cs Suppo	rt Table							
Name	Туре	Latitude (D Degree	ecimal Lo es)	ongitude (Decimal Degrees)	Add	lress	County	Own	er / POC	Access Limit	ations	Descriptio	n State	e Sector
Buckeye Partners, LP Pipeline	Pipeline	43.41	L	-88.120394	Corne Oak R Decor West WI 5	er of S kd and ah Rd, Bend, 3095	Ozaukee	Bu Part Piţ Emerg 1-800-	ckeye ners, LP peline ency Line 331-4115	Limited acc river	ess to	Pipeline crosses rive	WI	SLM
USCG - Sector Lake Michigan	ICP	43.001	62	-87.8885	242 Line Men D Milwa V	20 S. coln norial pr, aukee, VI	Milwaukee	U.S G	. Coast uard	Security esc requireme	orting ents	Sector Lak Michigan	e WI	SLM
Port Washington Marina	Staging Area	43.39)	-87.866682	106 Stree Po Washi WI 5	Lake t, Port ort ington, 3074	Ozaukee	Was M	Port hington arina	None		Port Washingto Marina	m WI	SLM
		•			C	OMMEN	TS			·		·		

- Product must flow down river a significant distance before reaching Lake Michigan and will travel through downtown Milwaukee prior to reaching Lake Michigan.
- Part of Pipeline goes through a marshy area.
- No boat ramp access to pipeline. River is typically shallow and rapids are common. Use chest waders as appropriate or paddle or oarpropelled craft launched locally from the shoreline.

GRP/GRS MAP



RS:	Kinnickinnic Rive	er Flushing Channel	GRS #	B5
Protection Pr	riority Sites / Rar	nking: High (A)		
		LOCATION INFORMATIO	N	
State: Wiscons	sin	County: Milwa	ukee	
		CONTACT INFORMATIO	N	
USCG Sector	Lake Michigan C	ommand Center: 414-747-7182		
EPA: 312-886	-7898			
South Shore	Yacht Club: 414-4	81-2331		
WI Port Autho	ority: 414-286-894	8		
		RESOURCES AT RISK CHARACT	ERISTICS	
Managed Are	eas:	South Shore Marina, Milwaukee Harbor		
Shoreline Ty	pe:	Man made, Riprap		
Sensitive Hal	bitat:	Migratory bird nesting area		
Wildlife:		Piping Plover, Rufa Red Knot, Salmon		
Federally Thr	reatened /	Northern Long-eared Bat, Kirtland's Warbler, Piping Plov	/er, Rufa Red I	Knot, Whooping Crane, Eastern Massasauga
Endangered	Species:			
Socio-Econo	mic	South Shore Marina, Milwaukee Harbor, Mckinley Marina	a	
Resources:				
		SPILL RESPONSE		
Predicted Behav	vior:	Currents attain velocities to 4 mph in the main entrai	nce channel a	and 3 mph in the river channels. The
		prevailing wind direction in Milwaukee is the west-no	orthwest. Spri	ng is the windiest period.
Response Cons	iderations:	Water depth near shore may be shallow, ice forms in	n winter, signi	ificant number of private boats during the
		summer. Municipal Mooring Basin, also known as K	innickinnic Ba	asin, is on the southeast side of the
		Kinnickinnic River about 0.6 mile above the mouth.	The basin, us	ed primarily for the winter moorage of
		vessels, has general depths of 25 to 30 feet with les	ser depths alo	ong the edges.
		Recommended Spill Response Stra	ategy Table	

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Respons e Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priori ty	Date Last Verifie	<u>Stat</u> <u>e</u>	County	<u>Sector</u>	Address
Kinnickinni c River Flushing Channel (B5)	43.00055	-87.88774	Exclusion	Contact the Milwaukee Metropolitan Sewer District to shut off the pumps and deploy harbor boom to exclude access from river to lake	300'	McKinley Marina	Yes	Yes	High	27- Apr- 2016	WI	Milwauke e	SLM	Corner of E Russell Ave and S Lincoln Memorial Dr, Milwaukee, WI 53207
						LOGIST	ICS							
					Log	istics Supp	ort Tabl	е						
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner /	POC	Access Limitation	is De	escription		State	Sector	
South Shore Yacht Club	e Boat Ramp	42.9959	-87.8817	2300 E. Nock Street, Milwaukee, WI 5327	Milwaukee	Milwauke County P (414) 273	ee 'arks 3-5224	None	La do pa	rge ramp v icks. Lots c irking	vith 4 of	WI	SLM	
Milwaukee County Boat Launch	Boat Ramp	43.025	-87.9041	500 E Bruce Street, Milwaukee, WI 53204	Milwaukee	City of Milwauke	e	Somewhat Steep Grad	t Bo de on pa	bat launch le dock. Lir Irking	with nited	WI	SLM	

USCG - Sector Lake Michigan	Staging Area	43.00162	-87.8885	2420 South Lincoln Memorial Drive, Milwaukee, WI	Milwaukee	USCG	Security escorting requirements	Sector Lake Michigan	WI	SLM
McKinley Marina	Boat Ramp	43.05126	-87.8826	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414) 273-5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM
USCG - Sector Lake Michigan	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
McKinley Marina	Staging Area	43.05126	-87.8826	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414) 273-5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM
Milwaukee County Boat Launch	Staging Area	43.025	-87.9041	500 E Bruce Street, Milwaukee, WI 53204	Milwaukee	City of Milwaukee	Somewhat Steep Grade	Boat launch with one dock. Limited parking	WI	SLM

South SI Yacht CI	nore ub	Staging Area	42.99758	-87.8839	2300 E. Nock Street, Milwaukee, WI 53207	Milwaukee	South Shore Yacht Club (414)481-2331	None	Boat launch with 2 docks. Lots of parking.	WI	SLM
							COMMENTS				
١	/esse	els moor	ed in the o	outer harbo	or may be su	bject to sev	ere surging wh	nen there are	e strong north-no	rtheast to	east-northeast winds
	Fisł Rivei	h nets ir r about a	n the north 800 feet w	outer hark vest of the l	oor are a haz Interstate 79	ard. A wate 4 highway t	er intake for a soridge and may	sewage dispo y, at times, c	osal plant is on th ause hazardous	ne south s crosscurre	ide of the Milwaukee ents for small vessels.
					:	Safety Shoul	ld be stressed a	s always!			
	Logistically easy to get to downtown Milwaukee, Interstates and multiple other boat ramps.										
	GRS MAP										



GRS:	Harrington Beach	State Park	G	GRS #	B6
Protection Priority Site	es / Ranking: High	Medium (B)			
		LOCATION INFO	ORMATION		
State: WI			County: Ozaukee		
		CONTACT INFO	RMATION		
USCG Sector Lake Mich	nigan Command Center:	: 414-747-7182			
EPA: 312-886-7898					
Port Washington Marina	a: 262-284-6606	-			
Sneboygan Harbor Cen Harrington Beach State	Tre Marina: 920-458-666 Park: 262-285-3015	5			
Thannington Deach State	Tank. 202-200-3013	RESOURCES AT RISK C	HARACTERISTI	ICS	
Managed Areas:		Harrington Beach State Park			
Shoreline Type:		Sand beaches			
Sensitive Habitat:		Migratory bird nesting area			
Wildlife:		Piping Plover, Rufa Red Knot, Salmon			
Federally Threatened / Species:	Endangered	Northern Long-eared Bat (T), Piping Plover ((E), Red Knot (T), WI	hooping Crane (E),	Eastern Massasauga (T)
Socio-Economic Reso	urces:	State Park Recreation Area			
		SPILL RESP	PONSE		
Predicted Behavior:		Sea Conditions: Worst in October and Nove	ember, when, lakewig	de, wave heights of	5 to 10 feet are encountered about 35 percent
		of the time. In October, S through SW winds rough seas. Seas of 10 feet or more are enc 20 to 22 feet have been encountered. During of the time in the S and 20 to 40 percent in th the 5- to 10-foot category drop to less than 2 Currents : Attain velocities up to 4 mph in the Winds : The prevailing wind direction is West speed of 10 mph occurs in January. The low Weather : Annual precipitation is 32 inches w thunderstorms each year. The hottest month of 27F.	are most often response countered 3 to 5 perce g the spring, high sea he N. Summer seas 20 percent in June an e main entrance char t-Northwest which ha yest average wind spon with the maximum occurs in is July with an avera	onsible, while by No ent of the time from as are infrequent, b climb above 10 fee ad July. By August, nnel. as reached a gust o eed of 7 mph occur curring during the s age of 80F, and the	 by ember W through N winds often generate November through March. Extreme waves of ut 5- to 10-foot seas develop 15 to 30 percent t less than 1 percent of the time, while those in the fall buildup begins. f 70 knots in 1984. The highest average wind rs around August. ummer. There is a yearly average of 36 coldest month is January with an average high
Response Considerati	ons:	Water depth near shore may be shallow and about 26 miles north-northeast to Sheboyga are within 2 miles of shore. A wreck, covered sunken caisson, covered 16 feet, is 0.6 mile Oostburg, WI, are prominent.	l ice may form in wint n, the shore is bold. S d 26 feet, is 0.9 mile f offshore 8 miles sou	ter. The park itself h Shoals extend abou from shore 8.2 mile hth-southwest of Sho	has sand beaches. From Port Washington for ut 0.6 mile offshore, and numerous net stakes is north-northeast of Port Washington. A eboygan. Tanks at Belgium, Cedar Grove, and

	Recommended Spill Response Strategy Table													
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Harrington Beach State Park (B6)	43.4871	-87.7938	Exclusion	Use boom to exclude or divert oil from impacting shoreline. On the shoreline, use pom-pom sorbents for heavy viscous oils and sorbent boom for lighter low viscosity oils. Extreme care is necessary during deployment and recovery to minimize disturbance	3000'	Sheboyga n Marina and Port Washingt on Marina	Yes	Yes	Medium	28-Apr-16	WI	Ozaukee	SLM	531 County Rd. D, Belgium, WI 53004
					L	ogistics Su	ipport Ta	ble						
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	e Address	County	Own	er / POC		Access Limitations	Descrip	tion	State		Sector
Harringtor Beach Stat Park	n Staging e Area	3 43.4871	-87.7938	531 County Rd. D, Belgium, WI 53004	Ozaukee	Sta Wisco	ate of nsin/DNR	(cl	Gates may be osed in winte	e Parking lo er to prio strategy easy be acces	t close rity with ach ss	WI		SLM
Port Washingto Marina	staging n area	ş 43.3877	87.86668	106 Lake 2 Street, Port Washington, WI 53074	Ozaukee	Ei mrnaport(Phone (262) :	mail: @execpc.c number: 284-6606	om	None	2 slip b ramp, me parking	oat edium glot	WI		SLM

Harbor Centre Marina USCG - Sector	staging area	43.7516 43.00162	-87.70301	821 Broughton Drive Sheboygan, WI 53801 2420 S.	Sheboygan	Phone number: 920-458-6665 U.S. Coast Guard	None	4 docks, 6 lane ramp, plenty of parking Sector Lake	WI	SLM
Lake Michigan				Lincoln Memorial Dr, Milwaukee, Wl			escorting requirements	Michigan		
Port Washington Marina	Boat Launch	43.3877	- 87.866682	106 Lake Street, Port Washington, WI 53074	Ozaukee	Email: mrnaport@execpc.com Phone number: (262) 284-6606	None	2 slip boat ramp, medium parking lot	WI	SLM
Harbor Centre Marina	Boat Launch	43.7516	-87.70301	821 Broughton Drive Sheboygan, WI 53801	Sheboygan	Phone number: 920-458-6665	None	4 docks, 6 lane ramp, plenty of parking	WI	SLM
						COMMENTS				
						GRP/GRS MAP				



GRS: Kohler Andrea S	RS: Kohler Andrea State Park GRS # B7										
Protection Priority Sites / Ranking:	High (A)										
	LOCATION II	NFORMATION									
State: WI		County: Sheboyga	in								
	CONTACT IN	FORMATION									
USCG Sector Lake Michigan Comma	nd Center: (414)747-7182										
EPA Spill Hotline: (312)353-2318											
WI DNR Spill Hotline: (800)943-0003											
	RESOURCES AT RIS	K CHARACTER	RISTICS								
Managed Areas:	There are no regulated facilities in the area.										
_											
Shoreline Type:	Sand Beaches, Mixed Sand and Gravel Beaches,	Gravel Beaches, F	ringing Wetlands,	Extensive Wetlands.							
Sensitive Habitat:	No hatcheries in this area, however the "pitchers"	fern is a sensitive p	plant in the area.								
Wildlife:	The area is wooded and has sand along the lakefu	ront which attracts of	deer, coyote, turke	ys and other small mammals.							
Federally Threatened /	Threatened - Northern Long Eared Bat, Rufa Rec	I Knot (Bird)									
Endangered Species:	Endangered - Piping Plover, Hines Emerald Drago	on Fly and Karner E	Blue Butterfly, Rust	ty Patched Bumble Bee.							
Socio-Economic Resources:											
	SPILL RI	ESPONSE									
Predicted Behavior:	Will vary depending on location and season.										
	Sea Conditions: Worst in October and November	r, when, lakewide, v	wave heights of 5 t	to 10 feet are encountered about 35 percent of the							
	time. In October, S through SW winds are most of	ten responsible, wh	ile by November V	V through N winds often generate rough seas. Seas							
	of 10 feet or more are encountered 3 to 5 percent	of the time from No	vember through N	Arch. Extreme waves of 20 to 22 feet have been							
	percent in the N. Summer seas climb above 10 fer	equent, but 5- to 10	ont of the time whi	5 15 to 30 percent of the time in the 5 and 20 to 40							
	20 percent in June and July. By August, the fall bu	uildup begins.	and of the time, whi								
	Currents : Attain velocities up to 4 mph in the main	n entrance channel									
	Winds: The prevailing wind direction is West-Nort	hwest which has re	ached a gust of 70) knots in 1984. The highest average wind speed of							
	10 mph occurs in January. The lowest average wi	nd speed of 7 mph	occurs around Au	gust.							
	Weather: Annual precipitation is 32 inches with th	e maximum occurri	ng during the sum	mer. There is a yearly average of 36 thunderstorms							
	each year. The hottest month is July with an avera	age of 80F, and the	coldest month is	January with an average high of 27F.							
Response Considerations:	Will vary depending on vessel location and season	n. Consult with SSC	C, DOC/USFWS, D	OOI/NOAA, and SOPHR for accurate up to date							
	information.		T -1-1-								
	Recommended Spill R	esponse Strategy	Iable								

Site ID	Respon Strateg	se 3y	Implement	ation	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	Sector	Address
Kohler Andrea State Park	Containm and Collection	nent Protec portion	t sensitive shoreli n of the lake from	ne along southern significant impact	Dependant on discharge location	Sheboygan Marina is closest boat ramp	Beach Parking lot is a few yards from shoreline	High	10/14/2014	SLM	1020 Beach Park Lane, Sheboygan WI 53081
						LOGISTICS					
_					Logis	stics Support T	able				
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / I	POC	Access Limitations	Description	State	Sector
Sheboygan Boat Ramp	Boat Ramp	43.7516	-87.7032	821 Broughton Drive Sheboygan, WI 53081	Sheboygan	Harbor Center 920-458-6	r Marina 1665	Distance to Incident	Sector Lake Michigan	WI	SLM
Sheboygan Marina	Staging Area	43.7516	-87.7032	821 Broughton Drive Sheboygan, WI 53081	Sheboygan	Harbor Center 920-458-6	r Marina 1665	Distance to Incident	Sector Lake Michigan	WI	SLM
Port Washington Boat Ramp	Boat Ramp	43.23.338	-087.51.988	106 Lake St. Port Washington, WI 53074	Ozaukee	City of Port Wash 262-284-6	nington, WI	Distance to Incident	Large area with multiple ramps to launch a vessels	WI	SLM

Port Washingt	Staging on Area	43.23.338	-087.51.988	106 Lake St. Port	Ozaukee	City of Port Washington, WI	Distance to Incident	Large Ramp with multiple ramps to	WI	SLM
Marina	1			Washington, WI 53074		262-284-6606		launch a vessel		
USCG - Sector La	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr	Milwaukee	U.S. Coast Guard	Security	Sector Lake Michigan	WI	SLM
Michiga	n			Milwaukee, WI			requirements	i i i i i i i i i i i i i i i i i i i		
		1		<u> </u>		COMMENTS	1	1	<u> </u>	

GRP/GRS MAP



GRS:	RS: Railroad Crossing on the Kinnickinnic River in Milwaukee, WI GRS # B8									
Protection Prio	rity Sites / Ranking:	:	High							
			LOCATION I	NFORMATION						
State: WI				County: Milwauke	e					
			CONTACT II	FORMATION						
USCG Sector La	ke Michigan Comma	and Center: (414)747-7	'182							
EPA Spill Hotline	e: (312)353-2318									
WI DNR Spill Ho	tline: (800)943-0003									
St. Mary's Ceme	nt (414) 481-6777									
Horny Goat Mari	na (414) 384-8300									
RESOURCES AT RISK CHARACTERISTICS										
Managed Areas	:	Kinnickinnic River w	hich leads into the Milwaukee	Mooring basin and	beyond					
Shoreline Type	:	Industrial with some	e regulated facilities in the clos	e vicinity. Shoreline	e is made up of so	ome concrete walls along with some wooded areas of				
		trees.								
Sensitive Habit	at:	No sensitive wildlife	refuges or fish hatcheries in t	his area						
Wildlife:		Small mammals ma	y be present around the river.	The river holds aqu	uatic birds such as	s ducks, geese and seagulls. The river is also home to				
		fish such as salmon	, steelhead, trout and bass.							
Federally Threa	tened /	Threatened - North	ern Long Eared Bat, Rufa Red	d Knot (Bird)						
Endangered Sp	ecies:	Endangered - Piping	g Plover, Hines Emerald Drag	on Fly, Karner Blue	Butterfly, Rusty P	Patched Bumble Bee.				
Socio-Economi	c Resources:	Depending on what	the train was carrying it could	be a huge impact of	on the area if it imp	peded cargo operations at Nidera, St. Mary's cement				
		or one of the salt te	rminals.							
		-	SPILL R	ESPONSE						
Predicted Beha	vior:	Will vary depending	on severity of train incident a	nd the season.						
		Sea Conditions: W	forst in October and Novembe	r, when, lakewide, \	wave neights of 5	to 10 feet are encountered about 35 percent of the				
		of 10 foot or more a	re encountered 2 to 5 percent	iten responsible, wr	New porthrough	We through N winds often generate rough seas. Seas				
		encountered During	the spring high seas are infu	requent but 5- to 10)-foot seas develo	in 15 to 30 percent of the time in the S and 20 to 40				
		percent in the N. Su	immer seas climb above 10 fe	et less than 1 perce	ent of the time, wh	ile those in the 5- to 10-foot category drop to less than				
		20 percent in June	and July. By August, the fall b	uildup begins.						
		Currents: Attain ve	locities up to 4 mph in the mai	n entrance channel						
		Winds: The prevaili	ng wind direction is West-Nor	thwest which has re	ached a gust of 7	0 knots in 1984. The highest average wind speed of				
		10 mph occurs in Ja	anuary. The lowest average with	ind speed of 7 mph	occurs around Au	igust.				
		Weather: Annual pr	ecipitation is 32 inches with th	e maximum occurri	ng during the surr	nmer. There is a yearly average of 36 thunderstorms				
		each year. The hott	est month is July with an avera	age of 80F, and the	coldest month is	January with an average high of 27F.				
Response Cons	siderations:	Will vary depending	on the type of cargo on the tr	ain and the season.	Consult with SSC	C, DOC/USFWS, DOI/NOAA, and SOPHR for accurate				
		up to date information	on.							
			Recommended Spill R	esponse Strategy	Table					

Site ID	Response Strategy	Implementation	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	Sector	Address	
Railroad Crossing on the Kinnickinnic River in Milwaukee	Containment and Collection	Prevent total loss of vessel cargo from the immediate vicinity of the casualty. Protect sensitive shoreline along southern portion of the lake from significant impact	The Heavy lift Dock	McKinley Marina or the South Shore Yacht club	Is fairly accessible with the limitations of having to use some private property	High	10/14/2014	SLM	2006 S. Kinnickinnic Ave. Milwaukee, WI 53207	
LOGISTICS										
Logistics Support Table										
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
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McKinley Marina Dock	Boat Ramp	43.05126	-87.8826	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	See ERMA For Closest Location and Information	Distance to Incident	Large Ramp with 4 Docks, Lots of parking	WI	SLM
McKinley Marina Dock	Staging Area	43.05126	-87.8826	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	See ERMA For Closest Location and Information	Distance to Incident	Large Ramp with 4 Docks, Lots of parking	WI	SLM
South Shore Marina	Boat Ramp	43.00162	-87.8885	2300 E Nock St. Milwaukee, WI	Milwaukee	South Shore Yacht Club 414-481-2331	Distance to Incident	Large ramp with lots of parking	WI	SLM
Heavy Lift Dock	Staging Area	43.01954	-87.90210	1225 S. Carferry Drive	Milwaukee	Port Of Milwaukee (Wayne Johnson) 414-286-3511	Security escorting requirements	Wide open terminal that access can be controlled to the area	WI	SLM

USCG - Sector Lake Michigan	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
							requiremente			
Milwauke e County Boat Launch	Boat ramp	43.025	-87.90408	600 S. Water St, Milwaukee, WI	Milwaukee	Public/Municipal	Somewhat steep grade	Boat launch with one dock, minimal parking	WI	SLM
						COMMENTS				
					G	RP/GRS MAP				



GRS:	Railroads along	the shoreline within	n Milwaukee		GRS #	B9
Protection Prior	rity Sites / Ranking:	High				
			LOCATION I	NFORMATION		
State: WI				County: Milwauke	e, Ozaukee and She	boygan
			CONTACT II	NFORMATION		
USCG Sector La	ke Michigan Commai	nd Center: (414)747-71	82			
EPA Spill Hotline	: (312)353-2318					
WI DNR Spill Ho	tline: (800)943-0003					
			RESOURCES AT RIS	K CHARACTER	ISTICS	
Managed Areas	:	Will vary depending of	on where the incident occurs	and how close it is t	o land.	
Shoreline Type:	1	Exposed Rocky Cliffs	s, Shelving Bedrock Shores,	Eroding Scarps, Sa	nd Beaches, Mixe	ed Sand and Gravel Beaches, Gravel Beaches,
		RipRap, Groins, and	Jetties, Sheltered Scarps, Sl	heltered Manmade S	Structures, Shelter	ed Vegetated Low Banks, Fringing Wetlands,
Sensitive Habit	at:	No sensitive wildlife r	efuges or fish hatcheries in t	his area		
Wildlife:		Area around the track	ks has the potential to hold p	opulations of various	s insects, seagulls	s, ducks, geese, turkeys, deer, coyotes and other
		small mammals.				
		The waters where the	e tracks pass by hold population	tions of various fish	such as salmon, s	teelhead, trout and bass. As well as ducks, geese
Federally Threa	tened /	Threatened - Northe	g piovers. rn Long Eared Bat, Rufa Per	d Knot (Bird) and Inc	liana Bat	
Endangered Sp	ecies:	Endangered - Piping	Plover, Hines Emerald Drag	on Fly, Karner Blue	Butterfly, Rusty Pa	atched Bumble Bee, Eastern Massasauga, Pitchers
		Thistle, Whooping Cr	ane, and Eastern Prairie Frir	nged Orchid.	<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Socio-Economi	c Resources:	Will vary depending of	on the location of the train			
			SPILL R	ESPONSE		
Predicted Beha	vior:	Will vary depending of	on location and season.			
		Sea Conditions: Wo	orst in October and Novembe	r, when, lakewide, w	ave heights of 5 t	o 10 feet are encountered about 35 percent of the
		time. In October, S th	rough SW winds are most of	ften responsible, wh	ile by November V	V through N winds often generate rough seas. Seas
		encountered During	the spring high seas are infi	requent but 5- to 10	-foot seas develor	15 to 30 percent of the time in the S and 20 to 40
		percent in the N. Sun	nmer seas climb above 10 fe	et less than 1 perce	nt of the time, whi	le those in the 5- to 10-foot category drop to less than
		20 percent in June ar	nd July. By August, the fall b	uildup begins.		5.7
		Currents: Attain velo	cities up to 4 mph in the mai	n entrance channel.		
		Winds: The prevailin	g wind direction is West-Nor	thwest which has reading the second	ached a gust of 70) knots in 1984. The highest average wind speed of
		Weather: Annual pre	cipitation is 32 inches with th	na speed of 7 mpn (ne maximum occurrir	a during the sum	gust. mer. There is a vearly average of 36 thunderstorms
		each year. The hotte	st month is July with an average	age of 80F, and the	coldest month is .	January with an average high of 27F.
Response Cons	iderations:	Will vary depending of	on location and season. Cons	sult with SSC, DOC/	USFWS, DOI/NO	AA, and SOPHR for accurate up to date information.

	Recommended Spill Response Strategy Table													
Site ID	Respons Strategy	e /	Implement	ation	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	Sector	Address			
Railroads near the shore	Is near hore and Prevent total loss of vessel cargo from immediate vicinity of the casualty. Pro sensitive shoreline along southern port the lake from significant impact		sel cargo from the e casualty. Protect southern portion of ficant impact	Dependant on discharge location	Dependant on discharge location	Dependa nt on discharg e location	High	01/09/2017	SLM	Location will vary, but will encompass a discharge within 2 miles of shore. This will also be based upon a wind out of the south.				
						LOGISTICS	<u> </u>							
					Logis	stics Support	Fable							
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner /	POC	Access Limitations	Description	State	Sector			
McKinley Marina	Boat Ramp	43.05126	-87.8826	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	See ERMA Fo Location and In	r Closest formation	Distance to Incident	Large Ramp with 4 Docks, Lots of parking	WI	SLM			

Mckinley Marina	Staging Area	43.05126	-87.8826	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	See ERMA For Closest Location and Information	Distance to Incident	Large Ramp with 4 Docks, Lots of parking	WI	SLM
USCG - Sector Lake Michigan	Boat Ramp	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
USCG - Sector Lake Michigan	Staging Area	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
USCG - Sector Lake Michigan	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
Milwauke e County Boat Launch	Boat Launch	43.025	-87.90408	600 S. Water St, Milwaukee, WI	Milwaukee	Public/Municipal	Somewhat Steep grade	Boat launch with one dock, minimal parking	WI	SLM

COMMENTS Be safe and know your levels of PPE	South Shore Yacht Club	Boat Ramp	42.99758	-87.88394	2300 E. Nock Street. Milwaukee, WI 53207	Milwaukee	South Shore Yacht Club (414)481-2331	None	Boat launch with two docks. Lots of parking.	WI	SLM
					1	Be safe and	COMMENTS	PE	1	I	



GRS:	Pipeline Genera	al Mitchell Internati	onal Airport		GRS #	B10
Protection Prio	rity Sites / Ranking:	High	Pipeline (A)			
			LOCATION IN	IFORMATION		
State: Wisconsin				County: Milwauke	e	
			CONTACT IN	FORMATION		
USCG Sector La	ke Michigan Commai	nd Center: (414)747-7	/182			
EPA Spill Hotline	e: (312)353-2318					
WI DNR Spill Ho	tline: (800)943-0003					
City of Milwauke	e: (414)286-3521					
Milwaukee Fire L	Department					
Mitoboll						
Shell Pineline (M	litchell Field System):	800-852-3602				
	incrient field Gystern).	000-032-3002	RESOURCES AT RISK		2017215	
Managed Areas	•	Sheridan Park Gra	ant Park Beach along Oak leaf			
Managea Areas	•		and a drive beach along Cak lear			
Shoreline Type	1	Although this site is	on land, in the event product re	eached waterways	potential shorelin	e types are: Riprap, Mixed sand and gravel beaches,
		Exposed solid man-	made structures, Coarse-graine	ed sand beaches,	Gravel beaches,	Sheltered and solid man-made structures.
Sensitive Habit	at:	Milwaukee Estuary				
Wildlife:		Bass, Lake Trout, P	erch, Walleye, Marine Birds, Ma	ammals, Insects, a	and 24 Migratory I	Birds
Federally Threa	tened /	Rusty Patched Bum	ble Bee (E), Northern Long-ea	red Bat (T)		
Endangered Sp	ecies:					
Socio-Economi	c Resources:	Milwaukee Potable	Water Intake (Offshore East of	Howard avenue), (Cudahy water De	partment Potable Water Intake (offshore just south of
		Sheridan Park), Sou	uth Milwaukee Potable Water In	take (offshore Eas	t of South Milwau	Jkee Yacht Club)
			SPILL RE	SPONSE		
Predicted Beha	vior:	Sea Conditions: Al	though pipeline is on land, in th	e event there was	a spill where proc	duct reached lake Michigan, water condition is worst in
		October and Novem	nber, when, lakewide, wave heig	ghts of 5 to 10 feet	are encountered	about 35 percent of the time. In October, S through
		SW winds are most	often responsible, while by Nov	vember W through	N winds often ge	nerate rough seas. Seas of 10 feet or more are
		encountered 3 to 5	percent of the time from Novem	ber through March	 Extreme waves 	of 20 to 22 feet have been encountered. During the
		spring, high seas ar	e infrequent, but 5- to 10-foot se	eas develop 15 to	30 percent of the	time in the S and 20 to 40 percent in the N. Summer
		seas climb above 10	0 feet less than 1 percent of the	e time, while those	in the 5- to 10-foc	ot category drop to less than 20 percent in June and
		July. By August, the	e fall buildup begins.			
		Winds: The proveili	notities up to 4 mpn in the main	entrance channel.	ached a quet of 7	(0 knots in 1984. The highest overage wind speed of
		10 mph occurs in La	anuary. The lowest average win	d sheed of 7 mph	ACTIEL & YUSE UP /	
		Weather: Annual or	ecipitation is 32 inches with the	maximum occurri	na durina the sur	nmer. There is a yearly average of 36 thunderstorms
		each year. The hotte	est month is July with an average	ae of 80F. and the	coldest month is	January with an average high of 27F.
Response Cons	iderations:	Pipeline strategy wil	Il most likely by on land, will nee	ed to work with EP	A, DNR, local Fire	e Departments and Hazmat team . Consult with SSC.
•		DOC/USFWS, DOI/	NOAA, and SOPHR for accurate	te up to date inforn	nation. This strate	egy goal is to mitigate flow of product to the waterways.

	Recommended Spill Response Strategy Table														
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Respons e Strategy	Implementation	Min Boom Lengt h	Staging Area	Boat Access	Land Access	Priorit Y	Date Last Verified	<u>State</u>	County	Sector	Address	
Pipeline (B10)	42.94949	-87.88831	Exclusion	Boom near the jurisdictional boundary to prevent the spread of material out of the canals	250'	USCG - Sector Lake Michigan	TBD	Yes	High	14-Oct-2014	WI	Milwauk ee	SLM	Pipeline - Shell Mitchel Field -5300 South Howell Ave, Milwaukee, WI 53207	
						LOG	ISTICS	;							
						Logistics	Support	Table							
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address		County		Owner / PO	DC	Access Limitations	Des	cription	State	Sector	
Pipeline - Shell Mitchell Field	Other	42.94949	-87.88831	5300 South How Milwaukee, WI	/ell Ave, 53207	Milwaukee	Can ERM.	be found u A, EPA ISA N 800-852-36	tilizing Aapping 02	Will vary depending on location	Pipelii	ne on land	WI	SLM	
South Shore Yacht Club	Boat Ramp	42.9959	-87.8817	2300 E. Nock S Milwaukee, WI	itreet, 5327	Milwaukee	Milwa Parks	ukee Cour (414) 273	nty -5224	None	Large 4 dock parking	ramp with s. Lots of J	WI	SLM	

USCG - Sector Lake Michigan	Staging Area	43.00162	-87.8885	N/A	N/A	See ERMA For Closest Location and Information	Distance to Incident	Closest Available Staging Area	WI	SLM	
USCG - Sector Lake Michigan	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirement S	Sector Lake Michigan	WI	SLM	
					COMM	IENTS					
- D	uring the	summer a	nd open wa	ater season, the Lake	Express (pas	ssenger vessel) transit	s to and fror	n Milwaukee and	Muskego	on.	
					GRP/GI	RS MAP					



GRS:	Offshore Vessels		GRS #	B11							
Protection Priority Sites / Ra	nking: High	High (A)									
		LOCATION INFORMATION									
State: N/A		County: N/A									
		CONTACT INFORMATION									
McKinley Marina: (414)273-52 South Shore Yacht Club: (414)	24										
Federal Marine Terminal: (414)769-2900										
USCG Sector Lake Michigan C	Command Center: (414)747-7182										
EPA Spill Hotline: (312)353-23	18										
WI DNR Spill Hotline: (800)943	3-0003										
City of Milwaukee: (414)286-3	521										
	RESO	JRCES AT RISK CHARACTERIS	STICS								
Managed Areas:	Will vary dep	ending on vessel location									
Shoreline Type:	Exposed Roo	ky Cliffs, Shelving Bedrock Shores, Eroc	ling Scarps, Sand Beac	hes, Mixed Sand and Gravel Beaches,							
	Gravel Beach	es, RipRap, Groins, and Jetties, Sheltere	ed Scarps, Sheltered Ma	anmade Structures, Sheltered Vegetated Low							
Sanaitiva Habitati	Banks, Fringi	ng Wetlands, Extensive Wetlands.	1 00								
		violite refuges of fish hatchenes in this a	lea								
Wildlife:	The lake hold	s various populations of fish including bu	t not limited to salmon,	steelhead, bass and trout. Aquatic birds such							
	as ducks, geo	ese and seagulls may be present in the water. The shoreline may be home to various insects, piping plovers,									
Federally Threatened / Enda	ngered Species: Threatened -	Northern Long Fared Bat, Rufa Red Kno	ot (Bird)								
	Endangered	Piping Plover, Hines Emerald Dragon Fl	v. Karner Blue Butterflv	. Rusty Patched Bumble Bee and Whooping							
	Crane.		, ,	,,							
Socio-Economic Resources:	Will vary dep	ending on vessel location. Primarily in Ma	nitowoc or Milwaukee								
		SPILL RESPONSE									
Predicted Behavior:	Sea Conditio	ns: Worst in October and November, wh	en, lakewide, wave heig	ghts of 5 to 10 feet are encountered about 35							
	percent of the	time. In October, S through SW winds a	re most often responsib	le, while by November W through N winds							
	often generat March, Extra	e rough seas. Seas of 10 feet or more and	e encountered 3 to 5 pe	ricent of the time from November through							
	foot seas dev	elop 15 to 30 percent of the time in the S	and 20 to 40 percent in	the N. Summer seas climb above 10 feet							
	less than 1 p	ercent of the time, while those in the 5- to	10-foot category drop t	o less than 20 percent in June and July. By							
	August, the fa	gust, the fall buildup begins.									
	Currents: At	s : Attain velocities up to 4 mph in the main entrance channel.									
	Winds: The p	The prevailing wind direction is West-Northwest which has reached a gust of 70 knots in 1984. The highest wind speed of 10 mph accurs in Japuany. The lowest average wind speed of 7 mph accurs around August									
	average wind	wind speed of 10 mph occurs in January. The lowest average wind speed of 7 mph occurs around August.									
	thunderstorm	r: Annual precipitation is 32 inches with the maximum occurring during the summer. There is a yearly average of 36 storms each year. The bottest month is July with an average of 80E, and the coldest month is January with an									
	average high	of 27F.	an an average of our, a	na me coluest month is January with all							
l											

Response	sponse Considerations: Will vary depending on vessel location and season. Consult with SSC, DOC/USFWS, DOI/NOAA, and SOPHR for accurate up to date information. Recommended Spill Response Strategy Table													
				Recor	nmendeo	d Spill Resp	onse Stra	tegy Table	e					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Offshore Vessel (B11)	43.04359	-87.68029	Diversion	Initial is to circle the stricken vessel with offshore boom (3 X ships length) in an effort to prevent total loss. Diversion boom will allow to funnel discharge to a natural collection point or to a skimming barge. Deploy from nearest marina with boom and skimming vessels to prevent or minimize landfall of the discharge. Chevron diversion booming will be used to funnel missed discharge to an area of shore with the deepest beach	3000'	McKinley Marina Dock	Yes	No	High	14-Oct-2014	WI	Milwaukee	SLM	Offshore Vessel Directly East of Milwaukee. Anywhere offshore, 2 miles or greater, with the winds out of the north.
	LOGISTICS													
					-0g	jouos oup								

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
McKinley Marina Dock	Boat Ramp	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	See ERMA For Closest Location and Information	Distance to Incident	Large Ramp with 4 Docks, Lots of parking	WI	SLM
McKinley Marina Dock	Staging Area	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	See ERMA For Closest Location and Information	Distance to Incident	Large Ramp with 4 Docks, Lots of parking	WI	SLM
USCG - Sector Lake Michigan	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
					CO	MMENTS	·			
-Duri	ng the su	mmer and o	pen water se	eason, the L	.ake Expres	s (passenger ve	essel) transits to	and from Milwaukee	e and Muskego	on.
					GRP	/GRS MAP				



GRS:	Near Shore Ves	sel With Offshore	Wind		GRS #	B12
Protection Prior	rity Sites / Ranking:	High	High (A)			
			LOCATION IN	NFORMATION		
State: N/A				County: N/A		
			CONTACT IN	FORMATION		
USCG Sector La	ike Michigan Commai	nd Center: (414)747-7	182			
EPA Spill Hotline	e: (312)353-2318					
City of Milwauko	o: (414)286 2521					
City of Milwauke	e. (414)200-3321		RESOURCES AT RIS			
Managed Areas	:	Will vary depending	on vessel location			
	-					
Shoreline Type:		Exposed Rocky Cliff	fs, Shelving Bedrock Shores,	Eroding Scarps, Sa	nd Beaches, Mixe	ed Sand and Gravel Beaches, Gravel Beaches,
		RipRap, Groins, and	d Jetties, Sheltered Scarps, Sh	eltered Manmade S	Structures, Shelte	ered Vegetated Low Banks, Fringing Wetlands,
Consitive Ushit	-4-	Extensive Wetlands	Vafunaa av fiab batabariaa in th			
Sensitive nabita	al.	No sensitive wildlife	reluges of fish hatchenes in tr	lis area		
Wildlife:		The lake holds vario	ous populations of fish including	g but not limited to	salmon, steelhead	d, bass and trout. Aquatic birds such as ducks, geese
		and seagulls may be small mammals.	e present in the water. The sho	oreline may be hom	e to various insec	cts, piping plovers, deer, turkeys, coyotes and other
Federally Threa	tened /	Threatened - Northe	ern Long Eared Bat, Rufa Red	Knot (Bird)		
Endangered Sp	ecies:	Endangered - Piping	g Plover, Hines Emerald Drago	on Fly, Karner Blue	Butterfly, Rusty P	Patched Bumble Bee and Whooping Crane.
Socio-Economi	c Resources:	Will vary depending	on vessel location. Primarily ir	n Manitowoc or Milv	vaukee.	
			SPILL RE	ESPONSE		
Predicted Beha	vior:	Sea Conditions: W	orst in October and November	, when, lakewide, v	vave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S t	hrough SW winds are most of	ten responsible, wh	ile by November	W through N winds often generate rough seas. Seas
		of 10 feet or more a	re encountered 3 to 5 percent	of the time from No	vember through I	March. Extreme waves of 20 to 22 feet have been
		percent in the N_Su	mmer seas climb above 10 fee	equent, but 5- to 10	nt of the time wh	ile those in the 5- to 10-foot category drop to less than
		20 percent in June a	and July. By August, the fall bu	ildup begins.		
		Currents: Attain vel	ocities up to 4 mph in the mair	n entrance channel.		
		Winds: The prevailing	ng wind direction is West-Nortl	hwest which has re	ached a gust of 7	0 knots in 1984. The highest average wind speed of
		10 mph occurs in Ja	inuary. The lowest average wir	nd speed of 7 mph	occurs around Au	igust.
		weather: Annual pro	ecipitation is 32 inches with the	e maximum occurri	ng during the sum	hmer. There is a yearly average of 36 thunderstorms
Response Cons	siderations:	Will vary depending	on vessel location and season	Consult with SSC	DOC/USFWS	DOI/NOAA, and SOPHR for accurate up to date
		information.			, _ 00, 00, 10, 1	
		1	Recommended Spill R	esponse Strategy	Table	

Site ID	Respon Strateg	ise gy	Implement	ation	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	Sector	Address
Near Shore Vessel with Offshore Wind (A15)	Containr t and Collecti	nen Prever I the im on Pro sout	Prevent total loss of vessel car the immediate vicinity of the c Protect sensitive shoreline a southern portion of the lake significant impact		Dependant on discharge location	Dependant on discharge location	Dependan t on discharge location	High	10/14/2014	SLM	Location will vary, but will encompass a discharge within 2 miles of shore. This will also be based upon a wind out of the south.
						LOGISTICS					
					Logis	tics Support T	able				
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner /	POC	Access Limitations	Description	State	Sector
Near Shore Vessel with Offshore	Other	43.02551	-87.8951	N/A	N/A	Information a through EQUIS Vessel Respon	available SIS, COFR, Ise Plan,	Boat Access, Weather	Vessel that is offshore	WI	SLM
Wind							essel Agent				

McKinley Marina Dock	Staging Area	43.05126	-87.8826	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee	Distance to Incident	Large Ramp with 4 Docks, Lots of parking	WI	SLM
USCG - Sector Lake Michigan	Boat Ramp	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
USCG - Sector Lake Michigan	Staging Area	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
USCG - Sector Lake Michigan	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, Wl	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
	<u> </u>	<u> </u>				COMMENTS				
- Du	ring the s	summer and	l open wate	er season, the	Lake Expre	ss (passenger vessel)	transits to an	d from Milwauk	ee and Mu	iskegon.
					G	RP/GRS MAP				



GRS:	Appomattox Shi	pwreck	GRS #	B13
Protection Priority Site	es / Ranking:	Medium (B)		
		LOCATION INFORMATION		
State: Wisconsin		County: Milwa	ukee	
		CONTACT INFORMATION		
McKinley Marina: (414)2	273-5224			
South Shore Yacht Club	o: (414)481-2331			
Federal Marine Termina	II: (414)769-2900			
USCG Sector Lake Mich	nigan Command Cen	ter: (414)747-7182		
WI DNR Spill Hotline: (312)	353-2318			
City of Milwaukee: (414)	1286-3521			
Wisconsin Historical So	cietv. State Archaeol	pajst: 608- 264-6496		
		RESOURCES AT RISK CHARACTER	ISTICS	
Managed Areas:		Atwater Beach, Bradford Beach		
Shoreline Type:		Sheltered scarps in bedrock, Riprap and jetties, man-made stru	uctures, Sand beache	S
Sensitive Habitat:		Sand Beaches		
Wildlife:		Recreational Beaches - Migratory birds such as ducks, geese a	and piping plovers. Va	arious small mammals.
		Marina/Yacht Club/Commercial Port - Migratory birds such as o	ducks and geese. Var	ious species of fish including salmon, steelhead,
		trout and bass. As well as various small mammals.		
Federally Threatened /	Endangered	Threatened - Northern Long Eared Bat, Rufa Red Knot (Bird)		
Species:		Endangered - Piping Plover, Hines Emerald Dragon Fly, Karne	r Blue Butterfly and W	/hooping Crane.
Socio-Economic Reso	urces:	Recreational beaches North of McKinley Marina, McKinley Mar	rina, Commercial port	at Federal Marine Terminal
		SPILL RESPONSE		
Predicted Behavior:		Sea Conditions: Worst in October and November, when, lake	wide, wave heights of	5 to 10 feet are encountered about 35 percent of
		the time. In October, S through SW winds are most often respo	onsible, while by Nove	mber W through N winds often generate rough
		seas. Seas of 10 feet or more are encountered 3 to 5 percent of	of the time from Nover	mber through March. Extreme waves of 20 to 22
		the S and 20 to 40 percent in the N. Summer seas climb above	10 feet less than 1 n	ercent of the time, while those in the 5- to 10-foot
		category drop to less than 20 percent in June and July By Aug	ust the fall buildup be	ercent of the time, while those in the 5- to 10-100t
		Currents : Attain velocities up to 4 mph in the main entrance ch	nannel.	
		Winds: The prevailing wind direction is West-Northwest which	has reached a gust of	f 70 knots in 1984. The highest average wind
		speed of 10 mph occurs in January. The lowest average wind s	speed of 7 mph occurs	s around August.
		Weather: Annual precipitation is 32 inches with the maximum of	occurring during the s	ummer. There is a yearly average of 36
		thunderstorms each year. The hottest month is July with an ave	erage of 80F, and the	coldest month is January with an average high of
		2/F.		

Response Co	nsiderations:		Ice: A mild w percent cove two later. Water DeptI	<i>v</i> inter on Lake Michigan me ∍rage during a severe winte h: Averages from 15 feet to Recommended Spi	ans about ∍r. Maximu ∋ around 60 ill Respon	10-percent m ice covera) feet deep i se Strategy	coverage (age occurs n the harb 7 Table	compared s by mid-f or.	to an averag March, on the	e 40-percen average, wh	t coverage and an 80- ile decay begins a week or
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Appomattox Shipwreck	43 05.520'	87 52.177'	Exclusion	Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 20', waters in bay known for being choppy.	1000'	Medium	27-Apr- 2016	WI	Milwaukee	SLM	4031 North Lake Drive, Shorewood, WI 53211
	1	1	1	1	<u>.</u>	1	1	1	1	1	
				LC	GISTIC	S					
				Logistic	s Support	Table					

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
McKinley Marina	Staging Area	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414)273- 5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM
USCG – Sector Lake Michigan	Staging Area	43.00162	87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
South Shore Yacht Club	Boat Ramp	42.99758	-87.88394	2300 E. Nock Street. Milwaukee, WI 53207	Milwaukee	South Shore Yacht Club (414)481-2331	None	Boat launch with two docks. Lots of parking.	WI	SLM
USCG – Sector Lake Michigan	ICP	43.00162	87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM
McKinley Marina	Boat Ramp	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414)273- 5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM
				C	OMMENTS					
-Shipwreck is -Shore acces	s listed on the l s is down a ve	National Regisery steep and	ster of Historic long bank.	Places						
				GR	P/GRS MAI	2				



GRS:	Atlanta Shipwre	ck		GRS #	B14	
Protection Priority Site	s / Ranking:		Medium (B)			
			LOCATION INFO	ORMATION		
State: Wisconsin				County: Sheboy	gan	
			CONTACT INFO	RMATION		
USCG Sector Lake Mich EPA Spill Hotline: (312)3 WI DNR Spill Hotline: (8 Kohler Andrea State Par Harbor Centre Marina: 9 Wisconsin Historical Soc	higan Command Cent 353-2318 00)943-0003 rk: 920-451-4080 20-458-6665 siety, State Archaeolo	ter: (414)747-7182 ogist: 608- 264-6496				
		RE	SOURCES AT RISK C	HARACTERIS	STICS	
Managed Areas:		Kohler Andrea Sta	te Park, Harrington Beach S	tate Park		
Shoreline Type:		Sand beaches, sm	all tributaries from wetlands			
Sensitive Habitat:		Lakeshore sand d	unes			
Wildlife:		Recreational Beac Various species of	hes - Migratory birds such as fish including salmon, steelh	s ducks, geese an nead, trout and ba	id piping plovers. iss. As well as va	Various small mammals. rious small mammals.
Federally Threatened / Species:	Endangered	Threatened - Nort Endangered - Pipi	hern Long Eared Bat, Rufa F ng Plover, Hines Emerald Dr	Red Knot (Bird) agon Fly, Karner	Blue Butterfly and	d Whooping Crane.
Socio-Economic Reso	urces:	Recreational beac	hes at Kohler Andrea and Ha	arrington Beach S	tate Parks	
			SPILL RESP	PONSE		
Predicted Behavior:		Sea Conditions: N the time. In Octobe seas. Seas of 10 for feet have been end in the S and 20 to foot category drop Currents: Attain v Winds: The preva speed of 10 mph of Weather: Annual p thunderstorms ead 27F.	Norst in October and Novem er, S through SW winds are r eet or more are encountered countered. During the spring 40 percent in the N. Summe to less than 20 percent in Ju elocities up to 4 mph in the n iling wind direction is West-N occurs in January. The lowes precipitation is 32 inches with th year. The hottest month is	ber, when, lakewi nost often respon 3 to 5 percent of , high seas are inf r seas climb abov ine and July. By A nain entrance cha lorthwest which ha t average wind sp n the maximum oc July with an aver	de, wave heights sible, while by No the time from No requent, but 5- to e 10 feet less tha august, the fall bu nnel. as reached a gus reached a gus reached a gus recurring during the age of 80F, and t	s of 5 to 10 feet are encountered about 35 percent of ovember W through N winds often generate rough vember through March. Extreme waves of 20 to 22 o 10-foot seas develop 15 to 30 percent of the time in 1 percent of the time, while those in the 5- to 10- iddup begins. It of 70 knots in 1984. The highest average wind curs around August. e summer. There is a yearly average of 36 the coldest month is January with an average high of

Response Con	siderations:		Ice: A perce two la Water	n mild winter or nt coverage d nter. r Depth: Avera	n Lake Michigan m uring a severe wint ages from 15 feet t	eans about ⁻ er. Maximun o around 60	10-percent n ice cover feet deep i	coverage c age occurs in the harbo	ompared by mid-N or.	to an avera larch, on the	ge 40-percent co e average, while	overage and a decay begins	an 80- s a week or
				F	ecommended Sp	ill Respons	e Strategy	Table					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Respons	se Imple Y	mentation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
Atlanta Shipwreck	43 34.253'	87 46.962'	Exclusio	Exclusion Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 20'.			Medium	27-Apr- 2016	WI	Sheboygan	SLM	N940 Windn Oostburg, W	nill Beach, /I 53070
					LO	DGISTICS	Table						
Name	Туре	Latitude (Decima Degrees	e l al (s) l	Longitude (Decimal Degrees)	Address	County	Owner	/ POC	Acce Limit	ss tations	Description	State	Sector
Sheboygan Boat Ramp	Boat Ramp	43.7	516	-87.7032	821 Broughton Drive Sheboygan, WI 53081	Sheboygan	Harbor 920	Center Marina -458-6665	a Dis Ii	stance to ncident	Sector Lake Michigan	WI	SL
Sheboygan Marina	Staging Area	43.7	516	-87.7032	821 Broughton Drive Sheboygan, WI 53081	Sheboygan	Harbor 920	Center Marina -458-6665	a Dis Ii	stance to ncident	Sector Lake Michigan	WI	SL
Port Washington Boat Ramp	Boat Ramp	43.23	.338	-087.51.988	106 Lake St. Port Washington, WI 53074	Ozaukee	City of Pc	ort Washingto WI -284-6606	n, Dis li	stance to ncident	Large area with multiple ramps to launch a vessels	WI	SL
Port Washington Marina	Staging Area	43.23	.338	-087.51.988	106 Lake St. Port Washington, WI 53074	Ozaukee	City of Pc	-284-6606	n, Dis Ii	stance to ncident	Large Ramp with multiple ramps to launch a vessel	WI	SL

USCG - Sector Lake Michigan	ICP	43.00162	-87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLN	
				C	OMMENTS						
-Shipwreck is	listed on the I	National Regis	ter of Historic	Places							
				GR	P/GRS MAF)					



GRS:	Francis Hinton S	Shipwreck			GRS #	B15
Protection Priority Site	s / Ranking:		Medium (B)			
			LOCATION INFO	ORMATION		
State: Wisconsin				County: Manitov	woc	
			CONTACT INFO	RMATION		
USCG Sector Lake Mich EPA Spill Hotline: (312)3 WI DNR Spill Hotline: (8 Manitowoc Marina: 920- Wisconsin Historical Soc	igan Command Cent 353-2318 00)943-0003 682-5117 siety, State Archaeolo	er: (414)747-7182 ogist: 608- 264-6496	5			
		RI	ESOURCES AT RISK (CHARACTERIS	STICS	
Managed Areas:		Point Beach State	Forest, Woodland Dunes S	tate Natural Area,	Maritime Drive Be	ach
Shoreline Type:		Sand beaches, sn	nall tributaries from wetlands	, rip rap, rock jettie	es	
Sensitive Habitat:		Lakeshore dunes,	, Wetlands			
Wildlife:		Recreational Beau Various species o	ches - Migratory birds such a f fish including salmon, steel	is ducks, geese ar head, trout and ba	nd piping plovers. V Iss. As well as vari	√arious small mammals. ious small mammals.
Federally Threatened / Species:	Endangered	Threatened - Nor Endangered - Pip	thern Long Eared Bat, Rufa ing Plover, Hines Emerald D	Red Knot (Bird) ragon Fly, Karner	Blue Butterfly and	Whooping Crane.
Socio-Economic Reso	urces:	Maritime Drive bik	e path, Wisconsin Maritime	Museum, Neshota	h Beach	
			SPILL RESI	PONSE		
Predicted Behavior:		Sea Conditions: the time. In Octob seas. Seas of 10 f feet have been en in the S and 20 to foot category drop Currents: Attain v Winds: The preva speed of 10 mph Weather: Annual thunderstorms ea 27F.	Worst in October and Noven eer, S through SW winds are feet or more are encountered acountered. During the spring 40 percent in the N. Summe to less than 20 percent in J velocities up to 4 mph in the n ailing wind direction is West-P occurs in January. The lowes precipitation is 32 inches wit ch year. The hottest month is	hber, when, lakew most often respon d 3 to 5 percent of g, high seas are in er seas climb abov une and July. By A main entrance cha Northwest which h st average wind sp h the maximum oc s July with an aver	ide, wave heights sible, while by Nov the time from Nov frequent, but 5- to e 10 feet less than august, the fall buil nnel. as reached a gust beed of 7 mph occu- curring during the age of 80F, and th	of 5 to 10 feet are encountered about 35 percent of vember W through N winds often generate rough ember through March. Extreme waves of 20 to 22 10-foot seas develop 15 to 30 percent of the time in 1 percent of the time, while those in the 5- to 10- dup begins. of 70 knots in 1984. The highest average wind urs around August. summer. There is a yearly average of 36 he coldest month is January with an average high of

	siderations:		percent cover two later. Water Dept	vinter on Lake Michigan m erage during a severe win h: Averages from 15 feet	teans about ter. Maximur to around 60	n ice covera	coverage age occur: n the harb	s by mid-M	arch, on the	average, while	decay begir	an oo- is a week or
				Recommended Sp	oill Respons	e Strategy	Table					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
Francis Hinton Shipwreck	44 06.67'	87 37.876'	Exclusion	Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'.	1000'	Medium	27-Apr- 2016	WI	Manitowoc	SLM	808 Memor Manitowoc	ial Drive, , WI 54220
				L	OGISTICS) Tabla						
				Logisti	OGISTICS cs Support	5 Table						
Name	Туре	Latitude (Decima Degrees	Longit I (Decin) Degree	L Logisti ude Address nal es)	OGISTICS cs Support County	Table	/ POC	Acces Limita	ss ations	Description	State	Sector
Name Manitowoc Marina	Type Boat Ramp	Latitude (Decima Degrees 44.09	Longit I (Decin Degree 56 -87.	Logisti ude Address hal es) 6503 425 Maritime Drive, Manitowoc, WI 54220	OGISTICS cs Support County Manitowoc	Cowner / Manito 920-0	/ POC	Acces Limita	ations	Description Municipal marina and boat ramp	State	Sector
Name Manitowoc Marina Manitowoc Marina	Type Boat Ramp Staging Area	Latitude (Decima Degrees 44.09	Longit I (Decin Degree 56 -87.	L Logisti Address hal es) 6503 425 Maritime Drive, Manitowoc, WI 54220 6503 425 Maritime Drive, Manitowoc, WI 54220	OGISTICS cs Support County Manitowoc Manitowoc	Owner / Manito 920-0 Manito 920-0	/ POC 0woc Marina -682-5117 0woc Marina -682-5117	Acces Limita	ations	Description Municipal marina and boat ramp Municipal marina and boat ramp	State WI	Sector SLN
Name Manitowoc Marina Manitowoc Marina Veterans Park Boat Ramp	Type Boat Ramp Staging Area Boat Ramp	Latitude (Decima Degrees 44.09 44.09 44.14	Longit I (Decim 56 -87. 56 -87. 90 -87.	Logisti Logisti Address Address 6503 425 Maritime Drive, Manitowoc, WI 54220 6503 425 Maritime Drive, Manitowoc, WI 54220 5740 1898 West River Street, Two Rivers, WI 54241	OGISTICS cs Support County Manitowoc Manitowoc	City of	/ POC Dewoc Marina -682-5117 Dewoc Marina -682-5117 f Two Rivers	Acces Limita	none none	Description Municipal marina and boat ramp Municipal marina and boat ramp Two launch ramps with large parking lot	State WI WI WI	Sector SLM SLM

-Shipwreck is listed on the National Register of Historic Places

- Wreck is in approximately 10 feet of water, but the wreck's boiler rises to less than 3 feet of water.

- Manitowoc harbor is used by Badger Car Ferry Twice daily.

GRP/GRS MAP



GRS:	LaSalle Shipwre	eck			GRS #	B16
Protection Priority Site	s / Ranking:		Medium (B)			
			LOCATION INFO	ORMATION		
State: Wisconsin				County: Manitov	woc	
			CONTACT INFO	RMATION		
USCG Sector Lake Mich	igan Command Cent	ter: (414)747-7182				
EPA Spill Hotline: (312)	353-2318					
WI DNR Spill Hotline: (8	00)943-0003					
Point Beach State Fores	002-0117 +· 020-704-7480					
Wisconsin Historical Soc	ciety. State Archaeolo	aist: 608- 264-6496				
		RE	SOURCES AT RISK C	HARACTERIS	STICS	
Managed Areas:		Point Beach State	Forest, Woodland Dunes Sta	ate Natural Area,	Continental Shipwre	eck, Major Anderson Shipwreck , Alaska
		Shipwreck, Lookou	ut Shipwreck, Pathfinder Ship	owreck, Tubal Cai	n Shipwreck, Point	Beach Nuclear Plant
Shoreline Type:		Sand beaches, sm	all tributaries from wetlands,	rip rap, rock jettie	es	
Sensitive Habitat:		Lakeshore dunes,	Wetlands			
Wildlife:		Recreational Beac	hes - Migratory birds such as	s ducks, geese an	nd piping plovers. Va	arious small mammals.
		Various species of	fish including salmon, steelh	nead, trout and ba	ss. As well as vario	us small mammals.
Federally Threatened /	Endangered	Threatened - Nort	hern Long Eared Bat, Rufa R	Red Knot (Bird)		
Species:	Ū	Endangered - Pipir	ng Plover, Hines Emerald Dra	agon Fly, Karner	Blue Butterfly and V	Vhooping Crane.
Socio-Economic Reso	urces:	Maritime Drive bike	e path, Wisconsin Maritime N	/luseum, Neshota	h Beach	
			SPILL RESP	ONSE		
Predicted Behavior:		Sea Conditions: V	Vorst in October and Novem	ber, when, lakewi	de, wave heights of	5 to 10 feet are encountered about 35 percent of
		the time. In Octobe	er, S through SW winds are n	most often respon	sible, while by Nove	ember W through N winds often generate rough
		seas. Seas of 10 fe	eet or more are encountered	3 to 5 percent of	the time from Nove	mber through March. Extreme waves of 20 to 22
		feet have been end	countered. During the spring,	, high seas are inf	frequent, but 5- to 1	0-foot seas develop 15 to 30 percent of the time
		in the S and 20 to	40 percent in the N. Summer	r seas climb abov	e 10 feet less than '	I percent of the time, while those in the 5- to 10-
		Currents: Attain w	to less than 20 percent in Ju	ine and July. By A	nugust, the fail build	up begins.
		Winds: The prevai	ling wind direction is West-N	lorthwest which h	as reached a dust o	f 70 knots in 1984. The highest average wind
		speed of 10 mph o	ccurs in January. The lowest	t average wind sp	eed of 7 mph occur	s around August.
		Weather: Annual p	precipitation is 32 inches with	the maximum oc	curring during the s	ummer. There is a yearly average of 36
		thunderstorms eac	h year. The hottest month is	July with an aver	age of 80F, and the	coldest month is January with an average high of
		27F.				

Response Considerations:			 Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. 														
			·	Recommended Sp	ill Respons	e Strategy	/ Table										
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response I Strategy	mplementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	Sector	Address						
LaSalle Shipwreck	44 11.524'	87 30.591'	Exclusion	Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'.	DGISTICS	Medium	27-Apr- 2016	WI	Manitowoc	SLM	9400 County Two Rivers, Y	/ Road O, WI 54241					
				Logisti	cs Support	Table						ress) County Road O, Rivers, WI 54241 e Sector WI SLM WI SLM WI SLM					
Name	Туре	Latitude (Decimal Degrees)	Longitud (Decimal Degrees)	e Address	County	Owner	/ POC	Acce Limi	tations	Description	State	Sector					
Veterans Park Boat Ramp	Boat Ramp	44.149	0 -87.574	40 1898 West River Street, Two Rivers, WI 54241	Manitowoc	City o	City of Two Rivers		none	Two launch ramps with large parking lot	WI	SLI					
Coast Guard Station Two Rivers	Staging Area	44.146	1 -87.563	33 1411 Pilon Court, Two River, WI 54241	Manitowoc		USCG		irity Escort	government	WI	SLI					
Manitowoc Marina	Boat Ramp	44.095	6 -87.650	03 425 Maritime Drive, Manitowoc, WI 54220	Manitowoc	Manita 920	Manitowoc Marina 920-682-5117		none	Municipal marina and boat ramp	WI	SLI					
Manitowoc Marina	Staging Area	44.095	6 -87.650	03 425 Maritime Drive, Manitowoc, WI 54220	Manitowoc	Manit 920	Manitowoc Marina 920-682-5117		none	Municipal marina and boat ramp	WI	SLI					

COMMENTS

-Shipwreck is listed on the National Register of Historic Places

- Sensitive dunes area with nuclear plant to the north

-Multiple National Register-listed shipwrecks in the area

GRP/GRS MAP


GRS:	Alaska Shipwree	ck			GRS #	B17				
Protection Priority Site	s / Ranking:		Medium (B)		I					
			LOCATION INFO	ORMATION						
State: Wisconsin				County: Manitov	voc					
			CONTACT INFO	ORMATION						
USCG Sector Lake Mich	igan Command Cent	er: (414)747-7182								
EPA Spill Hotline: (312)3	853-2318									
WI DNR Spill Hotline: (8)	00)943-0003									
Reach State Force	082-5117 +· 020 704 7490									
Point Beach State Forest: 920-794-7480 Wisconsin Historical Society, State Archaeologist: 608-264-6496										
		RE	SOURCES AT RISK (CHARACTERIS	STICS					
Managed Areas:		Point Beach State	Forest, Woodland Dunes St	tate Natural Area,	Continental Shipwre	eck, Major Anderson Shipwreck , LaSalle				
Shipwreck, Lookout Shipwreck, Pathfinder Shipwreck, Tubal Cain Shipwreck, Point Beach Nuclear Plant										
Shoreline Type:		Sand beaches, sm	all tributaries from wetlands	s, rip rap, rock jettie	es.					
Sansitive Habitat:										
Wildlife:		Recreational Beac	hes - Migratory birds such a	as ducks, geese an	d piping plovers. Va	arious small mammals.				
		Various species of	fish including salmon, steel	head, trout and ba	ss. As well as vario	us small mammals.				
Federally Threatened /	Endangered	Threatened - Nort	hern Long Eared Bat, Rufa	Red Knot (Bird)						
Species:		Endangered - Pipi	ng Plover, Hines Emerald D	ragon Fly, Karner	Blue Butterfly and V	Vhooping Crane.				
Socio-Economic Reso	urces:	Maritime Drive bike	e path, Wisconsin Maritime	Museum, Neshota	h Beach					
		1	SPILL RESI	PONSE						
Predicted Behavior:		Sea Conditions: N the time. In Octobe seas. Seas of 10 fo feet have been end in the S and 20 to foot category drop Currents: Attain v Winds: The preva speed of 10 mph c Weather: Annual p thunderstorms ead 27F.	Vorst in October and Noven er, S through SW winds are eet or more are encountered countered. During the spring 40 percent in the N. Summe to less than 20 percent in Je elocities up to 4 mph in the r ding wind direction is West-N foccurs in January. The lowes precipitation is 32 inches wit th year. The hottest month is	nber, when, lakewi most often respon d 3 to 5 percent of g, high seas are inf er seas climb above une and July. By A main entrance cha Northwest which ha st average wind sp h the maximum oc s July with an aver	de, wave heights of sible, while by Nove the time from Nove requent, but 5- to 1 e 10 feet less than august, the fall build nnel. as reached a gust of eed of 7 mph occur curring during the s age of 80F, and the	 5 to 10 feet are encountered about 35 percent of ember W through N winds often generate rough mber through March. Extreme waves of 20 to 22 0-foot seas develop 15 to 30 percent of the time 1 percent of the time, while those in the 5- to 10-up begins. f 70 knots in 1984. The highest average wind s around August. ummer. There is a yearly average of 36 coldest month is January with an average high of 				

Response Con	sponse Considerations: Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. Recommended Spill Response Strategy Table											
				Recommended Sp	ill Respons	e Strategy	/ Table					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
Alaska 44 11.607' 87 30.677' Exclusion Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'. 1000' Medium 27-Apr- 2016 WI Manitowoc SLM 9400 County Road											/ Road O, WI 54241	
				Logisti	cs Support	Table						
Name	Туре	Latitude (Decimal Degrees)	Longitu (Decima Degrees	de Address Il ;)	County	Owner	/ POC	Acce Limi	tations	Description	State	Sector
Veterans Park Boat Ramp	Boat Ramp	44.149	90 -87.5	740 1898 West River Street, Two Rivers, WI 54241	Manitowoc	City o	f Two Rivers		none	Two launch ramps with large parking lot	WI	SLM
Coast Guard Station Two Rivers	Staging Area	44.146	51 -87.5	533 1411 Pilon Court, Two River, WI 54241	Manitowoc		USCG	Secu	irity Escort	government	WI	SLM
Manitowoc Marina	anitowoc Boat Ramp 44.0956 -87.6503 425 Maritime Manitowoc Manitowoc Marina Vlarina Boat Ramp 44.0956 -87.6503 425 Maritime Manitowoc Manitowoc Marina Drive, Manitowoc, WI 54220					1	none	Municipal marina and boat ramp	WI	SLM		
Manitowoc Marina	Manitowoc, WI 54220 woc Staging Area 44.0956 -87.6503 425 Maritime Manitowoc Manitowoc Marina na Manitowoc, WI 54220 Drive, Manitowoc, WI 54220											

-Shipwreck is listed on the National Register of Historic Places

- Sensitive dunes area with nuclear plant to the north

-Multiple National Register-listed shipwrecks in the area



GRS:	Lookout Shipwre	Lookout Shipwreck GRS # B18								
Protection Priority Site	s / Ranking:		Medium (B)							
			LOCATION INFO	ORMATION						
State: Wisconsin				County: Manitov	woc					
			CONTACT INFO	RMATION						
USCG Sector Lake Mich	igan Command Cent	er: (414)747-7182								
EPA Spill Hotline: (312)3	353-2318									
WI DNR Spill Hotline: (8)	00)943-0003									
Point Beach State Forest: 920-794-7480										
Wisconsin Historical Soc										
		STICS								
Managed Areas:		Point Beach State	ate Natural Area,	Continental Shipwr	eck, Major Anderson Shipwreck , LaSalle					
		Shipwreck, Alaska	wreck, Tubal Cain	Shipwreck, Point E	Beach Nuclear Plant					
<u> </u>										
Sand beaches, smail tributanes from wetlands, np rap, rock jetties										
Sensitive Habitat:										
Wildlife:		Recreational Beac	ches - Migratory birds such a	s ducks, geese an	id piping plovers. V	arious small mammals.				
		Various species of	f fish including salmon, steel	head, trout and ba	ss. As well as vario	ous small mammals.				
Federally Threatened /	Endangered	Threatened - Nort	thern Long Eared Bat, Rufa	Red Knot (Bird)						
Species:		Endangered - Pipi	ng Plover, Hines Emerald Di	ragon Fly, Karner	Blue Butterfly and V	Vhooping Crane.				
Socio-Economic Reso	urces:	Maritime Drive bik	e path, Wisconsin Maritime I	Museum, Neshota	h Beach					
			SPILL RESP	PONSE						
Predicted Behavior:		Sea Conditions: We the time. In October seas. Seas of 10 f feet have been en in the S and 20 to foot category drop Currents: Attain ve Winds: The prevauspeed of 10 mph contract weather: Annual performance of 27F.	Worst in October and Novem er, S through SW winds are eet or more are encountered countered. During the spring 40 percent in the N. Summe to less than 20 percent in Ju- elocities up to 4 mph in the r iling wind direction is West-N occurs in January. The lowes precipitation is 32 inches with ch year. The hottest month is	hber, when, lakewi most often respon d 3 to 5 percent of g, high seas are inf r seas climb above une and July. By A main entrance cha Northwest which has at average wind sp h the maximum oc s July with an aver	de, wave heights o sible, while by Nove the time from Nove frequent, but 5- to 1 e 10 feet less than sugust, the fall build nnel. as reached a gust o reed of 7 mph occu curring during the s age of 80F, and the	f 5 to 10 feet are encountered about 35 percent of ember W through N winds often generate rough mber through March. Extreme waves of 20 to 22 0-foot seas develop 15 to 30 percent of the time 1 percent of the time, while those in the 5- to 10- lup begins. of 70 knots in 1984. The highest average wind rs around August. summer. There is a yearly average of 36 e coldest month is January with an average high of				

Response Con	Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. Recommended Spill Response Strategy Table												
						,		-			1		
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address		
Lookout 44 11.707' 87 30.596' Exclusion Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'. 1000' Medium 27-Apr- 2016 WI Manitowoc SLM 9400 County Rot Two Rivers, WI										/ Road O, WI 54241			
				Logistic	OGISTICS	3 Table							
Name	Туре	Latitude (Decima Degrees)	Longitu I (Decima) Degrees	de Address al s)	County	Owner	/ POC	Acce Limi	ess tations	Description	State	Sector	
Veterans Park Boat Ramp	Boat Ramp	44.14	90 -87.5	740 1898 West River Street, Two Rivers, WI 54241	Manitowoc	City o	f Two Rivers		none	Two launch ramps with large parking lot	WI	SLN	
Coast Guard Station Two Rivers	Staging Area	44.14	61 -87.5	633 1411 Pilon Court, Two River, WI 54241	Manitowoc		USCG	Sec	urity Escort	government	WI	SLN	
Manitowoc Marina	Manitowoc Boat Ramp 44.0956 -87.6503 425 Maritime Manitowoc Manitowoc Marina Marina Boat Ramp 44.0956 -87.6503 425 Maritime Drive, Manitowoc, WI 54220							none	Municipal marina and boat ramp	WI	SLN		
Manitowoc Marina	A Staging Area 44.0956 -87.6503 425 Maritime Manitowoc, WI 54220 920-682-5117 A Manitowoc Marina none Municipal marina WI SLM 920-682-5117 and boat ramp Additional Additio												

-Shipwreck is listed on the National Register of Historic Places

- Sensitive dunes area with nuclear plant to the north

-Multiple National Register-listed shipwrecks in the area



GRS:	Major Anderson	Shipwreck			GRS #	B19				
Protection Priority Site	s / Ranking:		Medium (B)							
			LOCATION INFO	ORMATION						
State: Wisconsin				County: Manitov	woc					
			CONTACT INFO	RMATION						
USCG Sector Lake Mich	igan Command Cent	ter: (414)747-7182								
EPA Spill Hotline: (312)	353-2318									
Manitowoc Marina: 920-	00)943-0003 682-5117									
Point Beach State Forest: 920-794-7480										
Wisconsin Historical Soc	ciety, State Archaeolo	ogist: 608- 264-6496								
		RE	SOURCES AT RISK C	HARACTERIS	STICS					
Managed Areas:		Point Beach State	Forest, Woodland Dunes Sta	ate Natural Area,	Continental Shipw	reck, Lookout Shipwreck , LaSalle Shipwreck,				
		Alaska Shipwreck	, Tubal Cain Shipwreck, Path	finder Shipwreck,	Point Beach Nucle	ear Plant				
Shoreline Type:		Sand beaches sm	all tributaries from wetlands	rin ran rock jettie	26					
choronne rype.				np rup, rook jour						
Sensitive Habitat:		Lakeshore dunes,	Wetlands							
Wildlife:		Recreational Beac	ches - Migratory birds such as	s ducks, geese ar	nd piping plovers. V	/arious small mammals.				
		Various species of	f fish including salmon, steelh	nead, trout and ba	ss. As well as vari	ous small mammals.				
Federally Threatened /	Endangered	Threatened - Nor	thern Long Eared Bat, Rufa F	Red Knot (Bird)						
Species:	U	Endangered - Pipi	ng Plover, Hines Emerald Dr	agon Fly, Karner	Blue Butterfly and	Whooping Crane.				
Socio-Economic Reso	urces:	Maritime Drive bik	e path, Wisconsin Maritime N	Auseum, Neshota	h Beach					
			SPILL RESP	PONSE						
Predicted Behavior:		Sea Conditions:	Worst in October and Novem	ber, when, lakewi	de, wave heights o	of 5 to 10 feet are encountered about 35 percent of				
		the time. In Octob	er, S through SW winds are r	nost often respon	sible, while by Nov	rember W through N winds often generate rough				
		seas. Seas of 10 f	eet or more are encountered	3 to 5 percent of	the time from Nove	ember through March. Extreme waves of 20 to 22				
		feet have been en	countered. During the spring	, high seas are inf	requent, but 5- to	10-foot seas develop 15 to 30 percent of the time				
		in the S and 20 to	40 percent in the N. Summer	r seas climb abov	e 10 feet less than	1 percent of the time, while those in the 5- to 10-				
		foot category drop	to less than 20 percent in Ju	ine and July. By A	ugust, the fall build	dup begins.				
		Currents: Attain v	elocities up to 4 mph in the n	nain entrance cha	nnel.					
		winds: The preva	illing wind direction is West-N	iorthwest which h	as reached a gust	or /U knots in 1984. The highest average wind				
		speed of 10 mph of	occurs in January. The lowes	t average wind sp	eed of / mph occu	irs around August.				
		thundorstormo	precipitation is 32 inches with	the maximum oc		summer. There is a yearly average of 36				
		27F.	Si year. The nottest month is	July with an aver	aye or ovr, and th	e concest month is January with an average high of				

Response Con	esponse Considerations: Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. Recommended Spill Response Strategy Table											
					,	,						
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
Major Anderson Shipwreck	44 10.928' 87 30.978' Exclusion Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'. 1000' Medium 27-Apr- 2016 WI Manitowoc SLM									SLM	9400 County Two Rivers,	/ Road O, WI 54241
				Logisti	DGISTICS cs Support	5 Table						
Name	Туре	Latitude (Decima Degrees	Longitu (Decima) Degree	de Address al s)	County	Owner	/ POC	Acce Limi	ess tations	Description	State	Sector
Veterans Park Boat Ramp	Boat Ramp	44.14	90 -87.5	740 1898 West River Street, Two Rivers, WI 54241	Manitowoc	City o	f Two Rivers		none	Two launch ramps with large parking lot	WI	SLN
Coast Guard Station Two Rivers	Staging Area	44.14	51 -87.5	633 1411 Pilon Court, Two River, WI 54241	Manitowoc		USCG	Sec	urity Escort	government	WI	SLM
Manitowoc Marina	Boat Ramp	44.09	56 -87.6	503 425 Maritime Drive, Manitowoc, WI 54220	Manitowoc	Manito 920	owoc Marina -682-5117		none	Municipal marina and boat ramp	WI	SLN
Manitowoc Marina	Image: mark with a staging Area 44.0956 -87.6503 425 Maritime Drive, Manitowoc, WI 54220 Manitowoc Marina 920-682-5117 None Municipal marina and boat ramp WI SLM											

-Shipwreck is listed on the National Register of Historic Places

-Sensitive dunes area with nuclear plant to the north

-Multiple National Register-listed shipwrecks in the area



GRS:	Pathfinder Ship	wreck			GRS #	B20				
Protection Priority Site	s / Ranking:		Medium (B)							
			LOCATION INFO	RMATION						
State: Wisconsin				County: Manitov	woc					
			CONTACT INFO	RMATION						
USCG Sector Lake Mich	igan Command Cent	ter: (414)747-7182								
EPA Spill Hotline: (312)3	853-2318									
WI DNR Spill Hotline: (8	00)943-0003									
Manitowoc Marina: 920-682-5117 Point Beach State Forest: 920-794-7480										
Wisconsin Historical Soc	iety State Archaeolo	naist: 608- 264-6496								
		RE	SOURCES AT RISK C	HARACTERIS	STICS					
Managed Areas:		Point Beach State	Forest, Woodland Dunes Sta	ate Natural Area,	Continental Shipwre	ck, Lookout Shipwreck, LaSalle Shipwreck,				
Alaska Shipwreck, Tubal Cain Shipwreck, Major Anderson Shipwreck, Point Beach Nuclear Plant										
Shoreline Type:		Sand beaches, sm	all tributaries from wetlands.	rip rap, rock jettie)S					
Sensitive Habitat: Lakeshore dunes, Wetlands										
Wildlife:		Recreational Beac	hes - Migratory birds such as	s ducks, geese an	d piping plovers. Va	arious small mammals.				
		Various species of	fish including salmon, steelh	lead, trout and ba	iss. As well as vario	us small mammais.				
Federally Threatened /	Endangered	Threatened - Nort	hern Long Eared Bat, Rufa R	Red Knot (Bird)						
Species:		Endangered - Pipi	ng Plover, Hines Emerald Dra	agon Fly, Karner	Blue Butterfly and W	/hooping Crane.				
Socio-Economic Reso	urces:	Maritime Drive bike	e path, Wisconsin Maritime N	luseum, Neshota	h Beach					
			SPILL RESP	ONSE						
Predicted Behavior:		Sea Conditions: V	Vorst in October and Novem	ber, when, lakewi	de, wave heights of	5 to 10 feet are encountered about 35 percent of				
		the time. In Octobe	er, S through Svv winds are n	nost often respon	sible, while by Nove	mber w through N winds often generate rough				
		feet have been en	countered During the spring	high seas are inf	requent but 5- to 1	1-foot seas develop 15 to 30 percent of the time				
		in the S and 20 to	40 percent in the N. Summer	seas climb abov	e 10 feet less than 1	percent of the time, while those in the 5- to 10-				
		foot category drop	to less than 20 percent in Ju	ne and July. By A	ugust, the fall build	up begins.				
		Currents: Attain v	elocities up to 4 mph in the m	nain entrance cha	nnel.					
		Winds: The prevai	ling wind direction is West-N	orthwest which ha	as reached a gust o	f 70 knots in 1984. The highest average wind				
		speed of 10 mph o	ccurs in January. The lowest	t average wind sp	eed of 7 mph occur	s around August.				
		Weather: Annual p	precipitation is 32 inches with	the maximum oc	curring during the s	ummer. There is a yearly average of 36				
		27F.	n year. The nottest month is	July with an aver	age of 80F, and the	coldest month is January with an average high of				

Response Con	esponse Considerations: Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. Recommended Spill Response Strategy Table											
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response I Strategy	mplementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	Sector	Address	
Pathfinder 44 14.429' 87 30.397' Exclusion Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'. 1000' Medium 27-Apr- 2016 WI Manitowoc SLM 9400 County Ro Two Rivers, WI										/ Road O, WI 54241		
				Logistic	OGISTICS	3 Table						
Name	Туре	Latitude (Decimal Degrees)	Longitud (Decimal Degrees)	e Address	County	Owner	/ POC	Acce Limi	ess tations	Description	State	Sector
Veterans Park Boat Ramp	Boat Ramp	44.149	90 -87.574	40 1898 West River Street, Two Rivers, WI 54241	Manitowoc	City o	f Two Rivers		none	Two launch ramps with large parking lot	WI	SLN
Coast Guard Station Two Rivers	Staging Area	44.146	61 -87.563	33 1411 Pilon Court, Two River, WI 54241	Manitowoc		USCG	Sec	urity Escort	government	WI	SLN
Manitowoc Boat Ramp 44.0956 -87.6503 425 Maritime Manitowoc Manitowoc Marina nor Marina Boat Ramp 44.0956 -87.6503 425 Maritime Manitowoc Manitowoc Marina nor Drive, Manitowoc, WI 54220						none	Municipal marina and boat ramp	WI	SLN			
Manitowoc Marina	Manitowoc, WI 54220 wooc Staging Area 44.0956 -87.6503 425 Maritime na Staging Area 44.0956 -87.6503 425 Maritime Drive, Manitowoc, WI 54220											

-Shipwreck is listed on the National Register of Historic Places

-Sensitive dunes area with nuclear plant to the north

-Multiple National Register-listed shipwrecks in the area



GRS:	Tubal Cain Ship	owreck			GRS #	B21				
Protection Priority Site	s / Ranking:		Medium (B)							
			LOCATION INFO	RMATION						
State: Wisconsin				County: Manitov	woc					
			CONTACT INFO	RMATION						
USCG Sector Lake Mich	igan Command Cent	ter: (414)747-7182								
EPA Spill Hotline: (312)3	353-2318									
WI DNR Spill Hotline: (8)	00)943-0003									
Point Beach State Forest: 920-794-7480										
Wisconsin Historical Soc	ciety. State Archaeolo	aist: 608- 264-6496								
		RE	SOURCES AT RISK C	HARACTERIS	STICS					
Managed Areas:		Point Beach State	Forest, Woodland Dunes Sta	ate Natural Area,	Continental Shipwre	eck, Lookout Shipwreck , LaSalle Shipwreck,				
	luclear Plant									
Shoreline Type:		Sand beaches, sm	all tributaries from wetlands,	rip rap, rock jettie	es estatution estatu estatution estatution esta					
Sensitive Habitat: Lakeshore dunes, Wetlands										
Wildlife:		Recreational Beac	hes - Migratory birds such as	s ducks, geese an	id piping plovers. Va	arious small mammals.				
		Various species of	fish including salmon, steelh	lead, trout and ba	ss. As well as vario	us small mammals.				
Federally Threatened /	Endangered	Threatened - Nort	hern Long Eared Bat, Rufa R	Red Knot (Bird)						
Species:		Endangered - Pipi	ng Plover, Hines Emerald Dra	agon Fly, Karner	Blue Butterfly and W	/hooping Crane.				
Socio-Economic Reso	urces:	Maritime Drive bike	e path, Wisconsin Maritime N	luseum, Neshota	h Beach					
			SPILL RESP	ONSE						
Predicted Behavior:		Sea Conditions: V	Vorst in October and Novem	ber, when, lakewi	de, wave heights of	5 to 10 feet are encountered about 35 percent of				
		the time. In Octobe	er, S through SW winds are m	nost often respon	sible, while by Nove	mber W through N winds often generate rough				
		feet have been en	countered During the spring	bigh seas are inf	requent but 5- to 1	Liber infough March. Extreme waves of 20 to 22				
		in the S and 20 to	40 percent in the N. Summer	seas climb abov	e 10 feet less than 1	percent of the time, while those in the 5- to 10-				
		foot category drop	to less than 20 percent in Ju	ne and July. By A	ugust, the fall build	up begins.				
		Currents: Attain v	elocities up to 4 mph in the m	nain entrance cha	nnel.					
		Winds: The prevai	ling wind direction is West-Ne	orthwest which ha	as reached a gust o	f 70 knots in 1984. The highest average wind				
		speed of 10 mph o	ccurs in January. The lowest	t average wind sp	eed of 7 mph occur	s around August.				
		Weather: Annual p	precipitation is 32 inches with	the maximum oc	curring during the s	ummer. There is a yearly average of 36				
		thunderstorms eac	h year. The hottest month is	July with an aver	age of 80⊦, and the	coldest month is January with an average high of				

Response Con	sponse Considerations: Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. Recommended Spill Response Strategy Table											
				Recommended Sp	ill Respons	e Strategy	/ Table					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response I Strategy	mplementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
Tubal Cain Shipwreck 44 09.361' 87 32.530' Exclusion Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'. 1000' Medium 27-Apr- 2016 WI Manitowoc SLM 9400 County Road Two Rivers, WI 54										/ Road O, WI 54241		
				Logisti	cs Support	Table						
Name	Туре	Latitude (Decimal Degrees)	Longitud (Decimal Degrees)	e Address	County	Owner	/ POC	Acce Limi	tations	Description	State	Sector
Veterans Park Boat Ramp	Boat Ramp	44.149	0 -87.574	40 1898 West River Street, Two Rivers, WI 54241	Manitowoc	City o	f Two Rivers		none	Two launch ramps with large parking lot	WI	SLI
Coast Guard Station Two Rivers	Staging Area	44.146	1 -87.563	33 1411 Pilon Court, Two River, WI 54241	Manitowoc		USCG	Secu	irity Escort	government	WI	SLI
Manitowoc Marina	Manitowoc Boat Ramp 44.0956 -87.6503 425 Maritime Drive, Marina Marina 54220 Manitowoc, WI						I	none	Municipal marina and boat ramp	WI	SLI	
Manitowoc Marina	Nitowoc Staging Area 44.0956 -87.6503 425 Maritime Drive, Manitowoc, WI 54220 Manitowoc Marina 920-682-5117 none Municipal marina and boat ramp WI and boat ramp									SLI		

-Shipwreck is listed on the National Register of Historic Places

-Sensitive dunes area with nuclear plant to the north

-Multiple National Register-listed shipwrecks in the area



GRS:	Sebastopol Ship	owreck		GRS #	B22					
Protection Priority Site	es / Ranking:	Medium	n (B)							
		l l	OCATION INFORMA	TION						
State: Wisconsin			Count	:y: Milwaukee						
			CONTACT INFORMA	TION						
McKinley Marina: (414)2	273-5224									
South Shore Yacht Club	: (414)481-2331									
Federal Marine Termina										
USCG Sector Lake Mich	ligan Command Cent	er: (414)/4/-/182								
WI DNR Spill Hotline: (312)	353-2318 00\943-0003									
City of Milwaukee: (414)	286-3521									
Wisconsin Historical Soc	ciety, State Archaeolo	ogist: 608- 264-6496								
		RESOUR	CES AT RISK CHAR	ACTERISTICS						
Managed Areas: Bay View Park, South Shore Marina										
Shoreline Type:		Riprap, breakwalls, man-m	ade structures, sand beach	es						
Sanaitiya Habitati		Sand Deceber								
Sensitive Habitat.		Sand Beaches								
Wildlife:		Recreational Beaches - Mi	gratory birds such as ducks	, geese and piping plovers. Va	arious small mammals.					
		Marina/Yacht Club/Comme	ercial Port - Migratory birds	such as ducks and geese. Val	rious species of fish including salmon, steelhead,					
		trout and bass. As well as	various small mammals.							
Federally Threatened /	Endangered	Threatened - Northern Lor	ng Eared Bat, Rufa Red Kno	ot (Bird)						
Species:	-	Endangered - Piping Plove	r, Hines Emerald Dragon Fl	ly, Karner Blue Butterfly and V	Vhooping Crane.					
Socio-Economic Reso	urces:	Recreational beaches sout	h of South Shore Marina, S	outh Shore Park						
			SPILL RESPONS	E						
Predicted Behavior:		Sea Conditions: Worst in	October and November, wh	en, lakewide, wave heights o	f 5 to 10 feet are encountered about 35 percent of					
		the time. In October, S thro	ough SW winds are most oft	en responsible, while by Nove	ember W through N winds often generate rough					
		seas. Seas of 10 feet or me	ore are encountered 3 to 5	percent of the time from Nove	mber through March. Extreme waves of 20 to 22					
		in the S and 20 to 40 perce	a. During the spring, high s	eas are infrequent, but 5- to 1	U-root seas develop 15 to 30 percent of the time					
		foot category drop to less t	han 20 percent in June and	Into above to reet less than July By August the fall build	In percent of the time, while those in the 5- to 10-					
		Currents: Attain velocities	up to 4 mph in the main ent	trance channel.	op oogino.					
		Winds: The prevailing wind	d direction is West-Northwe	st which has reached a gust c	of 70 knots in 1984. The highest average wind					
		speed of 10 mph occurs in	January. The lowest average	ge wind speed of 7 mph occur	rs around August.					
		Weather: Annual precipitat	tion is 32 inches with the ma	aximum occurring during the s	summer. There is a yearly average of 36					
		thunderstorms each year.	The hottest month is July wi	th an average of 80F, and the	e coldest month is January with an average high of					
		211.								

Response Co	onsiderations:		Ice: A mild of percent cov two later. Water Dept	winter on Lake Michigan me erage during a severe wint th: Averages from 15 feet te Recommended Sp	eans about er. Maximu o around 60 ill Respon :	10-percent m ice covera) feet deep i se Strategy	coverage age occurs n the harb	compared s by mid-I or.	d to an averag Varch, on the	je 40-percent average, whi	coverage and an 80- ile decay begins a week or	
										-		
Site ID Latitude Longitude Response Implementation Min Priority Date State County Sector Address (Decimal (Decimal Strategy Strategy Length Length Verified Last Last												
Sebastopol Shipwreck	43 59.178'	87 51.798′	Exclusion	Use anchored boom to exclude or divert oil from area around wreck. Wreck lies at depth of 5-10' beneath breakwall.	1000'	Medium	27-Apr- 2016	WI	Milwaukee	SLM	3120 South Lake Drive, Milwaukee, WI 53207	
				L	OGISTIC	S						
	Logistics Support Table											

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector	
McKinley Marina	Staging Area	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414)273- 5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM	
USCG – Sector Lake Michigan	Staging Area	43.00162	87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM	
South Shore Yacht Club	Boat Ramp	42.99758	-87.88394	2300 E. Nock Street. Milwaukee, WI 53207	Milwaukee	South Shore Yacht Club (414)481-2331	None	Boat launch with two docks. Lots of parking.	WI	SLM	
USCG – Sector Lake Michigan	ICP	43.00162	87.8885	2420 S. Lincoln Memorial Dr, Milwaukee, WI	Milwaukee	U.S. Coast Guard	Security escorting requirements	Sector Lake Michigan	WI	SLM	
McKinley Marina	Boat Ramp	43.05126	-87.88255	1812 Lincoln Memorial Drive, Milwaukee, WI 53202	Milwaukee	Milwaukee County Parks (414)273- 5224	None	Large ramp with 4 docks. Lots of parking	WI	SLM	
COMMENTS											
-Shipwreck is listed on the National Register of Historic Places -Rip rap breakwall transects the shipwreck, which extends inshore and offshore of breakwall											
				GR	P/GRS MAI	Ρ					



GRS:	USS Cobia Hist	toric Vessel			GRS #	B23					
Protection Priority Sites	/ Ranking:		Medium (B)								
			LOCATION INFO	ORMATION							
State: Wisconsin				County: Manitor	woc						
			CONTACT INFO	RMATION							
USCG Sector Lake Michi	gan Command Cente	er: (414)747-7182									
EPA Spill Hotline: (312)3	53-2318										
Manitowoe Marine: 020 682 5117											
Wieconsin Maritime Museum: 920-684-0218											
	RESOURCES AT RISK CHARACTERISTICS										
Managed Areas:		Point Beach State	Forest, Woodland Dunes S	tate Natural Area,	Maritime Drive Bea	ch					
Shoreline Type:		Sand beaches, rip rap, rock jetties, steel breakwall									
Sensitive Habitat:		Lakeshore dunes, Wetlands to the north of the Manitowoc River									
Wildlife:		Recreational Beaches - Migratory birds such as ducks, geese and piping plovers. Various small mammals.									
		Various species of fish including salmon, steelhead, trout and bass. As well as various small mammals.									
Federally Threatened / E	Endangered	Threatened - Northern Long Eared Bat, Rufa Red Knot (Bird)									
Species:		Endangered - Piping Plover, Hines Emerald Dragon Fly, Karner Blue Butterfly and Whooping Crane.									
Socio-Economic Resou	rces:	Maritime Drive bike path, Wisconsin Maritime Museum, Neshotah Beach									
				PONSE							
Predicted Behavior:		Sea Conditions:	Worst in October and Nover	nber, when, lakew	vide, wave heights o	f 5 to 10 feet are encountered about 35 percent of					
		the time. In Octob	er. S through SW winds are	most often respor	nsible, while by Nov	ember W through N winds often generate rough					
		seas. Seas of 10 feet or more are encountered 3 to 5 percent of the time from November through March. Extreme waves of 20 to 2									
		feet have been encountered. During the spring, high seas are infrequent, but 5- to 10-foot seas develop 15 to 30 percent of the time									
		in the S and 20 to 40 percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5- to 10-									
		foot category drop to less than 20 percent in June and July. By August, the fall buildup begins.									
		Currents : Attain velocities up to 4 mph in the main entrance channel.									
		Winds: The prevailing wind direction is West-Northwest which has reached a gust of 70 knots in 1984. The highest average wind									
		Weather: Annual precipitation is 32 inches with the maximum occurring during the summer. There is a yearly average of 36									
		thunderstorms ead	ch year. The hottest month is	s July with an ave	rage of 80F, and the	e coldest month is January with an average high					
		of 27F.		-	-						

Response Considerations:			Ice: A m percent o or two la Water D	 Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. 									an 80- s a week
			I	R	ecommended Sp	ill Respons	se Strateg	y Table					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implen	nentation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
USS Cobia	44.0925 -87.6557 Exclusion L f				Tored deep-sea 700' Medium 27-Apr- WI M a around vessel, d to steel breakwall. A A A A A				Manitowoo	z SLM 75 Maritime Drive, Manitowoc, WI 54220		Drive, WI 54220	
					Logistic	cs Support	Table						
Name	Type Latitude (Decima Degrees		de Lon nal (De es) Deg	gitude cimal rees)	Address	County	Owner	Owner / POC		ccess mitations	Description	State	Sector
Manitowoc Marina	Boat Ran	קר 44.	0956	87.6503	425 Maritime Drive, Manitowoc, WI 54220	Manitowoc	Mani 92	towoc Marin: 0-682-5117	a	none	Municipal marina and boat ramp	WI	SLN
Manitowoc Marina	Staging A	rea 44.	0956	87.6503	425 Maritime Drive, Manitowoc, WI 54220	Manitowoc	Mani 92	Manitowoc Marina 920-682-5117		none	Municipal marina and boat ramp	WI	SLM
			·							·			
					CC	OMMENT	S						

-Vessel is a National Historic Landmark

- Vessel is permanently moored in Manitowoc River along the Wisconsin Maritime Museum

- Manitowoc harbor is used by Badger Car Ferry Twice daily.



GRS:	Continental Ship	owreck			GRS #	B24					
Protection Priority Site	s / Ranking:		Medium (B)								
			LOCATION INFOR	RMATION							
State: Wisconsin			County: Manitowoc								
			CONTACT INFOR	MATION							
USCG Sector Lake Mich	nigan Command Cen	ter: (414)747-7182									
EPA Spill Hotline: (312)353-2318											
WI DNR Spill Hotline: (800)943-0003											
Nanitowoc Marina: 920-	682-5117										
Point Beach State Porest: 920-794-7480 Wisconsin Historical Society, State Archaeologist: 608-264-6496											
RESOURCES AT RISK CHARACTERISTICS											
Managed Areas:		Point Beach State	Forest, Woodland Dunes State	Natural Area, (Continental Shipwre	ck, Lookout Shipwreck , LaSalle Shipwreck,					
		Alaska Shipwreck,	Tubal Cain Shipwreck, Pathfine	der Shipwreck,	Point Beach Nuclea	ar Plant					
Shoreline Type:		Sand beaches, sm	Sand beaches, small tributaries from wetlands, rip rap, rock jetties								
Sensitive Habitat:		Lakeshore dunes, Wetlands									
Wildlife:		Recreational Beaches - Migratory birds such as ducks, geese and piping plovers. Various small mammals.									
		Various species of	fish including salmon, steelhea	ad, trout and bas	ss. As well as variou	us small mammals.					
Federally Threatened /	Endangered	Threatened - Northern Long Eared Bat, Rufa Red Knot (Bird)									
Species:		Endangered - Piping Plover, Hines Emerald Dragon Fly, Karner Blue Butterfly and Whooping Crane.									
Socio-Economic Reso	urces:	Maritime Drive bike path, Wisconsin Maritime Museum, Neshotah Beach									
		T	SPILL RESPO	NSE							
Predicted Behavior:		Sea Conditions: \	Vorst in October and Novembe	er, when, lakewi	de, wave heights of	5 to 10 feet are encountered about 35 percent of					
		the time. In October, S through SW winds are most often responsible, while by November W through N winds often g									
		seas. Seas of 10 feet or more are encountered 3 to 5 percent of the time from November through March. Extreme was									
		the S and 20 to 40 percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5, to 10 feet less than 1 percent of the time, while those in the 5, to 10 feet less than 1 percent of the time, while those in the 5, to 10 feet less than 1 percent of the time.									
		category drop to le	category drop to less than 20 percent in lune and July. By August the fall buildup begins								
		Currents: Attain v	ents: Attain velocities up to 4 mph in the main entrance channel.								
		Winds: The preva	vailing wind direction is West-Northwest which has reached a gust of 70 knots in 1984. The highest average wind								
		speed of 10 mph o	h occurs in January. The lowest average wind speed of 7 mph occurs around August.								
		Weather: Annual p	ual precipitation is 32 inches with the maximum occurring during the summer. There is a yearly average of 36								
		thunderstorms eac	h year. The hottest month is Ju	uly with an avera	age of 80F, and the	coldest month is January with an average high of					
		2/1.									

Response Con	siderations:		Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80- percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. Water Depth: Averages from 15 feet to around 60 feet deep in the harbor. Recommended Spill Response Strategy Table																																									
Site ID	Latitude	Longitude	Response	Implementation	Min	Priority	Date	State	County	Sector	Address																																	
	(Decimal Degrees)	(Decimal Degrees)	Strategy		Boom	,	Last Verified																																					
Continental Shipwreck	44.2325	-87.5077	Exclusion	Use anchored deep-sea boom to exclude or divert oil from area around wreck. Wreck lies at depth of 10'.	1000'	Medium	27-Apr- 2016	WI	Manitowoo	SLM	8520 Wild C Two Rivers,	herry Road, WI 54241																																
				L	OGISTICS	5																																						
				Logisti	cs Support	Table																																						
Name	Type Latitude (Decima Degrees		Longitud (Decima Degrees	de Address I)	County	Owner	Owner / POC		ess itations	Description	State	Sector																																
Veterans Park Boat Ramp	Boat Ramp	44.149	0 -87.57	740 1898 West River Street, Two Rivers, WI 54241	Manitowoc	City o	City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		City of Two Rivers		none	Two launch ramps with large parking lot	WI	SLM
Coast Guard Station Two Rivers	Staging Area	44.146	1 -87.56	33 1411 Pilon Court, Two River, WI 54241	Manitowoc		USCG		USCG		USCG		USCG		USCG		USCG		USCG		USCG		curity Escort	government	WI	SLM																		
Manitowoc Marina	Boat Ramp	44.095	6 -87.65	03 425 Maritime Drive, Manitowoc, WI 54220	Manitowoc	Manit 920	Manitowoc Marina 920-682-5117		none	Municipal marina and boat ramp	WI	SLM																																
Manitowoc Marina	Staging Area	44.095	6 -87.65	03 425 Maritime Drive, Manitowoc, WI 54220	Manitowoc	Manit 920	owoc Marina)-682-5117	1	none	Municipal marina and boat ramp	WI	SLM																																

-Shipwreck is listed on the National Register of Historic Places

-Sensitive dunes area to south, nuclear plant to the north



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- C9: Railroad Along Shoreline
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- C11: Indiana Dunes National Shore
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- C22: William E. Dever Water Intake Crib
- C23: Edward F. Dunne Water Intake Crib

GRS:	Navy Pier				GRS #	C1						
Protection Prior	ity Sites / Ranking:	High										
			LOCATI		ATION							
State: IL				County	Cook							
			CONTA	CT INFORM	ATION							
National Respons Navy Pier (312) 5 Jardine Water Pu Shedd Aquarium Dusable Harbor/I Odyssey of Chica	se Center 1-800-424 595-7437 (312) 595 7437 Marina (312) 742-357 ago Cruises (888) 95	-8802 blant (312) 744-7001 77 7-2634										
RESOURCES AT RISK CHARACTERISTICS												
Managed Areas:		There are no regulated facili	There are no regulated facilities in the area.									
Shoreline Type:		Made up of manmade structural break walls and concrete jetty's										
Sensitive Habita	it:	No sensitive wildlife refuges or fish hatcheries in this area										
Wildlife:		Birds, Fish (Jardine Bird Sanctuary is in the vicinity of Navy Pier)										
Federally Threat	ened /	Threatened - Northern Long	ied - Northern Long Eared Bat									
Endangered Spe	ecies:	Endangered - Indiana Bat, F	Piping Plover, Hi	nes Emerald D	ragon Fly a	and Karner Blue B	Butterfly					
Socio-Economic	Resources:	Shedd Aquarium, The Scier	nce and industry	museum, Odys	sey of Ch	icago Cruises and	the Jardine water	r purification plant.				
			SPIL	LL RESPON	SE							
Predicted Behav	vior:	Currents: 0.2 to 0.4 mph with a maximum of 1.3 mph during periods of heavy runoff in channels. Wind: Prevailing wind south-southwest average speed of 9 knots, max speed of 73 knots during winter months. Waves: oscillations up to 2 feet. Wave heights up to 6.5 feet. Weather: Low -27 °F, High 104 °F, Average 29 °F to 84 °F Ice: Heavy ice during winter months										
Response Cons	iderations:	Water Depth: 20 to 30ft Substrate: Mud and Sand Anchor Points: The outer harbor basin provides good anchorage Weather: Low -27 °F, High 104 °F, Average 29 °F to 84 °F Heavy ice during winter months Tourism: Moderate Vessel Traffic: Moderate Sensitive Habitats and Resources: Numerous threatened or endangered migratory birds. Recommended Spill Response Strategy Table										
Site ID	Response	Implementation	Staging Area	Boat Access	Land	Priority	Date Last Verified	Sector	Address			
	Strategy	/					Access					
--------------------------------	-------------------------------	---	-----------------------------------	--	------------	--------------------------------	--	---------------------------------------	---	-------	--------	
Navy Pier Chicago	Containme and Collectio	Protect sensitive shoreline along Navy Pier due to the high tourist level associated with on Dependant on discharge location Dependant on discharge location Dependa nt on discharge location on the location. Dependant on discharge Dependant on discharge Dependant on discharge nt on discharge Int on the location. Dependant on discharge Dependant on location Dependant on discharge Int on the location. Int on Dependant on discharge Dependant on discharge Int on the location. Int on Dependant on discharge Dependant on discharge Int on the location. the location the location Dependant on discharge Int on the location the location the location the location Int on the location the location the location the location Int on the location the location the location the location Int on the location the location the location the location Int on the location the location the location the location Int on the location the location the locat		High	01/11/2016	SLM	Location will vary depending on what occurs.					
<u>.</u>					1	LOGISTICS	<u> </u>					
					Logis	stics Support T	Table					
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / I	POC	Access Limitations	Description	State	Sector	
Burnham Harbor Boat Ramp	Boat Ramp	41.86040	-087.61240	599 E Waldron Dr. Chicago, IL 60605	Cook	City of Chir (312) 747-	cago 7009	Distance to Incident	Large area with multiple ramps to launch vessels	IL	SLM	
Dusable Harbor	Staging Area	41.88720	-087.61264	150 N. Lake Shore Dr. Chicago, IL 60601	Cook	City of Chir (312) 742-3577	cago	Distance to Incident	Large marina with multiple areas to moor up vessels	IL	SLM	
MSU Chicago	ICP	41.76198	-87.93736	555 Plainfield Rd. #A Willowbrook, IL 60527	Cook	U.S. Coast (Guard	Security escorting requirements	MSU Chicago	IL	SLM	
						COMMENTS)					



GRS:	Montrose	e Harbor			GRS #	C2						
Protection Price	ority Sites / R	anking:	High									
			LOCATIO	ON INFORMAT	ION							
State: IL				County: Coo	ok							
			CONTA	CT INFORMATI	ON							
Key contacts for this GRS area beyond those as part of NRC notification.												
			RESOURCES AT	RISK CHARA	CTERISTICS							
Managed Area	S:	There are no regulate	ed facilities in the area.									
Shoreline Type	9:	Exposed Rocky Cliffs RipRap, Groins, and Extensive Wetlands.	, Shelving Bedrock Sh Jetties, Sheltered Scar	ores, Eroding Scar ps, Sheltered Mann	ps, Sand Beaches nade Structures, S	, Mixed Sand heltered Veg	and Gravel Beach etated Low Banks	nes, Grave , Fringing \	l Beaches, Netlands,			
Sensitive Habi	Sensitive Habitat: No sensitive wildlife refuges or fish hatcheries in this area											
Wildlife:	Wildlife: Birds, Fish											
Federally Thre	atened /	Threatened - Northe	rn Long Eared Bat									
Endangered S	pecies:	Endangered - Indiana	a Bat, Piping Plover, Hir	nes Emerald Drago	n Fly and Karner E	Blue Butterfly						
Socio-Econom	nic Resource	s: Close proximity to a c	ity park and the downto	own area.								
			SPIL	L RESPONSE								
Predicted Beh	avior:	Currents: 0.2 to 0.4 n Wind: Prevailing wind Waves: oscillations u Weather: Low -27 °F, Ice: Heavy ice during	nph with a maximum of I south-southwest avera p to 2 feet. Wave heigh High 104 °F, Average winter months	1.3 mph during per age speed of 9 kno ts up to 6.5 feet. 29 °F to 84 °F	iods of heavy runc ts, max speed of 7	off in channels 3 knots durin	s. g winter months.					
Response Cor	siderations:	Water Depth: 20 to 3	Oft Sand									
		Anchor Points: The o Weather: Low -27 °F, Tourism: Moderate Vessel Traffic: Moder Sensitive Habitats an	and uter harbor basin provid High 104 °F, Average ate d Resources: Numerou	des good anchorag 29 °F to 84 °F Hea is threatened or end	e vy ice during winte dangered migrator	r months y birds.						
Recommended Spill Response Strategy Table												
Site ID	Response	Implementation	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	Sector	Address			
	Strategy			Contractor	2010/100035			Cellor				
Montrose Harbor	Containment and	Protect sensitive shoreline along southern portion of the lake from	Dependant on discharge location	Dependant on discharge location	Dependant on discharge location	High	10/14/2014	SLM	Location will vary depending on			

	Collecti	on	significant impac	t							what occurs.
	·	÷		·						·	· · · · · · · · · · · · · · · · · · ·
						LOGISTICS					
					Logi	stics Support Table	•				
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitation	Descri	ption St	ate	Sector
Montros Harbor	Marina/P ark	41.96303	-87.63764	601 W. Montrose Ave. Chicago IL 60613	Cook	City of Chicago	They only h a lift availa to launch boats, a: opposed having a actual launchin ramp.	ave Montrose ble a large c n with lo s different co sports fie n smaller	Harbor is ity park ots of types of lds and a marina	IL	SLM
Waukega Harbor	n Boat Ramp	43.36	-087.824722	55 North Harbor Place, Waukegan IL 60085	Lake	Waukegan Port District	Gate Acces the gate locked then port district to be contacted	s, if Three Bo is the has	oat Slips	L	SLM
Montrose Harbor	Staging area	41.96303	-87.63764	601 W. Montrose Ave. Chicago IL 60613	Cook	City of Chicago	They only h a lift availa to launcl boats, a: opposed i having ai actual launchin ramp.	ave Montrose ble a large c n with k different co sports fie n smaller	Harbor is ity park ots of types of lds and a marina	IL	SLM
Montrose Harbor	Marina/P ark	41.96303	-87.63764	601 W. Montrose Ave. Chicago IL 60613	Cook	City of Chicago	Possible parking issu the incident large scale incident. Th location wo also require some sort o possible security sind the area is easily accessible to the public.	Montrose es if a large c is a with lo different e sports fie uld smaller f ee	Harbor is ity park ots of types of Ids and a marina	IL	SLM
						COMMENTS					



GRS:	Lake Calumet/	Calumet River			GRS #	C3					
Protection Prio	rity Sites / Ranking	:	High								
			LOCATION I	NFORMATION							
State: IL				County: Lake							
			CONTACT IN	FORMATION							
Dockside Steel F	Processing (773) 64	6-4747									
Atlas Tube (800)	733-5683										
Kinder Morgan Terminals (7/3) 646-4440 Cox Metal Processing (773) 646-6300											
Cox Metal Processing (773) 646-6300											
East Chicado Ma	arina: Citv of East C	hicago Phone: 219- 39 [,]	1-8482								
			RESOURCES AT RIS	K CHARACTER	RISTICS						
Managed Areas:											
Shoreline Type	:	Exposed Rocky Clif	fs, Shelving Bedrock Shores,	Eroding Scarps, Sa	ind Beaches, Mixe	ed Sand and Gravel Beaches, Gravel Beaches,					
		RipRap, Groins, and	d Jetties, Sheltered Scarps, Sh	eltered Manmade S	Structures, Shelter	red Vegetated Low Banks, Fringing Wetlands,					
Sonsitive Habit	ot·	Extensive weilands	s. A refuges or fish hatcheries in th	nis area							
Sensitive habit	at.		reluges of han hatchenes in a								
Wildlife:		Birds, Fish									
Federally Threa	tened /	Threatened - North	ern Long Eared Bat								
Endangered Sp	ecies:	Endangered - India	na Bat, Piping Plover, Hines Er	merald Dragon Fly a	and Karner Blue E	Butterfly					
Socio-Economi	c Resources:	Lake Calumet is a h	highly important area for vessel	traffic since steel p	products are broug	ght into regulated terminals that way.					
			SPILL RE	ESPONSE							
Predicted Beha	vior:	Currents: 0.2 to 0.4	mph with a maximum of 1.3 m	ph during periods c	of heavy runoff in a	channels.					
		Wind: Prevailing will Waves: oscillations	nd south-southwest average sp	beed of 9 knots, ma	x speed of 50 kno	ots during winter months.					
		Weather: Low -27 °	F, High 104 °F, Average 29 °F	to 84 °F							
		Ice: Heavy ice durin	ig winter months								
Response Cons	siderations:	Water Depth: 20 to	30ft								
		Substrate: Mud and	Sand								
		Weather: Low -27 °	F High 104 °F Average 29 °F	to 84 °F Heavy ice	during winter mor	oths					
		Tourism: Moderate	.,								
		Vessel Traffic: Mod	erate		and and and and the second						
		Sensitive Habitats a	and Resources: Numerous thre	atened or endange	red migratory bird	S.					
	Recommended Spill Response Strategy Table										

Site ID	Respon Strateg	se By	Implement	ation	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	Sector	Address
Lake Calumet	Containm and Collecti	nent Protect portion on	Protect sensitive shoreline along southern portion of the lake from significant impact		Dependant on discharge location	Dependant on discharge location	Dependa nt on discharg e location	High	10/14/2014	SLM	Location will vary depending on what occurs.
		·			·	LOGISTICS					
					Logis	stics Support 1	Fable				
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner /	POC	Access Limitations	Description	State	Sector
East Chicago Marina	Boat Ramp	41.6539454	-087.4384259	3301 Aldis St. East Chicago, IN	Lake	City of East ((219) 391-	Chicago 8482	Distance to Incident	The Southeastern Border of the harbor. Two slips available for public use.	IN	SLM
Hammond Marina	Staging Area	41.694402	-087.4901	Center Drive Hammond	Lake	Marina@hammo m	ndmarina.co	Distance to Incident/ Must contact the marina for access to gate	Large Ramp with multiple ramps to launch a vessel	IN	SLM
MSU Chicago	ICP	41.76198	-87.93736	555 Plainfield Rd. #A Willowbrook, IL 60527	Cook	U.S. Coast	Guard	Security escorting requirements	MSU Chicago	ΙL	SLM
· · · · ·					(COMMENTS	;				



GRS:	Buffington Harbo	or	GRS #	C4								
Protection Prior	ity Sites / Ranking:	High										
		LOCATION INFORMATION										
State: IN		County: Lake										
		CONTACT INFORMATION										
Majestic Star Cas	Majestic Star Casino and Hotel: 888-2258259											
Carmeuse Lime and Stone: 219-949-1450												
Gary Chicago International Airport: 219-949-4925												
Ameristar Casino and Hotel: 219-378-3000 East Chicago Marina: 219-391-8482												
Jeorse Park: 219	East Unicago Marina: 219-391-8482 Jeorse Park: 219-391-8482											
Indiana Yacht Club: 219-398-1224												
Olympic Steel: 2	19-359-3900											
		RESOURCES AT RISK CHARACTE	RISTICS									
Managed Areas	:	Whiting Lakefront Park: The City of Whiting, Indiana City Hall 1443	119th Street Whitin	ng, IN 46394 PHONE: 219-659-7700Hammond Marina:								
		Hammond Port Authority Phone: 219.659.7678 Email: marina@han	mondmarina.com									
Shoreline Type:		Mixed Sand and Gravel Beaches, RipRap, Sheltered Manmade Stru	uctures, Solid Manr	made Structures, Sheltered Manmade Structures								
Osessitives Habits												
Sensitive Habita	it:	No sensitive wildlife refuges or fish hatcheries in this area										
Wildlife:		Birds, Fish										
Federally Threa	tened /	Threatened - Northern Long Eared Bat										
Endangered Spe	ecies:	Endangered - Indiana Bat, Piping Plover, Hines Emerald Dragon Fly	/ and Karner Blue I	Butterfly								
Socio-Economi	c Resources:	East Chicago Marina, Whiting Lakefront Park, Hammond Marina, A	celor Mittal Indiana	a Harbor, Carmeuse North American Buffington, BP								
		Whiting, Water Intake										
		SPILL RESPONSE										
Predicted Behav	vior:	Currents: 0.2 to 0.4 mph with a maximum of 1.3 mph during periods	of heavy runoff in	channels.								
		Wind: Prevailing wind south-southwest average speed of 9 knots, m Waves: oscillations up to 2 feet. Wave heights up to 6.5 feet	lax speed of 73 kno	ots during winter months.								
		Weather: Low -27 °F, High 104 °F, Average 29 °F to 84 °F										
		Ice: Heavy ice during winter months										
Response Cons	iderations:	Water Depth: 20 to 30ft										
		Substrate: Mud and Sand										
		Anchor Points: The outer harbor basin provides good anchorage	e during winter mo	nthe								
		Tourism: Moderate		inins .								
		Vessel Traffic: Moderate										
		Sensitive Habitats and Resources: Numerous threatened or endang	ered migratory bird	ds.								
		Recommended Spill Response Strateg	y Table									

Site ID	Respon Strate	ise gy	Implement	ation	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	Sector	Address
Buffington Harbor	Containn and Collecti	nent Protec portion	Protect sensitive shoreline along so portion of the lake from significant		Dependant on discharge location	ant on Dependant Dependa arge on discharge nt on tion location discharg e location		High	10/14/2014	SLM	Location will var depending on what occurs.
						LOGISTICS					
					Logis	tics Support	able				
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner /	POC	Access Limitations	Description	State	Sector
East Chicago Marina	Boat Launch	41.6539454	-0874384259	3301 Aldis St. East Chicago IN 46312	Lake	City of East (Chicago	Distance to Incident	Large area with multiple ramps to launch a vessels	IN	SLM
Hammond Marina	Staging Area	41.694402	-0875089526	Center Drive Hammond	Lake	City of East Chicago (219) 391-8482		Distance to Incident	Large Ramp with multiple ramps to launch a vessel	WI	SLM
MSU Chicago	ICP	41.76198	-87.93736	555 Plainfield Rd. #A Willowbrook, IL 60527	Cook	U.S. Coast	Guard	Security escorting requirements	MSU Chicago	IL	SLM
					(COMMENTS					



GRS:	East Chicago M	arina			GRS #	C5						
Protection Prio	rity Sites / Ranking:		Medium (B)									
			LOCATION	INFORMATION								
State: IN				County: Lake								
	CONTACT INFORMATION											
East Chicago Ma	arina: City of East Chi	cago Phone: 219- 391	-8482									
Whiting Lakefron	t Park: The City of W	hiting Phone: 219-659	0-7700, 0 7679									
Arcelor Mittal Inc	la. Hammond Pon Au liana Harbor: Steve R	nonly Phone. 219.05	9.7070									
Carmeuse North	American Buffington	866-780-0974										
BP Whiting: BP:	219-473-7700											
			RESOURCES AT RIS	SK CHARACTER	RISTICS							
Managed Areas	:	Whiting Lakefront P	ark: The City of Whiting, India	ana City Hall 1443 11	9th Street Whitin	ng, IN 46394 PHONE: 219-659-7700Hammond Marina:						
		Hammond Port Auth	nority Phone: 219.659.7678 E	mail: marina@hamn	nondmarina.com							
Shoreline Type	:	Mixed Sand and Gra	avel Beaches, RipRap, Shelte	ered Manmade Struc	tures, Solid Manı	made Structures, Sheltered Manmade Structures						
Sensitive Habit	at:	no sensitive whome reruges or rish natcheries in this area										
Wildlife:		Fish and migratory t	pirds									
Federally Threa	tened /	Threatened - Gray/timber Wolf, Longnose Sucker, Kirtland's Snake, Black-billed Cuckoo, Cerulean Warbler, Beaked Spike Rush, Banded										
Endangered Sp	ecies:	Killifish, Starhead Topminnow, Blackchin Shiner, Downy Solomon's Seal and Flat-leaved Bladderwort										
		Endangered - Uplan	d Sandniner, Pining Plover S	Small Yellow Lady's	Slipper Showy L	ady's Slipper, Northern Craneshill, Yellow Mud Turtle						
		Karner Blue Butterfl	y, Pugnose Shiner, Blacknos	e Shiner, Black-crow	ned Night-Heron	, Osprey and Yellow-headed Blackbird.						
Socio-Economi	c Resources:	East Chicago Marina	a, Whiting Lakefront Park, Ha	ammond Marina, Arce	elor Mittal Indiana	a Harbor, Carmeuse North American Buffington, BP						
		Whiting										
			SPILL R	ESPONSE								
Predicted Beha	vior:	Currents: 0.2 to 0.4	mph with a maximum of 1.3 r	mph during periods o	of heavy runoff in	channels. ots during winter months						
		Waves: oscillations	up to 2 feet. Wave heights up	to 6.5 feet.		to during winter months.						
		Weather: Low -27 °F	F, High 104 °F, Average 29 °I	F to 84 °F								
Response Con	siderations:	Ice: Heavy ice durin	g winter months									
Response con		Substrate: Mud and	Sand									
		Anchor Points: The										
Weather: Low -27 °F, High 104 °F, Average 29 °F to 84 °F Heavy ice during winter months												
		Tourism: Moderate										
		Vessel Traffic: Mode	erate	contorned or onderses	rod migratory bir	de						
	Sensitive Habitats and Resources: Numerous threatened or endangered migratory birds.											

Site ID	Latitud (Decin Degre	de i nal i es) i	Longitude (Decimal Degrees)	Response Strategy	Implementat	ion	Min Boom Length	Priority	Date Las	t Verified	<u>State</u>	County	Sector	Address	
East Chicago Marina (C5)	41.654	455 ·	-87.43681	Exclusion:	Anchor boom on the east si to the beach the site. Spec can be detern incident	on the riprap de and anchor to the west of ific position nined by the	1000'	Medium	1-Nov-20	016	IN	Lake	SLM	Shoreline im west of the Harbor	mediatel Buffingtor
							LOG	SISTICS							
						Loç	gistics \$	Support T	able						
Name		Туре	L ([Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	Co	ounty	Owner / POC	1	Access Limitations	Descri	ption	State	Secto
East Chica Marina	ago	Boat Laur	nch 4	41.6539454	-87.4384259	3301 Aldis S East Chicago IN 46312	t, La	ake	City of East Chic Phone (219) 391	ago r -8482	None	The so border harbor Carmo and St facility the ha are tw perma moore boats.	utheastern • of the • borders use Lime one . Inside of rbor there o nently d casino	Illinois	SLM
Whiting Lakefront I Whihala B Launch	Park oat	Boat Laur	nch 4	41.6825739	-87.4901314	117th/white Oak and Par Rd, Whiting, 46394	La k IN	ake	The City of Whiti Indiana City Hall 119th Street Whi IN 46394 PHONE 219-659-7700	ng, r 1443 ting, <u>:</u>	None	Two sl availat public	ips ble for use.	Illinois	SLM
Hammond Marina		Boat Laur	nch 4	41.694402	87.5089526	The Hammon Port Authority 701 Casino Center Drive Hammond, II 46320	nd La y N	ake	Hammond Port Authority Phone: 219.659.7678 En marina@hammo rina.com	nail: r ndma g	Must contact Hammond Marina to get gate access. There is a security guard	One sl parkin availat	ip and g is ble.	Illinois	SLM

								post 24/7 at the				
								entrance.				
	East Chicago Marina	Staging Area	41.6539454	-87.4384259	3301 Aldis St, East Chicago, IN 46312	Lake	City of East Chicago Phone (219) 391-8482	None	The southeastern border of the harbor borders Carmouse Lime and Stone facility. Inside of the harbor there are two	Illinois	SLM	
									permanently moored casino boats.			
1	Whiting Lakefront Park Whihala Boat Launch	Staging Area	41.6825739	-87.4901314	117th/white Oak and Park Rd, Whiting, IN 46394	Lake	The City of Whiting, Indiana City Hall 1443 119th Street Whiting, IN 46394 PHONE: 219-659-7700	None	Two slips available for public use.	Illinois	SLM	
	Hammond Marina	Staging Area	41.694402	-87.5089526	The Hammond Port Authority 701 Casino Center Drive Hammond, IN 46320	Lake	Hammond Port Authority Phone: 219.659.7678 Email: marina@hammondma rina.com	Must contact Hammond Marina for gate access. There is a security guard post 24/7 at the entrance.	One slip and parking is available.	Illinois	SLM	
	Arcelor Mittal Indiana Harbor	Regulated Facility	41.65768	-87.43837	3001 Dickey Rd East Chicago, IN 46311	Lake	Steve Rose, 219-399- 1200	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles Coal, coke, taconite ore, finished steel	Illinois	SLM	
	Carmeuse North American Buffington	Regulated Facility	41.63951	-87.4085	1 N Carmeuse Drive Gary, IN 46402	Lake	Carmeuse North America Buffington	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will	Regulated 33 CFR 105 facility that handles limestone	Illinois	SLM	

h h	have to go		
Si Si	security.		
BP Whiting Regulated 41.675468 -87.476631 2815 Indianapolis Lake BP, 219-473-7700 T Facility Facility 41.675468 -87.476631 2815 Indianapolis Lake BP, 219-473-7700 T Image: state of the state	The facility is a Refinery that is a regulated 33 CFR 105 facility. To 105 and 154 facility. Handles group I, II, III, IV, secure areas personnel will have to go through facility security.	Illinois S	LM
COMMENTS	I		



GRS:	Ogden Dunes				GRS #	C6						
Protection Prio	rity Sites / Ranking:		Medium (C)									
			LOCATION	NFORMATION								
State: IN				County: Porter								
			CONTACT I	NFORMATION								
Portage Public N	larina Management, I	nc.: 219-763-6833										
Indiana Dunes S	tate Park: 219-926-19	952	_									
Port of Indiana-	Port of Indiana-Burns Harbor: Warren Fasone 219-787-8636 Sameuse North American Buffington: 866-780-0974											
Carmeuse North	American Buffington:	866-780-0974										
			RESOURCES AT RIS	SK CHARACTER	RISTICS							
Managed Areas: Indiana Dunes State Park: Indiana Department of Natural Resources: 877-463-6367, Portage Public Marina Management, Inc.: 219-763-												
6833												
Charalina Tura	-	Missed Operational Op		and Manager and a Other	turne Oalid Mar	and Olivertures. Obstand Oslid Managed						
Shoreline Type		Structures, Fresh W	avel Beaches, RipRap, Shelte ater Marsh	ered Manmade Struc	tures, Solid Man	made Structures, Sneitered Solid Manmade						
Sensitive Habitat: No sensitive wildlife refuges or fish hatcheries in this area												
Wildlife		Fish and migratory k	pirde									
Wildine.		Tish and migratory i	Jildo									
Federally Threa	tened /	Threatened - Gray/t	imber Wolf, Longnose Sucke	r, Kirtland's Snake, E	Black-billed Cuck	oo, Cerulean Warbler, Beaked Spike Rush, Banded						
Endangered Sp	ecies:	Killifish, Starhead To	opminnow, Blackchin Shiner,	Downy Solomon's S	eal and Flat-leav	ved Bladderwort						
		Ender were die Unier	d Oandaisen Disise Disses (a dala Oliana an Nasthana Osana akili Mallaw Mard Tastha						
		Endangered - Uplar Karner Blue Butterfi	id Sandpiper, Piping Piover, 3 v. Pugnose Shiner, Blacknos	e Shiner. Black-crow	Slipper, Snowy L	. Osprev and Yellow-headed Blackbird.						
Socio-Economi	c Resources:	Portage Public Mari	na Management, Inc., Indiana	a Dunes State Park,	Port of Indiana-B	Burns Harbor, Carmeuse North American Buffington						
			SPILL R	ESPONSE								
Predicted Beha	vior:	Currents: Strong ea	st to west current									
		Wind: North to North	west winds									
		Waves: oscillations	up to 2 feet. Wave heights up	o to 6.5 feet. = to 84 °E								
		Ice: Heavy ice durin	g winter months									
Response Cons	siderations:	Water Depth: Slope	s to 70ft eight to ten miles off	shore								
		Substrate: Sand										
		Anchor Points: The	outer harbor basin provides g	jood anchorage	during winter ma	antha						
		Tourism: Moderate	-, mgn 104 F, Average 29 h	- IU 04 F Heavy ICe	during winter mo	11115 1						
		Vessel Traffic: Mode	erate									
		Sensitive Habitats a	nd Resources: Numerous thr	eatened or endange	red migratory bir	ds.						
			Recommended Spill I	sesponse strategy	Iaule							

Site ID	Latitude (Decima Degrees	Longitude I (Decimal) Degrees)	Response Strategy	Implementation		Min Boom Le	ength	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Ogden Dunes (C6)	41.63	-87.193	Exclusion	Placement of boom alo beach will be depender trajectory analysis, pres (nesting, etc.), and loca Anchoring of boom will anchoring and offshore	ng the 5.5 nm long it upon spill sence of species tion of discharge. be mixed shore side anchoring.	3000'		Medium	1-Nov-2016	IN	Porter	SLM	Shore Dr, Ogden Dunes, IN 46368
						OGISTICS	5						
					Logist	ics Support	Table						
Name	Т	vne	Latitude	Longitude	Address	County	Owner		Διτροςς	Descrin	tion	State	Sect
indine		, p.c.	(Decimal Degrees)	(Decimal Degrees)		county		,	Limitations			State	
Portage Pu Marina Manageme Inc.	blic B	oat Launch	41.6182	68 -87.174169	1200 Marina Way, Portage, IN 46368	Lake	Portage Manage	e Public Marina ement, Inc.	Must contact marina for access	Three b approxi mile fro Michiga Portage Waterw	poat es located imately 1 om Lake an on the e-Burns vav	Illinois	SLM
Portage Pu Marina Manageme Inc.	blic S ent,	taging Area	41.6182	68 -87.174169	1200 Marina Way, Portage, IN 46368	Lake	Portage Manage	e Public Marina ement, Inc.	Must contact marina for acces	Three s launche approx mile fr Michig Portag Wat	ee boat es located kimately 1 rom Lake an on the ge-Burns terway	Illinois	SLM
Indiana D State P	unes S ark	taging Area	41.6623	04 -87.06298	1600 North 25 East, Chesterton, IN 46304	Lake	Indiana Natu	a Department of ural Resources	Must contact park for access. There are no boat launches	Large p where equipm personr stage. A draft ve get acco the wat there is	arking lot eent or nel can A shallow essel can ess from eer but not	Illinois	SLM

Port of Indiana- Burns Harbor	Staging Area	41.62365	-87.15452	6625 S Boundary Drive Portage, IN 46368	Lake	Port of Indiana-Burns Harbor, Warren Fasone 219-787-8636	The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Large port area with several companies working on the property	Illinois	SLM
Port of Indiana- Burns Harbor	Regulated Facility	41.62365	-87.15452	6625 S Boundary Drive Portage, IN 46368	Lake	Port of Indiana-Burns Harbor, Warren Fasone 219-787-8636	The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Large port area with several companies working on the property.	Illinois	SLM
Carmeuse North American Buffington	Regulated Facility	41.63951	-87.4085	1 N Carmeuse Drive Gary, IN 46402	Lake	Carmeuse North America Buffington	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles limestone	Illinois	SLM
				C	OMMENTS					



GRS: Naval Station Gre	eat Lakes			GRS #	C7
Protection Priority Sites / Ranking:		Medium (C)			L
		LOCATION IN	FORMATION		
State: IL			County: Lake		
		CONTACT INF	ORMATION		
Naval Station Great Lakes: 847-688-243	30				
North Point Marina: 847-746-2845, man	naged by Illinois Dep	artment of Natural Resources			
Adeline Jay Geo-Karis Illinois Beach Sta	ate Park: 847-662-48	311, managed by Illinois Departr	ment of Natural R	esources	
Lake Forest Boat Launch: City of Lake F	Forest 847-234-2600				
		RESOURCES AT RISK	CHARACTER		
Managed Areas:	North Point Marina:	847-746-2845 managed by Illir		of Natural Resource	200
Manageu Areas.	Adeline Jay Geo-Ka	ris Illinois Beach State Park: 847	7-662-4811 man	aged by Illinois De	partment of Natural Resources
	Lake Forest Boat La	unch: City of Lake Forest 847-2	34-2600		
Shoreline Type:	Mixed Sand and Gra	avel Beaches, Exposed Rocky S	Shores, Sheltered	Rocky Shores, Sh	neltered Solid Manmade Structures,
Sensitive Habitat:	No sensitive wildlife	refuges or fish hatcheries in this	s area		
Wildlife:	Fish and migratory b	pirds			
Federally Threatened /	Threatened - Grav/ti	mber Wolf Longnose Sucker K	(irtland's Snake F	Black-billed Cucko	o Cerulean Warbler, Beaked Spike Rush, Banded
Endangered Species:	Killifish, Starhead Tc	ppminnow, Blackchin Shiner, Do	wny Solomon's S	eal and Flat-leave	ed Bladderwort
			,		
	Endangered - Uplan	d Sandpiper, Piping Plover, Sma	all Yellow Lady's	Slipper, Showy La	dy's Slipper, Northern Cranesbill, Yellow Mud Turtle,
	Karner Blue Butterfly	/, Pugnose Shiner, Blacknose S	Shiner, Black-crow	ned Night-Heron,	Osprey and Yellow-headed Blackbird.
Socio-Economic Resources:	National Gypsum, N	orth Point Marina, Naval Station	n Great Lakes, Wa	ater Intakes LAT 4	2.2836773822 LONG -87.8159530622
		SPILL RES	SPONSE		
Predicted Behavior:	Currents: 0.2 to 0.4 r	mph with a maximum of 1.3 mph	h during periods c	of heavy runoff in c	channels.
	Wind: Prevailing wine	d south-southwest average spe	ed of 9 knots, ma	x speed of 73 kno	ts during winter months.
	Weather: Low -27 °F	F. High 104 °F. Average 29 °F to	0.5 leel. 84 °F		
	Ice: Heavy ice during	g winter months			
Response Considerations:	Water Depth: 20 to 3	BOft			
	Substrate: Mud and	Sand			
	Anchor Points: The C	buter harbor basin provides goo	d anchorage	during winter man	the second s
	Tourism: Low	r, High 104 F, Average 29 F to	0 04 F Heavy ice	during winter mor	iuis
	Vessel Traffic: Mode	erate			
	Sensitive Habitats ar	nd Resources: Numerous threat	tened or endange	red migratory bird	S.
		Recommended Spill Res	sponse Strategy	i able	

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementa	ition 	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	Sector	Address	
Naval Station Great Lakes (C7)	42.3076	-87.8291	Exclusion	Boom mou jetty tip to j diversion bo the better o upon nature direction of anchoring lo	th of harbor from etty tip. Offshore ioming may be ption depending e of discharge and travel. Ample iocations on shore.	1000'	Medium	1-Nov-2016	IL	Lake	SLM	2601 E Paul Jones St, Great Lakes, IL 60088	
						.OGIS1	FICS						
					Logist	ics Sup	port Table						
Name	Туре	Latitu (Deci Degre	ide L mal (l ees) D	ongitude Decimal Degrees)	Address	Count	ty O	wner / POC	Access Limitatio	ns	Description	State	Secto
Waukegan Harbor	Boat Launc	h 42.36	-5	87.824722	55 North Harbor Place, Waukegan, IL 60085	Lake	WDi	aukegan Port strict	Gate acce gate is clo Waukegar District ha be contact	ss. If T sed s n Port a s to c ied. c f (c c t	Three boat slips. Parking is available but could be limited during summer. JSCG Auxiliary Flotilla 41-5 9WR) has an operation center in a double wide railer	IL	SLM
Lake Forest Boat Launch	Boat Launc	h 42.250	0278 -8	37.818611	Lake Forest Harbor, IL 60045	Lake	Ci 84	y of Lake Forest 7-234-2600	The road t launch is narrow an steep	to the T la d [li is	wo slips to aunch boats. Daily pass for aunching a boat s \$6.	IL	SLM

Naval Station Great Lakes	Boat Launch	42.3093	-87.83245	2601E Paul Jones St. , Great Lakes, IL	Lake	Department of Navy	Boat launch is located on a Naval Base and access will be limited to authorized personnel only.	One slip to launch boats.	IL	SLM	
North Point Marina	Boat Launch	42.489722	-87.803889	701 North Point Dr., Winthrop Harbor, IL 60096	Lake	Illinois Department of Natural Resources 847-746-2845	No access limitations.	5 boats launches. No fee to launch boats. Fuel dock on site.	IL	SLM	
Waukegan Harbor	Staging Area	42.36	-87.824722	55 North Harbor Place, Waukegan, IL 60085	Lake	Waukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three boat slips. Parking is available but could be limited during summer. USCG Auxiliary Flotilla 41-5 (9WR) has an operation center in a double wide trailer	IL	SLM	
Adeline Jay Geo-Karis Illinois Beach State Park	Staging Area	42.430347	-87.805495	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	ΙL	SLM	
Adeline Jay Geo-Karis Illinois Beach State Park	ICP	42.430347	-87.805495	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	IL	SLM	

Waukegan	ICP	42.36	-87.824722	55 North Harbor	Lake	Waukegan Port	Gate access. If	Three boat	IL	SLM	
Harbor				Place,		District	gate is closed	slips. Parking is			l
				Waukegan, IL			Waukegan Port	available but			l
				60085			District has to	could be limited			l
							be contacted.	during summer.			l
								USCG Auxiliary			l
								Flotilla 41-5			l
								(9WR) has an			l
								operation			l
								center in a			l
								double wide			l
								trailer			l
National Gungum	Regulated	42 26927	07 07272	E1E Son Horso	Lako	National Gungum	This is a	The facility	11	SLM	
National Gypsum	Facility	42.50627	-07.02372	Drive Waukegap	Lake	National Gypsuin	regulated 22 CEP	handles gynsum	12	SLIVI	
	Facility						105 facility	nationes gypsuiti			l
				IL 00085				I S flaggod			l
							ACCESS to a	US hagged			l
							secure or	Lakers.			l
							restricted area				l
							hu facility				l
							by facility.				1
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GRS:	Waukegan Be	each			GRS #	C8
Protection Prio	rity Sites / Rankir	g: Medium Me	dium (B)			1
			LOCATION INFORM	MATION		
State: IL			County	y: Lake		
			CONTACT INFORM	IATION		
Naval Station Gr	eat Lakes: 847-68	8-2430				
North Point Mari	na: 847-746-2845,	managed by Illinois Departm	nent of Natural Resources			
Adeline Jay Geo	-Karis Illinois Bead	h State Park: 847-662-4811,	managed by Illinois Department o	of Natural R	esources	
Lake Forest Boa	t Launch: City of L	ake Forest 847-234-2600				
National Gypsun	n: 847-623-8100					
		R	ESOURCES AT RISK CHA	RACTER	RISTICS	
Managed Areas	:	Naval Station Great Lake	es: 847-688-2430			
		North Point Marina: Illing	bis Department of Natural Resource	ces: 815-77	2-4708	
		Adeline Jay Geo-Karis II	linois Beach State Park: Illinois De	epartment c	of Natural Resourc	ces: 815-772-4708
<u></u>		Lake Forest Boat Launc	h: City of Lake Forest 847-234-260	00		
Shoreline Type	1	Mixed Sand and Gravel	Beaches, Exposed Rocky Shores,	, Sheltered	Rocky Shores, Sr	neltered Solid Manmade Structures,
Sensitive Habit	at:	No sensitive wildlife refu	ges or fish hatcheries in this area			
Wildlife:		Fish and migratory birds				
Federally Threa	tened /	Threatened - Gray/timbe	er Wolf, Longnose Sucker, Kirtland	l's Snake, E	Black-billed Cucko	o, Cerulean Warbler, Beaked Spike Rush, Banded
Endangered Sp	ecies:	Killifish, Starhead Topmi	innow, Blackchin Shiner, Downy S	Solomon's S	eal and Flat-leave	ed Bladderwort
		Endangered - Upland Sa	andpiper, Piping Plover, Small Yell	low Lady's	Slipper, Showy La	ady's Slipper, Northern Cranesbill, Yellow Mud Turtle,
		Karner Blue Butterfly, Pu	ugnose Shiner, Blacknose Shiner,	Black-crow	ned Night-Heron,	Osprey and Yellow-headed Blackbird.
Socio-Economi	c Resources:	National Gypsum, North	Point Marina, Naval Station Great	t Lakes, Wa	ater Intake: Lat 42	.3804759182, Long-87.8132065575
			SPILL RESPON	NSE		
Predicted Beha	vior:	Currents: 0.2 to 0.4 mph	with a maximum of 1.3 mph durin	ng periods o	of heavy runoff in c	channels.
		Wind: Prevailing wind so	outh-southwest average speed of s	9 knots, ma	x speed of 73 kno	ts during winter months.
		Waves: oscillations up to	2 feet. Wave heights up to 6.5 fe	et.		
		Ice: Heavy ice during wi	gii 104 F, Average 29 F to 64 F nter months			
Response Cons	siderations:	Water Depth: 20 to 30ft				
•		Substrate: Mud and San	d			
		Anchor Points: The oute	r harbor basin provides good anch	norage		
		Weather: Low -27 °F, Hi	gh 104 °F, Average 29 °F to 84 °F	Heavy ice	during winter mor	nths
		Tourism: Low				
		Vessel Traffic: Moderate	esources: Numerous threatened (or ondanco	red migratory bird	
			Recommended Spill Response	e Strateov	Table	٥.

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation		Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	Sector	Address	
Waukegan Beach (C8)	42.3963	-87.802	Diversion	Dependent upo of plume travel, diversion boomi strategy used. A done offshore in	n the direction exclusion or ing may be the nchoring can be n either case.	-OGIS	Medium TICS	1-Nov-2016	IL	Lake	SLM	201 N Sea Horse Dr, Waukegan, IL 60085	
Name	Туре	Lat (De De	titude ecimal grees)	Longitude (Decimal Degrees)	Address	Coun	ty C	Dwner / POC	Access Limitations	Desci	ription	State	Sector
Waukegan Harbor	Boat Laund	h 42.3	36	-87.824722	55 North Harbor Place, Waukegan, IL 60085	Lake	v	Vaukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three Parkin; availat e could I during USCG / Flotilla (9WR) operat in a do trailer	boat slips. g is ole but oe limited summer. Auxiliary 41-5 has an ion center uble wide	IL	SLM

Lake Forest Boat Launch	Boat Launch	42.250278	-87.818611	Lake Forest Harbor, IL 60045	Lake	City of Lake Forest 847- 234-2600	The road to the launch is narrow and steep	Two slips to launch boats. Daily pass for launching a boat is \$60.	IL	SLM	
North Point Marina	Boat Launch	42.489722	-87.803889	701 North Point Dr., Winthrop Harbor, IL 60096	Lake	Illinois Department of Natural Resources 847- 746-2845	No access limitations.	5 boats launches. No fee to launch boats. Fuel dock on site.	IL	SLM	
Waukegan Harbor	Staging Area	42.36	-87.824722	55 North Harbor Place, Waukegan, IL 60085	Lake	Waukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three boat slips. Parking is available but could be limited during summer. USCG Auxiliary Flotilla 41-5 (9WR) has an operation center in a double wide trailer	IL	SLM	
Adeline Jay Geo- Karis Illinois Beach State Park	Staging Area	42.430347	-87.805495	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	IL	SLM	
Adeline Jay Geo- Karis Illinois Beach State Park	ICP	42.430347	-87.805495	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	IL	SLM	

Managan Do A.2.00 Maragan District Aussign District Aussign <thdistrict aussign<="" th=""></thdistrict>		Maukogan		12.26	07 07 1777	EE North Harbor	Laka	Maukagan Port District	Cate access If	Three heat cline	L u	CI M
Hardor II. BODAS BALANCE II. B		waukegan	ICP	42.50	-07.024722		Lake	Waukegan Port District		Three boat slips.	IL IL	SLIVI
Image Image <th< td=""><td></td><td>Harbor</td><td></td><td></td><td></td><td>Place, Waukegan,</td><td></td><td></td><td>gate is closed</td><td>Parking is</td><td></td><td></td></th<>		Harbor				Place, Waukegan,			gate is closed	Parking is		
Image: Second						IL 60085			Waukegan Port	available but		
Image: series of the									District has to be	could be limited		
Image: Section of Constraints Image: Section of Constraints Section of Constraints Section of Constraints Section of Constraints National Gypsum Regulated Facility 42.36327 87.85372 515.569 Hone Drive Vaulegan, Li doube Section of Constraints National Gypsum The facility in a cloude value val									contacted.	during summer.		
Image:										USCG Auxiliary		
Institutional Gypoum Regulated Facility 42.36827 187.82372 515 Sea Horse Drive Maulegan, IL 60085 Lake National Gypoum This is a regulated 33 CF 105 Gality. Access to a secure or restricted are must be granted by facility. IL SLM G										Flotilla 41-5		
Institual Gypsum Regulated 42.86827 487.82372 515 Saa Horrs Drive Walkegan, Li 60085 National Gypsum This is a regulated 31.07.07. This is a regulated 31.07.07. Li L maddle gypsum SLM L View Walkegan, Li 60085 Li Ba National Gypsum This is a regulated 31.07.07. Li L maddle gypsum SLM L View Walkegan, Li 60085 Li 60085 Li 60085 Li 60085 National Gypsum This is a regulated 31.07.07. Li L maddle gypsum SLM L View Walkegan, Li 60085 Li 60085 Li 60085 Li 60085 Li 100000 Li 100000 Li 100000 Li 100000 Li 100000 Li 1000000 Li 100000 Li 100000 Li 100000 Li 100000 Li 1000000 Li 10000000 Li 10000000 Li 10000000 Li 10000000 Li 10000000 Li 10000000 Li 1000000000 Li 1000000000000 Li 1000000000000000 Li 10000000000000000000000 Li 1000000000000000000000000000000000000										(9WR) has an		
Institutional Grypsum Regulated Facility 42.36827 49.7.82372 515 Sea Horse Drive Waukegan, IL 60085 Lake National Grypsum This is a regulated 33 CFR Access to a secure or restricted area must be granted by facility. IL SLM G										operation center		
Image Image <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>in a double wide</td><td></td><td></td></th<>										in a double wide		
Indicate of the second secon										trailor		
National Gypsun Regulated Facility 42.36827 437.82372 515 Sea Horse Drive Waukegan, IL 60085 Lake National Gypsun This is a regulated 33.07K Access to a second or excess US flagged Lakers. IL models gypsun Lakers. IL models gypsun L										trailer		
Individual opposition regulated 30 CPR rescarse regulated 30 CPR individual opposition rescarse in a constraint opposition rescarse constraint opposition rescarse in a constr		National Gungum	Pogulated	12 26927	07 07277	E1E Son Horso	Lako	National Gunsum	This is a	The facility		SLM
Pacinty Unive valuegan, IL 60085 Image valuegan, IL 60085 Image valuegan, Valueg		National Gypsum		42.30827	-87.82372	515 Sea Horse	Lake	National Gypsum			IL.	SLIVI
Lisudes Andreams and the series of the second secon			Facility			Drive Waukegan,			regulated 33 CFR	nandles gypsum		
Access to a secure or restricted area must be granted by facility. Lakes.						IL 60085			105 facility.	rock and receives		
image: secure or mesticide area must be granted by facility: lakers.									Access to a	US flagged		
Image: Comments Image: Comments									secure or	Lakers.		
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Image: Comments by facility. Image: Comments									must be granted			
									by facility.			
COMMENTS												
				•		C	OMMENTS					
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GRS: Central Pa	ark South		G	RS #	C	9	
Protection Priority Sites / Ranking:		Central Park South	Priority B (Med	ium)			
		LOCATION INFORM	IATION	,			
State: Illinois			County: Lake				
		CONTACT INFORM	ATION				
City of Lake Forest (847)234-2600 Winnetka Park District (847)501-2040							
Park District of Highland Park (847)831-3810	7/7-7182						
National Response Center (800)424-8802	141-1102						
	RESOU	RCES AT RISK CHA	RACTERISTICS				
Managed Areas:	Lloyd Park (Wi	nnetka Park District 847-50)1-2040)				
Shoreline Type:	Mixed sand and	d gravel beaches, man-ma	de structures, shelte	ered scarps			
Sensitive Habitat:	Mixed sand and	d gravel beaches					
Wildlife:	Fish and migra	tory birds					
Federally Threatened / Endangered Species	Piping Plover (eared Bat (Three	Endangered), Hine's Emer eatened), Red Knot (Threa	ald Dragonfly (Enda tened), Eastern Ma	ingered), Kar ssasauga (Th	mer Blue E	Butterfly (Endan)	gered), Northern Long-
Socio-Economic Resources:	Multiple water i Glencoe Beach Ramp is a publ	ntakes along the coast of I n is a recreational beach, R ic boat launch	Lake Michigan, Lloy Cosewood Park has	d park is a re sand beache	ecreational es for recre	l beach area wit eational use, Pa	h a boat launch, ırk Avenue Boating
		SPILL RESPON	SE				
Predicted Behavior:	Winds: The pre	evailing wind direction is W	est-Northwest whic	h has reache	ed a gust o	of 70 knots in 19	84. The highest average
	wind speed of Weather: Annu thunderstorms average high o	10 mph occurs in January. Ial precipitation is 32 inche each year. The hottest mo f 27F.	The lowest average s with the maximum nth is July with an a	e wind speed occurring du verage of 80	of 7 mph uring the s F, and the	occurs around a summer. There is coldest month	August. is a yearly average of 36 is January with an
Response Considerations:	Ice: A mild wint	er on Lake Michigan mear	s about 10-percent	coverage co	mpared to	an average 40	-percent coverage and
	an 80-percent o	coverage during a severe v	vinter. Maximum ice	e coverage oc	ccurs by m	hid-March, on th	e average, while decay
	Water Depth:	Averages from 15 feet to a	round 60 feet deep.				
	Recon	nmended Spill Response	Strategy Table				
Site IDLatitudeLongitudeI(Decimal(Decimal9Degrees)Degrees)	Response Implement Strategy	ation Min Boom Length	Priority Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address

Central Park South	42.1896	-87.7868	Exclusion F	Place boom from end of Central Park Pier to jetty outh of Central Park. This will prevent exposure of environmentally sensitive plants to discharged material. Diversion pooming is also available hould surf conditions be oo heavy.	600' OGISTIC:	Medium S Table	1-Nov- 2016	IL	Lake	SLM	21 Park Ave Park, IL 600	, Highland 35
Name	Туре	Latitude (Decima Degrees	E Longitude I (Decimal) Degrees)	e Address	County	Owner ,	/ POC	Acce Limi	ss tations	Description	State	Sector
Park Avenue Boating Ramp	Boat Ramp	42.1904	7 -87.78708	31 Park Ave, Highland Park, IL 60035	Lake	Park Dis Highlan 831-381	strict of d Park 84 LO	No a 7- limit	ccess ations	One boat launch that can be used for a fee. \$40 per day or \$70 for the weekend.	IL	SLM
Lake Forest Boat Launch	Boat Launcł	1 42.2502	78 -87.81861	.1 Lake Forest Harbor, IL 60045	Lake	City of L 847-234	.ake Fores I-2600	t The the l narr stee	road to aunch is ow and o	Two slips to launch boats. Daily pass for launching a boat is \$60.	IL	SLM
Lloyd Park	Boat Launch	n 42.115	-87.73	Lloyd Park, Winnetka, IL 60093	Lake	Winneth District 2040	ka Park 847-501-	The the l narro stee	road to aunch is ow and o	One boat launch. Launch season pass for non- residents is \$830. The launch is only staffed during the summer.	IL	SLM
Park Avenue Boating Ramp	Staging Area	a 42.1904	7 -87.78708	3 31 Park Ave, Highland Park. IL 60035	Lake	Park Dis Highlan 831-381	strict of d Park 84 LO	7- limit	ccess ations	One boat launch that can be used	IL	SLM

Π									for a fee. \$40					
									per day or					
									\$70 for the					
									weekend.					
	Waukegan	Staging Area	42.36	-87.824722	55 North	Lake	Waukegan Port	Gate access.	Three boat	IL	SLM			
	Harbor				Harbor Place,		District	If gate is	slips. Parking					
					Waukegan, IL			closed	is available					
					60085			Waukegan	but could be					
								Port District	limited during					
								has to be	summer.					
								contacted.	USCG					
									Auxiliary					
									Flotilla 41-5					
									(9WR) has an					
									operation					
									double wide					
									trailer					
	Waukegan	ICP	42.36	-87.824722	55 North	Lake	Waukegan Port	Gate access.	Three boat	IL	SLM			
	Harbor			0/102 // 22	Harbor Place,		District	If gate is	slips. Parking		0			
					Waukegan, IL			closed	is available					
					60085			Waukegan	but could be					
								Port District	limited during					
								has to be	summer.					
								contacted.	USCG					
									Auxiliary					
									Flotilla 41-5					
									(9WR) has an					
									operation					
									center in a					
									double wide					
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COMMENTS														
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GRS:	GRS: Burns Harbor Wes										C10		
Protection Price	ority Sites / Ra		Burns Harbor West, Priority B (Medium)										
				LO	LOCATION INFORMATION								
State: Indiana					County: Lake								
				CC	NTACT INFO	RMAT	ION						
Portage Public Port of Indiana- USCG Lake Mi National Respo	Marina Manag Burns Harbor (chigan Comma onse Center (80	ement, Inc 219) 787- Ind Center 00) 424-88	c. (219) 763-68 8636 [.] (414)747-718 02	33 2									
				RESOURCI	ES AT RISK C	IARA	CTERIS	STICS					
Managed Area	IS:			Portage Pub	lic Marina, Indiana	Dunes	State Pa	ırk (Indiaı	na Depart	ment of Na	tural Resources	;)	
Shoreline Type:				Sheltered so	Sheltered scarps in bedrock, man-made structures, sand beaches, extensive wetlands								
Sensitive Habi	itat:			Terrestrial pl	Terrestrial plants								
Wildlife:				Fish, piping	Fish, piping plovers ,and migratory birds								
Federally Thre	eatened / Enda	Piping Plove Satyr Butterf (Threatened	Piping Plover (Endangered), Hine's Emerald Dragonfly (Endangered), Karner Blue Butterfly (Endangered), Mitchell's Satyr Butterfly (Endangered), Indiana Bat (Endangered), Northern Long-eared Bat (Threatened), Red Knot (Threatened), Eastern Massasauga (Threatened)										
Socio-Econom	nic Resources	Water intake	Water intake located northwest of Grand Calumet River, Portage Public Marina, Dunes State Park,										
					SPILL RESP	ONSE							
Predicted Beh	avior:	Winds: High turbulence. ⁻ Weather: Ar There is a ye coldest mon	 Winds: High wind speeds up to 50+ MPH can be reached causing significant wave height and rough water turbulence. These winds are more prevalent during the winter months. Weather: Annual precipitation is 32 inches with the maximum occurring during the months of June and August. There is a yearly average of 36 thunderstorms each year. The hottest month is July with an average of 82F, and the coldest month is January with an average high of 30F. 										
Response Cor	nsiderations:			Ice: A mild w coverage an average, wh Water Depti Recomme	rinter on Lake Mic d an 80-percent c le decay begins a n: Averages from nded Spill Respo	higan m overage week o feet to nse Str	eans abo during a r two late around 2 rategy Ta	out 10-pe severe v er. 20 feet de ible	rcent cove vinter. Ma eep.	erage comp ximum ice	pared to an aver coverage occurs	age 40-percent s by mid-March, on the	
Site ID	Latitude (Decimal Degrees)	Longitud (Decimal Degrees)	e Respons Strategy	e Implementation	Min Boom Length	Pri	ority C L V	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	

Burns Harbor West	41.6346	-87.1699 E	xclusion An sho an eas dej plu cor	chor boom at the ore on the west end d the break wall on the it. Exact location will bend upon direction of me travel and weather nditions.	1000′	Medium	1-Nov- 2016	IN L	ake	SLM	W Boundary Ro Portage, IN 463	l, 68
				Logisti	DGISTICS	S						
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner /	POC	Access Limitatio	ons	Description	State	Sector
Portage Public Marina Management, Inc.	Boat Launch	41.618268	-87.174169	1200 Marina Way, Portage, IN 46368	Lake	Portage F Marina Managen	Public nent, Inc.	Must co marina f access	ntact for	Three boat launches located approximately 1 mile from Lake Michigan on the Portage-Burns Waterway	IN	SLM
Portage Public Marina Management, Inc.	Staging Area	41.618268	-87.174169	1200 Marina Way, Portage, IN 46368	Lake	Portage F Marina Managen	Public nent, Inc.	Must co marina f access	ntact for	Three boat launches located approximately 1 mile from Lake Michigan on the Portage-Burns Waterway	IN	SLM
Indiana Dunes State Park	Staging Area	41.62365	-87.15452	1600 North 25 East, Chesterton, IN 46304	Lake	Indiana Departm Natural R	ent of esources	Must co park for access. ⁻ are no b launche	ntact There poat s	Large parking lot where equipment or personnel can stage. A shallow draft vessel can get access from	IN	SLM
								the water but there is not launch.				
---	-----------------------	----------	-----------	---	------	--	---	--	----	-----	--	
Port of Indiana-Burns Harbor	Regulated Facility	41.62365	-87.15452	6625 S Boundary Drive Portage, IN 46368	Lake	Port of Indiana- Burns Harbor, Warren Fasone 219-787-8636	The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Large port area with several companies working on the property.	IN	SLM		
Port of Indiana-Burns Harbor	Regulated Facility	41.62365	-87.15452	6625 S Boundary Drive Portage, IN 46368	Lake	Port of Indiana- Burns Harbor, Warren Fasone 219-787-8636	The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Large port area with several companies working on the property.	IN	SLM		
Carmeuse North American Buffington	Regulated Facility	41.63951	-87.4085	1 N Carmeuse Drive Gary, IN 46402	Lake	Carmeuse North America Buffington	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles limestone	IN	SLM		

COMMENTS
GRP/GRS MAP



GRS:	Indiana Dunes	National Shor	e			GRS	#	C11		
Protection Priority Site	s / Ranking:		Indiana Dunes Nation	nal Shore, P	riority B (Med	ium)				
			LOCATION		IATION					
State: Indiana				Co	ounty: Porta	ige				
			CONTACT	INFORM	IATION					
Indiana Dunes National I Portage Public Marina M Port of Indiana-Burns Ha USCG Lake Michigan Co	ake Shore (219) 3 anagement, Inc. (2 rbor (219) 787-863 ommand Center (41	95-1882 19) 763-6833 6 4)747-7182								
National Response Cent	er (800) 424-8802	/								
			RESOURCES AT R	ISK CHA	RACTER	ISTICS				
Managed Areas:		Portage Pub	lic Marina, Indiana Dunes	State Park	(Indiana D	epartment	t of Natura	Resource	s)	
Shoreline Type:		Man-made s	tructures, mixed sand and	d gravel bea	aches, fringi	ing wetlan	ds			
Sensitive Habitat: Sand beaches										
Wildlife:		Fish, piping	plover, and migratory bird	S						
Federally Threatened / Species:	Endangered	Piping Plove (Endangered	r (Endangered), Hine's Ei I), Indiana Bat (Endanger	merald Drag ed), Northe	gonfly (Enda rn Long-ear	angered), ed Bat (Tl	Karner Blu hreatened)	ie Butterfly , Red Knot	(Endangered), t (Threatened),	Mitchell's Satyr Butterfly Eastern Massasauga
Socio-Economic Resou	Irces:	Porter Beach) n, Indiana Dunes State Pa	ark, Washin	gton Park B	leach is a	recreation	al beach w	ith multiple boat	t slips,
			SPILL	RESPON	ISE					
Predicted Behavior:		Winds: High winds are me Weather: Ar average of 3 average high	wind speeds up to 50+ M ore prevalent during the w nual precipitation is 32 in 6 thunderstorms each yea of 30F.	IPH can be vinter month ches with th ar. The hott	reached ca ns. ne maximun est month is	n occurring s July with	nificant wa g during th an averag	ve height a e months c ge of 82F, a	nd rough water of June and Aug and the coldest	turbulence. These just. There is a yearly month is January with an
Response Consideratio	ons:	Ice: A mild w percent cove or two later. Water Depth	vinter on Lake Michigan m erage during a severe win n: Averages from 8 feet to	ter. Maximu around 15	t 10-percent im ice cove feet deep.	t coverage rage occu	e compared rs by mid-l	d to an ave March, on t	rage 40-percen he average, wh	t coverage and an 80- ile decay begins a week
			Recommended Spil	r Response	strategy	anie				
Site ID Latitude (Decima Degrees	Longitude I (Decimal) Degrees)	Response Strategy	Implementation	Min Boom Length	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address

Indiana Dunes National Lake Shore	41.6535 -	87.0962 E	liversion [Due to the length of the and segment various sets of diversion booming help to minimize the impact on the shore. Determining direction of olumes travel and oredominant weather forces will help guide this strategy. Exclusion booming can be used, but waves conditions will severely impact this strategy. The segment of protection is 21nm long.	1000'	Medium	1-Nov- 2016	IN Por	ter SLM	Hill Dr, Dune . 46304	Acres, IN
				L	OGISTICS						
				Logistic	s Support 1	lable [
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	e Address	County	Owner /	POC	Access Limitation	Description s	State	Sector
Portage Public Marina Management, Inc.	Boat Launch	41.618268	-87.17417	7 1200 Marina Way, Portage, IN 46368	Porter	Portage Marina Manage	Public ment, Inc.	Must conta marina for access	act Three boat launches located approximately 1 mile from Lake Michigan on the Portage-Burns Waterway	IN	SLM
Portage Public Marina Management, Inc.	Staging Area	41.618268	-87.17417	7 1200 Marina Way, Portage, IN 46368	Porter	Portage Marina Manage	Public ment, Inc.	Must conta marina for access	act Three boat launches located approximately 1 mile from Lake Michigan on the Portage-Burns Waterway	IN	SLM

Indiana Dunes State Park	Staging Area	41.6623	-87.06298	1600 North 25 East, Chesterton, IN 46304	Porter	Indiana Department of Natural Resources	Must contact park for access. There are no boat launches	Large parking lot where equipment or personnel can stage. A shallow draft vessel can get access from the water but there is not launch.	IN	SLM	
Port of Indiana-Burns Harbor	Staging Area	41.62365	-87.15452	6625 S Boundary Drive Portage, IN 46368	Porter	Port of Indiana- Burns Harbor, Warren Fasone 219-787-8636	The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Large port area with several companies working on the property.	IN	SLM	
Port of Indiana-Burns Harbor	Regulated Facility	41.62365	-87.15452	6625 S Boundary Drive Portage, IN 46368	Porter	Port of Indiana- Burns Harbor, Warren Fasone 219-787-8636	The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Large port area with several companies working on the property.	IN	SLM	
Carmeuse North American Buffington	Regulated Facility	41.63951	-87.4085	1 N Carmeuse Drive Gary, IN 46402	Porter	Carmeuse North America Buffington	The facility is a regulated 33 CFR 105 facility. To	Regulated 33 CFR 105 facility that handles	IN	SLM	

					gain access to restricted or secure areas personnel will have to go through facility security.	limestone		
		Co	OMMENTS					
		GR	P/GRS MA	P				



GRS:		Trail C	eek in Hanse	en Park			GRS	#	C12		
Protection Price	ority Sites / Ra	anking:		Trail Creek, Priority I	B (Medium)						
				LOCATION		IATION					
State: Indiana					Co	ounty: Porte	er				
				CONTACT	INFORM	IATION					
Michigan City F Port of Indiana- USCG Lake Mi National Respo	Port Authority (2 Burns Harbor chigan Comma onse Center (80	219) 872-1712 (219) 787-863 and Center (41 00) 424-8802	5 4)747-7182								
				RESOURCES AT R	ISK CHA	RACTER	ISTICS				
Managed Area	IS:		Parks, Pres	serves, Beaches, etc. Area	as with an a	issigned ma	nager (sta	akeholder)			
Shoreline Type: Man-made structures, mixed sand and gravel beaches, wetlands											
Sensitive Habi	itat:		Mixed sand	d and gravel beaches							
Wildlife:			Fish, piping	g plovers ,and migratory bir	ds						
Federally Thre Species:	atened / Enda	ingered	Piping plov Northern Io	Piping plover (endangered), Karner blue butterfly (endangered), Mitchell's satyr butterfly (endangered), Indiana bat (endangered), Northern long-eared bat (threatened), Red knot (threatened)							
Socio-Econom	nic Resources	:	Washingto	Washington Park Beach is a recreational beach with multiple boat slips, Portage Public Marina							
				SPILL	RESPON	ISE					
Predicted Beh	avior:		Winds: Hig	h wind speeds up to 50+ N	/IPH can be	e reached ca	ausing sigr	nificant wa	ve height a	nd rough water	turbulence. These
			winds are r	nore prevalent during the v	vinter mont	hs.				<i>.</i>	
			Weather: A	Annual precipitation is 32 in	iches with t	he maximur	n occurring	g during th	ie months o	of June and Aug	just. There is a yearly
			average of	36 thunderstorms each ye	ar. The not	test month i	s July with	an avera	ge of 82F, a	and the coldest	month is January with
Response Cor	siderations.			winter on Lake Michigan m	heans abou	t 10-nercen	t coverage	compare	d to an ave	rade 40-percent	t coverage and an 80-
Response oor			percent co	verage during a severe win	ter Maximi	im ice cove	rade occu	rs hv mid-	March on t	he average wh	ile decay begins a week
			or two later	·			lage eeea	io by ma		ine average, mi	
			Water Dep	th: Averages from 8 feet to	around 20	feet deep.					
			•	Recommended Spil	I Response	e Strategy	Table				
Site ID	Latitude	Longitude	Response	Implementation	Min	Priority	Date	<u>State</u>	County	Sector	Address
	(Decimal	(Decimal	Strategy		Boom		Last				
	Degrees)	Degrees)			Length		Verified				

Trail Creek	41.7173 -	86.8885 Co ar Co	ontainment nd ollection	Utilize slow current areas to create collection pockets and to prevent material from entering protected areas. Boom placement will depend upon location of discharge. Anywhere along the creek provides ample anchoring positions and shore side access. The mouth of the marina at the entrance to Trail Creek is the best place to prevent material from entering should the discharge be in Lake Michigan.;	400'	Medium 1-Nov- 2016	IN Porter	SLM	E Street Bridge, Michigan City, II	N 46360	
				L	OGISTICS						
				Logisti	cs Support T	able					
Name	Туре	Latitude (Decimal Degrees)	Longitud (Decimal Degrees)	e Address	County	Owner / POC	Access Limitations	Description	State	Sector	
Washington Park Marina	Boat Launch	41.726987	-86.9060	076 200 Heisman Harbor, Michigan City, IN 46360	La Porte	Michigan City Port Authority 200 Heisman Harbor Road Michigan City, Indiana 46360 voice: (219) 872- 1712 fax: (219) 873-3250	Gate Access needed for boat launch. Need a key fob or harbor master to allow entry into slips.	Access off Franklin Street. Large parking lot, staging, Port Authority building, CG Station, DNR has boat lift	IN	SLM	

Portage Public Marina Management, Inc.	Boat Launch	41.618268	-87.174169	1200 Marina Way, Portage, IN 46368	Porter	Portage Public Marina Management, Inc.	Must contact marina for access	Three boat launches located approximately 1 mile from Lake Michigan on the Portage-Burns Waterway	IN	SLM	
Washington Park Marina	Staging Area	41.726987	-86.9060076	200 Heisman Harbor, Michigan City, IN 46360	La Porte	Michigan City Port Authority 200 Heisman Harbor Road Michigan City, Indiana 46360 voice: (219) 872- 1712 fax: (219) 873-3250	Gate Access needed for boat launch. Need a key fob or harbor master to allow entry into slips.	Access off Franklin Street. Large parking lot, staging, Port Authority building, CG Station, DNR has boat lift off riverside, CG AUX trailer, boat house, fuel doc pump out services.	IN	SLM	
Portage Public Marina Management, Inc.	Staging Area	41.618268	-87.174169	1200 Marina Way, Portage, IN 46368	Porter	Portage Public Marina Management, Inc.	Must contact marina for access	Three boat launches located approximately 1 mile from Lake Michigan on the Portage-Burns Waterway	IN	SLM	
Indiana Dunes State Park	Staging Area	41.662304	-87.06298	1600 North 25 East, Chesterton, IN 46304	Porter	Indiana Department of Natural Resources	Must contact park for access. There are no boat launches	Large parking lot where equipment or personnel can stage. A shallow draft vessel can get	IN	SLM	

Port of Indiana-Burns Harbor Port of Indiana-Burns Harbor	Staging Area Regulated Facility	41.62365	-87.15452	6625 S Boundary Drive Portage, IN 46368 6625 S Boundary Drive Portage, IN 46368	Porter	Port of Indiana- Burns Harbor, Warren Fasone 219-787-8636 Port of Indiana- Burns Harbor, Warren Fasone 219-787-8636	The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security. The port is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility	access from the water but there is not launch. Large port area with several companies working on the property. Large port area with several companies working on the property.	IN	SLM	
				GR	OMMENTS P/GRS MAI	D	security.				



GRS:	Offshore Vesse	ls	GRS #	C13
Protection Prior	ity Sites / Ranking:	High A		
		LOCATION INFORMATIO	N	
State: N/A		County: N/A		
		CONTACT INFORMATIO	N	
Key contacts for	this GRS area beyor	nd those as part of NRC notification.		
		RESOURCES AT RISK CHARACT	ERISTICS	
Managed Areas		Will vary depending on vessel location		
Shoreline Type:		Exposed Rocky Cliffs, Shelving Bedrock Shores, Eroding Scarps, RipRap, Groins, and Jetties, Sheltered Scarps, Sheltered Manmae Extensive Wetlands.	Sand Beaches, Mix le Structures, Shelte	eed Sand and Gravel Beaches, Gravel Beaches, ered Vegetated Low Banks, Fringing Wetlands,
Sensitive Habita	it:	Especially sensitive (to oiling) habitat in the GRP.		
Wildlife:		Bass, Lake Trout, Migratory Birds, Perch, Marine Birds, Mammals	, Insects, Aquatic Pla	ants, Terrestrial Plants
Federally Threa Endangered Sp	tened / ecies:	Mead Milkweed (T), Pitcher's Thistle (T), Karner Blue Butterfly (E)	, Indiana Bat (E)	
Socio-Economi	c Resources:	Will vary depending on vessel location. Chicago remains a large	port with a link betwe	een the Great Lakes and the Illinois Waterway system
		SPILL RESPONSE		
Predicted Beha	vior:	 -Temperature- Chicago, IL, is located on the extreme southwester location averages about 18 days each year with maximum temper average high of 84°F(28.9°C) and an average minimum of 63°F (1 and an average minimum of 14°F (-10°C). The highest temperature 1995 and the lowest temperature on record is -27°F (-32.8°C) record below 32°F (0°C) and an average twenty days each year records below 41°F(5°C) and every month except June, July, and August 4. Precipitation: The average annual precipitation for Chicago is 3 due mainly to convective activity, and a marked dry period occurs. The wettest month is August with 4.10 inches (104 mm) and the d thunderstorm days occur each year with June, July and August be averages about 38 inches (965mm) each year. January averages inches(203 mm) each year. Ten-inch (254 mm) snowfalls in a24-h and April. About seven days each year has a snowfall total greate through September. Fog is present on average 131 days each year maximum during the winter season. -Sea Conditions: Worst in October and November, when, lakewid time. In October, S through SW winds are most often responsible, of 10 feet or more are encountered 3 to 5 percent of the time from encountered. During the spring, high seas are infrequent, but 5-to percent in the N. Summer seas climb above 10 feet less than 1 perconditions: The prevailing wind direction in Chicago is the south-south is the windiest period and a maximum gust of 73 knots occurred in the windiest period and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73 knots occurred in the percond and a maximum gust of 73	rn shore of Lake Mic atures in excess of 9 7.2°C). January is th e on record for Chic orded in January 198 emperatures below has recorded temper 5.25 inches (895 mi during the winter mo riest, February, aver ing the most likely m about ten inches (25 our period have occur r than 1.5 inches (38 ar and is rather even le, wave heights of 5 while by November November through 10-foot seas develor recent of the time, wh hwest. The average March 1991.	chigan and in the northeastern portion of the state. The 90°F (32.2°C). July is the warmest month with an ne coolest month with an average high of 29°F (-2°C) ago is 104°F (40°C) recorded in June 1988 and July 85. About 132 days each year experience temperatures 5°F (-15°C). Every month has seen temperatures at or ratures below freezing (0°C). m). An annual maximum occurs during the summer, onths. Precipitation falls on about 190 days each year. ages only 1.37 inches (34.8 mm). An average of 37 nonths. Snow falls on about 68 days each year and 54mm) per year and December averages about eight urred in each month of December, January, February 8 mm) and snow has fallen in every month except June ly distributed throughout the year with a slight 5 to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been op 15 to 30 percent of the time in the S and 20 to 40 nile those in the 5- to 10-foot category drop to less than wind speed is nine knots. Winter through early spring

Response	Considerat	ions:	-Ice: A m coverage -Most of entrance lessen th formed b storm ge	ild winter on during a sev the harbors o channel. Par e need for dr y breakwater nerated wave	Lake Michi rere winter. In the E sid allel piers edging in the s that converses to preven	gan means Maximum le of Lake M have been he harbor e rerge to an nt them fron	about 10 ice cove Aichigan construct entrance. entrance m being co	0-percent rage occu are withir ted at the In addition opening conducted	coverag urs by min the mouths mouths on, severa in deep v d through	e compar d-March, uths of sm of these h al harbors water bey the confi	red to an ave on the avera nall rivers or narbors to aid s along this s rond the para ined channel	rage 40- ge, while in small I d in carry hore hav illel piers s betwee	percent c e decay b lakes con ving the ba ve been p s. These b en the pie	overage a egins a w nected to ar into dea rovided w basins disa rs and int	and an 80-percent reek or two later. Lake Michigan by an eper water and to rith stilling basins sipate the force of o the harbors.
					Recon	nmended 3	spill Res	ponse 5	trategy i	able					
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementatio	on	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Offshore Vessel	41.9595	-87.42688	Diversion	Prevent total I cargo from the vicinity of the Protect sensiti along southerr the lake from s impact.	oss of vessel e immediate casualty. ve shoreline n portion of significant	3000'		Yes	No	High	1-Nov-2016	N/A	N/A	SLM	Anywhere offshore, 2 miles or greater, with the winds out of the north.
		1					LOGIS	TICS			1	<u> </u>			
						Logis	tics Sup	port Tab	le						
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access	Limitations	5	Descript	ion		State	Sector	
Burnham Harbor	Boat Ramp	41.86042 3	-87.612269	1559 S. Lake Shore Dr., Chicago, IL 60605	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must c launch fee ma could t peak s	ontact har vessel. \$2 ay apply. P be limited o ummer mo	bor to 27 daily arking during onths.	Three lar dock. Ba	ne boat launch. throoms availat	Fuel ole.	IL	SLM	

Diversity Harbor	Boat Ramp	41.93079 6	-87.635251	2601 N. Cannon Dr., Chicago, IL 60614	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.	Two lane boat launch. Fuel dock. Bathrooms available	IL	SLM
31st Street Harbor	Boət Ramp	41.83461 7	-87.605087	3155 South Lake Shore Dr., Chicago, IL 60616	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM
Army Corps of Engineers Lot	Staging Area	41.88937	-87.610058	108 N. Streeter Dr., Chicago, IL 60611	Cook	Army Corps of Engineers	Gate access must be granted by Navy Pier. Permission must be granted by ACOE to use lot.	Large lot that is unused most of the year.	IL	SLM
Burnham Harbor	Staging Area	41.86042 3	-87.612269	1559 S. Lake Shore Dr., Chicago, IL 60605	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM

Diversy Harbor	Staging Area	41.93079 6	-87.635251	2601 N. Cannon Dr., Chicago, IL 60614	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Two lane boat launch. Fuel dock. Bathrooms available	IL	SLM
31st Street Harbor	Staging Area	41.83461 7	-87.605087	3155 South Lake Shore Dr., Chicago, IL 60616	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM
Cook County EOC	ICP	41.59932	-87.73484	15900 South Cicero Ave., Oak Forest, IL	Cook	Cook County Departmen t of Homeland Security and Emergency Manageme nt 312-603- 8180	Access must be granted by Cook County Department of Homeland Security and Emergency Management	Emergency Operations Center with several rooms available.	ΙL	SLM

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Navy Pier	ICP	41.8948	-87.5969	600 East Grand Ave., Chicago, IL 60611	Cook	Navy Pier Inc.	Parking is available for a fee. To get access to certain areas of Navy Pier access will have to be granted by Navy Pier employees.	Navy Pier is a 50 acre pier with shops and other attractions. Within the facility there are convention and conference spaces managed by SMG Worldwide.		SLM
Navy Pier	Regulated Facility (33 CFR 105)	41.8948	-87.5969	600 East Grand Ave., Chicago, IL 60611	Cook	Navy Pier Inc.	Parking is available for a fee. To get access to certain areas of Navy Pier access will have to be granted by Navy Pier employees.	Navy Pier is a 50 acre pier with shops and other attractions. Within the facility there are convention and conference spaces managed by SMG Worldwide.	IL	SLM
Shoreline Sightseeing	Regulated Facility (33 CFR 105)	41.88983	-87.61137	600 East Grand Ave., Chicago, IL 60611	Cook	Shoreline Sightseeing	Regulated	Regulated 33 CFR 105 that receives passengers vessels	IL	SLM

COMMENTS

Safety!



GRS:	Near Shore V	essel With Offshore Wind	GRS #	C14								
Protection Prio	rity Sites / Rankin	g: High A										
		LOCATION INFORMAT	ON									
State: Illinois		County: N/										
		CONTACT INFORMAT	ON									
Key contacts for	this GRS area bey	rond those as part of NRC notification.										
		RESOURCES AT RISK CHARA	TERISTICS									
Managed Areas	:	Jardine Water Purification Plant, Chicago Children's Museum,	Grant Park									
Shoreline Type	:	Exposed Rocky Cliffs, Shelving Bedrock Shores, Eroding Scar RipRap, Groins, and Jetties, Sheltered Scarps, Sheltered Manr Extensive Wetlands.	Exposed Rocky Cliffs, Shelving Bedrock Shores, Eroding Scarps, Sand Beaches, Mixed Sand and Gravel Beaches, Gravel Beaches, RipRap, Groins, and Jetties, Sheltered Scarps, Sheltered Manmade Structures, Sheltered Vegetated Low Banks, Fringing Wetlands, Extensive Wetlands.									
Sensitive Habit	at:	Chicago River, Chicago Harbor, Monroe Harbor ,Northerly Islar	d									
Wildlife:		Bass, Lake Trout, Migratory Birds, Perch, Marine Birds, Mamm	ils, Insects, Aqua	tic Plants, Terrestrial Plants								
Federally Threa Endangered Sp	tened / ecies:	Mead Milkweed (T), Pitcher's Thistle (T), Karner Blue Butterfly	lead Milkweed (T), Pitcher's Thistle (T), Karner Blue Butterfly (E), Indiana Bat (E)									
Socio-Economi	c Resources:	Maggie Daley Park , Lakefront Trail, Shedd Aquarium , Museur	Campus									
		SPILL RESPONSE										
Predicted Beha	vior:	 Temperature- Chicago, IL, is located on the extreme southwe location averages about 18 days each year with maximum tem average high of 84°F(28.9°C) and an average minimum of 63°F and an average minimum of 14°F (-10°C). The highest temperat 1995 and the lowest temperature on record is -27°F (-32.8°C) r below 32°F (0°C) and an average twenty days each year record below 41°F(5°C) and every month except June, July, and Augu - Precipitation: The average annual precipitation for Chicago due mainly to convective activity, and a marked dry period occu. The wettest month is August with 4.10 inches (104 mm) and the thunderstorm days occur each year with June, July and August averages about 38 inches (965mm) each year. January average inches(203 mm) each year. Ten-inch (254 mm) snowfalls in a2-and April. About seven days each year has a snowfall total great through September. Fog is present on average 131 days each maximum during the winter season. -Sea Conditions: Worst in October and November, when, lake time. In October, S through SW winds are most often responsite of 10 feet or more are encountered 3 to 5 percent of the time for encountered. During the spring, high seas are infrequent, but 5 percent in the N. Summer seas climb above 10 feet less than 1 20 percent in June and July. By August, the fall buildup begins. -Winds: The prevailing wind direction in Chicago is the south-s is the windiest period and a maximum gust of 73 knots occurred. 	tern shore of Lak eratures in exces (17.2°C). Januar ure on record for corded in Januar s temperatures b st has recorded te s 35.25 inches (8 rs during the wint driest, February, being the most lik es about ten inche -hour period have ter than 1.5 inche rear and is rather wide, wave height e, while by Novel m November thro to 10-foot seas of percent of the tim outhwest. The ave in March 1991.	e Michigan and in the northeas s of 90°F (32.2°C). July is the y is the coolest month with an Chicago is 104°F (40°C) recor- y 1985. About 132 days each y elow 5°F (-15°C). Every month emperatures below freezing (0° 95 mm). An annual maximum of er months. Precipitation falls of averages only 1.37 inches (32 kely months. Snow falls on abo es (254mm) per year and Dece e occurred in each month of De es (38 mm) and snow has faller evenly distributed throughout the s of 5 to 10 feet are encounter mber W through N winds often bugh March. Extreme waves of levelop 15 to 30 percent of the e, while those in the 5- to 10-fer erage wind speed is nine knots	stern portion of the state. The warmest month with an average high of 29°F (-2°C) rded in June 1988 and July year experience temperatures a has seen temperatures at or °C). occurs during the summer, n about 190 days each year. 4.8 mm). An average of 37 out 68 days each year and ember averages about eight ecember, January, February n in every month except June the year with a slight red about 35 percent of the generate rough seas. Seas i 20 to 22 feet have been time in the S and 20 to 40 oot category drop to less than a. Winter through early spring							

Response Considerations:	-Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent
	coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later.
	-Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by an
	entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to
	lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins
	formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of
	storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.
	Recommended Spill Response Strategy Table

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Near Shore Vessel with Offshore Wind (C14)	41.87732	-87.60472	Containment and Collection:	Prevent total loss of vessel cargo from the immediate vicinity of the casualty. Protect sensitive shoreline along southern portion of the lake from significant impact	3000'		Yes	No	High	1-Nov-2016	IL	N/A	SLM	Location will vary, but will encompass a discharge within 2 miles of shore. This will also be based upon a wind out of the south.

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10	OIC	TICC	
1 ()	(-1.5)	110.5	
	0.0	1100	

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
Burnham Harbor	Boat Ramp	41.86042 3	- 87.61226 9	1559 S. Lake Shore Dr., Chicago, IL 60605	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM

Diversy Harbor	Boat Ramp	41.93079 6	- 87 63525	2601 N.	Cook	Chicago Harbors (Joint	Must contact harbor to launch	Two lane boat launch.	IL	SLM
TIAIDOI		0	1	Dr		Park District and Westree	Parking could be limited during	Fuel dock. Bathrooms		
				Chicago.		Marinas)	neak summer months	available		
				IL 60614		(viai ilias)	peak summer months.			
31st	Boat Ramp	41.83461	-	3155	Cook	Chicago Harbors (Joint	Must contact harbor to launch	Three lane boat launch.	IL	SLM
Street		7	87.60508	South		venture between Chicago	vessel. \$27 daily fee may apply.	Fuel dock. Bathrooms		
Harbor			7	Lake		Park District and Westrec	Parking could be limited during	available.		
				Shore Dr.,		Marinas)	peak summer months.			
				Chicago,						
				IL 60616						
Army	Staging	41 88937	_	108 N	Cook	Army Corps of Engineers	Gate access must be granted by	Large lot that is	11	SIM
Corps of	Area	41.00007	87.61005	Streeter	COOK	Army corps of Engineers	Navy Pier Permission must be	unused most of the	15	SEIVI
Engineers	7 li Cu		8	Dr.,			granted by ACOE to use lot.	year.		
Lot				Chicago,						
				IL 60611						
	a . 1	11.000.10		4550.0		Ohio and Hankana (Isia)				
Burnham	Staging	41.86042	-	1559 S.	Cook	Chicago Harbors (Joint	Must contact harbor to use	Three lane boat launch.	IL	SLM
Harbor	Area	3	07.01220 Q	Lake Shore Dr		Park District and Westree	apply	Fuel dock. Bathrooms		
			3	Chicago.		Marinas)	apply.	avallable.		
				IL 60605		mannady				
Diversy	Staging	41.93079	-	2601 N.	Cook	Chicago Harbors (Joint	Must contact harbor to use	Two lane boat launch.	IL	SLM
Harbor	Area	6	87.63525	Cannon		venture between Chicago	parking lot. Parking fee will	Fuel dock. Bathrooms		
			1	Dr., Objecte		Park District and Westrec	apply.	available		
				Chicago,		Marinas)				
				IL 00014						
31st	Staging	41,83461	-	3155	Cook	Chicago Harbors (Joint	Must contact harbor to use	Three lane boat launch	11	SLM
Street	Area	7	87.60508	South		venture between Chicago	parking lot. Parking fee will	Fuel dock. Bathrooms		
Harbor			7	Lake		Park District and Westrec	apply.	available.		
				Shore Dr.,		Marinas)				
				Chicago,		,				
				IL 60616						

Cook	ICP	41.59932	-87.73484	15900	Cook	Cook County Department of	Access must be granted by Cook	Emergency Operations	IL	SLM
County				South		Homeland Security and	County Department of Homeland	Center with several		
EOC				Cicero		Emergency Management	Security and Emergency	rooms available.		
				Ave., Oak		312-603-8180	Management			
				Forest, IL						
Navy Pier	ICP	41.8948	-87.5969	600 East	Cook	Navy Pier Inc.	Parking is available for a fee. To	Navy Pier is a 50 acre	IL	SLM
				Grand			get access to certain areas of Navy	pier with shops and		
				Ave.,			Pier access will have to be granted	other attractions.		
				Chicago, IL			by Navy Pier employees.	Within the facility there		
				60611				are convention and		
								conference spaces		
								managed by SMG		
								Worldwide.		
Navy Pier	Regulated	41.8948	-87.5969	600 East	Cook	Navy Pier Inc.	Parking is available for a fee. To	Navy Pier is a 50 acre	IL	SLM
	Facility (33			Grand			get access to certain areas of Navy	pier with shops and		
	CFR 105)			Ave.,			Pier access will have to be granted	other attractions.		
				Chicago, IL			by Navy Pier employees.	Within the facility there		
				60611				are convention and		
								conference spaces		
								managed by SMG		
								Worldwide.		
Shoreline	Regulated	41 88983	-87 61137	600 East	Cook	Shoreline Sightseeing	Regulated	Regulated 33 CER 105	11	SIM
Sightseeing	Facility (33	11.00505	07.01107	Grand		Stratemic Significanting		that receives		
olgittocenig	CFR 105)			Ave				passengers vessels		
	0			Chicago, IL				passengere ressels		
				60611						
						COMMENTS				
							0			
						GRF/GR3 MA				



GRS: BP Whiting WC	D		GRS #	C15								
Protection Priority Sites / Ranking:	High (A)											
	LOCATION IN	FORMATION										
State: Indiana		County: Lake										
	CONTACT IN	ORMATION										
EPA Spill Hotline: 312-353-2318												
Indiana Department of Natural Resou	rces: 317-232-4200											
Indiana Department of Environmental Management 24- hour Emergency Response hotline: (888)-233-7745 or (317)- 233-7745												
USCG Marine Safety Unit Chicago : 630-986-2155												
USCG Sector Lake Michigan : 414-747-7170												
Managad Arago:	RESOURCES AT RISK		151165									
Managed Areas:	Jeorse Park, East Chicago Marina, Jeorse Park Bea	ach Indiana										
Shoreline Type:	Sheltered Scraps in Bedrock, Exposed Rocky Cliffs											
Sensitive Habitat:	Especially sensitive (to oiling) habitat in the GRP.											
Wildlife:	Bass, Lake Trout, Migratory Birds, Perch, Marine Bi	rds, Mammals, In	sects, Aquatic Pla	nts, Terrestrial Plants								
Federally Threatened /	Mead Milkweed (T), Pitcher's Thistle (T), Karner Blu	e Butterfly (E), In	diana Bat (E)									
Endangered Species:												
Socio-Economic Resources:	Buffington Harbor, Harbor marine Services, Boat F	Ramp, Harbor Mar	ine Services ,									
	SPILL RE	SPONSE										
Predicted Behavior:	 -Temperature- Chicago, IL, is located on the extrem location averages about 18 days each year with ma average high of 84°F(28.9°C) and an average minim and an average minimum of 14°F (-10°C). The high 1995 and the lowest temperature on record is -27°F below 32°F (0°C) and an average twenty days each below 41°F(5°C) and every month except June, July - Precipitation: The average annual precipitation for due mainly to convective activity, and a marked dry The wettest month is August with 4.10 inches (104 min) averages about 38 inches (965mm) each year. Janu inches (203 mm) each year. Ten-inch (254 mm) snot and April. About seven days each year has a snowf through September. Fog is present on average 131 maximum during the winter season. -Sea Conditions: Worst in October and November, time. In October, S through SW winds are most ofte of 10 feet or more are encountered 3 to 5 percent of encountered. During the spring, high seas are infree percent in the N. Summer seas climb above 10 feet 	ne southwestern s ximum temperatu num of 63°F (17.2 est temperature o (-32.8°C) records y ear records tem y, and August has or Chicago is 35.2 period occurs dur mm) and the dries and August being uary averages abo wfalls in a24-hou all total greater the days each year a when, lakewide, wh f the time from No quent, but 5- to 10 less than 1 perce	shore of Lake Mich res in excess of 90 PC). January is the in record for Chica ed in January 1985 peratures below 5 recorded tempera 25 inches (895 mm ring the winter mor st, February, avera the most likely mo but ten inches (254 r period have occu an 1.5 inches (38 nd is rather evenly wave heights of 5 ile by November V ovember through N l-foot seas develop ent of the time, whil	higan and in the northeastern portion of the state. The D°F (32.2°C). July is the warmest month with an e coolest month with an average high of 29°F (-2°C) go is 104°F (40°C) recorded in June 1988 and July 5. About 132 days each year experience temperatures of (-15°C). Every month has seen temperatures at or atures below freezing (0°C). h). An annual maximum occurs during the summer, of ths. Precipitation falls on about 190 days each year. ges only 1.37 inches (34.8 mm). An average of 37 boths. Snow falls on about 68 days each year and 4mm) per year and December averages about eight urred in each month December, January, February mm) and snow has fallen in every month except June <i>v</i> distributed throughout the year with a slight to 10 feet are encountered about 35 percent of the V through N winds often generate rough seas. Seas farch. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than								

	20 percent in June and July. By August, the fall buildup begins. -Winds: The prevailing wind direction in Chicago is the south-southwest. The average wind speed is nine knots. Winter through early spring is the windiest period and a maximum gust of 73 knots occurred in March 1991.														
Response	Response Considerations: -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. -Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by a entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors. Recommended Spill Response Strategy Table													ercent ater. Jan by an nd to asins rce of s.	
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementa	ation N	Vin Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
BP Whiting WCD (C15)	41.6539	-87.4384	Exclusion	Place boom inland of the EJ&E bridge prevent the material from reaching the coastal zone Anchor poin will be land based near t bridge	50 e to m e ts ts	00'	East Chicago Marina, Whiting Lakefront Park Whihala Boat Launch, Hammond Marina	Yes	Yes	High	1-Nov-2016	IN	Lake	SLM	Riley Rd, East Chicago, IN 46312
							LOG Logistics \$	Support Ta	ble						
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / PC	DC Access	Limitations	Description				St	ate	Sector

Π	Fact	Roat	11 6530	-87 /38/3	3301	Lako	City of East	Nono	The southeastern horder of the barbor borders Carmouse Lime and	Illinois	SLM
	Chicago Marina	Launch			Aldis St, East Chicago , IN 46312		Chicago Phone (219) 391-8482		Stone facility. Inside of the harbor there are two permanently moored casino boats.		
	Whiting Lakefront Park Whihala Boat Launch	Boat Launch	41.6826	-87.49013	117th/w hite Oak and Park Rd, Whiting, IN 46394	Lake	The City of Whiting, Indiana City Hall 1443 119th Street Whiting, IN 46394 PHONE: 219-659- 7700	None	Two slips available for public use.	Illinois	SLM
	Hammond Marina	Boat Launch	41.6944	87.508953	The Hammo nd Port Authorit y 701 Casino Center Drive Hammo nd, IN 46320	Lake	Hammond Port Authority Phone: 219.659.767 8 Email: marina@ha mmondmarin a.com	Must contact Hammond Marina to get gate access. There is a security guard post 24/7 at the entrance.	One slip and parking is available.	Illinois	SLM
	East Chicago Marina	Staging Area	41.6539	-87.43843	3301 Aldis St, East Chicago , IN 46312	Lake	City of East Chicago Phone (219) 391-8482	None	The southeastern border of the harbor borders Carmouse Lime and Stone facility. Inside of the harbor there are two permanently moored casino boats.	Illinois	SLM
	Whiting Lakefront Park Whihala Boat Launch	Staging Area	41.6826	-87.49013	117th/w hite Oak and Park Rd, Whiting, IN 46394	Lake	The City of Whiting, Indiana City Hall 1443 119th Street Whiting, IN 46394 PHONE: 219-659- 7700	None	Two slips available for public use.	Illinois	SLM

Hammond Marina	Staging Area	41.6944	-87.50895	The Hammo nd Port Authorit y 701 Casino Center Drive Hammo nd, IN 46320	Lake	Hammond Port Authority Phone: 219.659.767 8 Email: marina@ha mmondmarin a.com	Must contact Hammond Marina to get gate access. There is a security guard post 24/7 at the entrance.	One slip and parking is available.	Illinois	SLM
Arcelor Mittal Indiana Harbor	Regulat ed Facility	41.6577	-87.43837	3001 Dickey Rd East Chicago, IN 46311	Lake	Steve Rose, 219-399-1200	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles Coal, coke, taconite ore, finished steel	Illinois	SLM
Carmeuse North American Buffinton	Regulat ed Facility	41.6395	-87.4085	1 N Carmeus e Drive Gary, IN 46402	Lake	Carmeuse North America Buffington	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles limestone	Illinois	SLM
BP Whiting	Regulat ed Facility	41.6755	-87.47663	2815 Indianap olis Blvd. Whiting, IN 46394	Lake	BP, 219-473- 7700	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Refinery that is a regulated 33 CFR 105 and 154 facility. Handles group I, II, III, IV, V oils.	Illinois	SLM
North American Stevedorin g Company	Regulat ed Facility	41.6681	-87.5836	9301 S Kreiter Ave Iroquois Landing Port of Chicago, Chicago, IL 60617	Cook	lan Hirt		105	IL	SLM
Illinois Internation al Port District	Regulat ed Facility	41.7261	-87.5364	3600 E. 95th St. Chicago, IL 60617	Cook	Michael Simons		105	IL	SLM

Kindra Lake	Regulat	41.7167	-87.54055	9864 S	Cook	Don Campbell	105, 154	IL	SLM
Towing	ed Facility			Ave N					
	Facility			L 60617					
КСВХ	Regulat	41.6845	-87.5519	10730	Cook	Chenna	105	IL	SLM
	ed			South		Gunda			
	Facility			Burley					
				Ave,					
				U 60617					
Morton	Regulat	41.0333	-87.0333	3057 E.	Cook	Jeff Greco	105	IL	SLM
Salt	ed			100th					-
	Facility			Street					
				Chicago,					
		44 7004	07.5405	IL 60617	0.1				<i></i>
SH Bell	Regulat	41.7094	-87.5425	10218 S	Соок	Jim Langbenn	105, 126	IL	SLIVI
	Facility			O					
	i aointy			Chicago,					
				IL 60617					
Nidera	Regulat	41.6833	-87.5523	11700	Cook	Raul Melgoza,	105	IL	SLM
Dock	ed			South		Julie Curry,			
	Facility			Torrence		Dennis			
				Ave Chicago		Populorum			
				IL 60617					
Reserve	Regulat	41.6823	-87.5504	11600	Cook	Steven Petty,	105	IL	SLM
Marine	ed			South		John Matusik,			
Terminal	Facility			Burley		Hal Tolin			
				Avenue					
				U 60617					
LaFarge	Regulat	41.6595	-87.57185	2150 E	Cook	James	105	IL	SLM
Midwest	ed			130th St		Opolony			
	Facility			Chicago,					
			07 500 60	IL 60633					C 1.1.1
Kinder	Regulat	41.6681	-87.58362	12200 S	Cook	Jason Lorek	105, 154	IL	SLM
Chicago	eu Facility			Island					
enicago	ruenty			Avenue					
				Chicago,					
				IL 60633					
Emesco	Regulat	41.5088	-87.58195	12100 S	Cook	John	105	IL	SLM
Marine	ed			stoney		Schlossberg			
Chicago	Facility			ave					
enicago				Chicago,					
				IL 60633					
St. Mary's	Regulat	41.6718	-87.591	12101	Cook	Dan Brezich	105	IL	SLM
Cement	ed			Doty Ave					
Company	Facility			Chicago,					
				IL			1		

Calumet	Regulat	41.6895	-87.5514	10730 S	Cook	Simon	105	IL	SLM			
Transload	ed			Burley,		Beemsterboer						
Railroad	Facility			Chicago,								
				IL 60617								
Chicago	Regulat	41.6803	-87.5528	11701	Cook	RICK	105	IL	SLM			
Port Rail	ed			Torrence		DYKSTRA						
Co. and	Facility			Ave								
Midwest	-			Chicago,								
Marine				IL 60617								
terminal,												
INC												
GMI	Regulat	41.6741	-87.5803	1600 E.	Cook	Scott	105	IL	SLM			
Packaging	ed			122nd		Molenhouse,						
Company	Facility			Street,		Anthony Clark						
				Chicago,								
				IL 60633								
Compass	Regulat	41.7268	-87.5433	9200 S	Cook	Joseph	105	IL	SLM			
Minerals	ed			Ewing		Cummins,						
American,	Facility			Ave		Jerry Pedulek						
INC				Chicago,								
				IL 60617								
Z- Force	Regulat	41.7039	-87.5471	2900 E.	Cook	Jeff Creco	105	IL	SLM			
Transportat	ed			106th								
ion	Facility			Street								
				Chicago,								
				IL 60617								
						CON	IMENTS					
						GRP/	GRS MAP					



GRS:	St. Charles Air	Line Bridge			GRS #	C16						
Protection Prior	rity Sites / Ranking:		High (A)									
			LOCATION II	NFORMATION								
State: Illinois				County: Cook								
			CONTACT IN	NFORMATION								
EPA Spill Hotline USCG Marine Sa USCG Sector La Department of N EPA Illinois: 217 Chicago Fire Dep	USCG Marine Safety Unit Chicago : 630-986-2155 USCG Sector Lake Michigan : 414-747-7170 Department of Natural Resources Illinois: 847-608-3100 EPA Illinois: 217-782-3397 Chicago Fire Department: 312-745-3705 RESOURCES AT RISK CHARACTERISTICS											
		1	RESOURCES AT RIS	K CHARACTER	RISTICS							
Managed Areas	:	Ping Tom Park, Ro	osevelt Road ,Chicago River									
Shoreline Type:		Exposed Rocky Cliffs- Hard Man- Made Structures										
Sensitive Habita	at:	Ping Tom Memorial Park, Areas where the referenced Federally Threatened/ Endangered Species are found										
Wildlife:		Flowering Plants, Insects, Mammals, Birds, Aquatic Plants, Reptiles										
Federally Threa Endangered Sp	tened / ecies:	Piping Plover (E), R Hine's Emerald Dra	ed Knot (T), Eastern Prairie Fi gonfly (E), Rattlesnake-master	ringed Orchid (T), L r Borer Moth (Candi	eafy Prairie-clove idate), Northern Lo	r (E), Mead's Milkweed (T), Prairie Bush- clover (T), ong-eared Bat (T), Eastern Massasauga (T)						
Socio-Economi	c Resources:	ChinaTown Water	Faxi Stop, Canal Street Marina	, Chicago Watercra	aft, River City Mari	ina, Lakeshore Marine						
		•	SPILL RI	ESPONSE								
Predicted Beha	vior:	-Temperature- Chil location averages a average high of 84° and an average min 1995 and the lowes below 32°F (0°C) an below 41°F(5°C) an - Precipitation: The due mainly to conver The wettest month thunderstorm days averages about 38 inches(203 mm) ea and April. About set through September maximum during the -Sea Conditions: W time. In October, S of 10 feet or more a	cago, IL, is located on the extra bout 18 days each year with m F(28.9°C) and an average min imum of 14°F (-10°C). The hig t temperature on record is -27° ind an average twenty days each d every month except June, June eactive activity, and a marked dr is August with 4.10 inches (10° occur each year with June, Jul inches (965mm) each year. Ja ch year. Ten-inch (254 mm) sr ven days each year has a snow . Fog is present on average 13 e winter season. Vorst in October and November through SW winds are most of are encountered 3 to 5 percent	eme southwestern s maximum temperatu simum of 63°F (17.2 ghest temperature o °F (-32.8°C) recorde ch year records tem uly, and August has of for Chicago is 35.2 cy period occurs dur 4 mm) and the dries y and August being nuary averages abo nowfalls in a24-hour wfall total greater the anowfalls in a24-hour wfall total greater the anowfalls each year a er, when, lakewide, ten responsible, wh of the time from No	shore of Lake Micl res in excess of 9 PC). January is th on record for Chica ed in January 198 peratures below 5 recorded tempera 25 inches (895 mm ring the winter more the winter more the winter more the winter more the most likely more period have occu an 1.5 inches (38 and is rather event wave heights of 5 permode through M	higan and in the northeastern portion of the state. The 0°F (32.2°C). July is the warmest month with an e coolest month with an average high of 29°F (-2°C) ago is 104°F (40°C) recorded in June 1988 and July 5. About 132 days each year experience temperatures 5°F (-15°C). Every month has seen temperatures at or atures below freezing (0°C). n). An annual maximum occurs during the summer, nths. Precipitation falls on about 190 days each year. ages only 1.37 inches (34.8 mm). An average of 37 onths. Snow falls on about 68 days each year and 4mm) per year and December averages about eight urred in each month of December, January, February mm) and snow has fallen in every month except June y distributed throughout the year with a slight to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been						

Response	Considerat	ions:	encounte percent i 20 perce -Winds: is the win -Ice: A m	 encountered. During the spring, high seas are infrequent, but 5- to 10-foot seas develop 15 to 30 percent of the time in the S and 20 to 40 percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5- to 10-foot category drop to less than 20 percent in June and July. By August, the fall buildup begins. -Winds: The prevailing wind direction in Chicago is the south-southwest. The average wind speed is nine knots. Winter through early spring is the windiest period and a maximum gust of 73 knots occurred in March 1991. -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage and an 80-percent 										
-Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper w lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stil formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate storm generated waves to prevent them from being conducted through the confined channels between the piers and into the Recommended Spill Response Strategy Table											to Lake M leeper wa with stillir issipate th nto the ha	ichigan by an ter and to 1g basins 1e force of arbors.		
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Railroad Crossing (C16)	41.8607	-87.621	Exclusion	Boom off the canal or channel near the railroad crossing that is potentially affecting the coastal waters. These are typically in areas that will have ample shore access for recovery	500'	East Chicago Marina, Whiting Lakefro nt Park Whihala Boat Launch, Hammo nd Marina	Yes	Yes	High	1-Nov-2016	N/A	N/A	SLM	From Waukegan to Michigan City there are several railroad crossings that will need to be addressed individually.
	LOGISTICS													
						Logistics	s Support	Table						

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
East Chicago Marina	Boat Launch	41.6539	-87.4384	3301 Aldis St, East Chicago, IN 46312	Lake	City of East Chicago Phone (219) 391-8482	None	The southeastern border of the harbor borders Carmouse Lime and Stone facility. Inside of the harbor there are two permanently moored casino boats.	Illinois	SLM
Whiting Lakefront Park Whihala Boat Launch	Boat Launch	41.6826	-87.4901	117th/white Oak and Park Rd, Whiting, IN 46394	Lake	The City of Whiting, Indiana City Hall 1443 119th Street Whiting, IN 46394 PHONE: 219-659- 7700	None	Two slips available for public use.	Illinois	SLM
Hammond Marina	Boat Launch	41.6944	87.50895	The Hammond Port Authority 701 Casino Center Drive Hammond, IN 46320	Lake	Hammond Port Authority Phone: 219.659.7678 Email: marina@hammond marina.com	Must contact Hammond Marina to get gate access. There is a security guard post 24/7 at the entrance.	One slip and parking is available.	Illinois	SLM
East Chicago Marina	Staging Area	41.6539	-87.4384	3301 Aldis St, East Chicago, IN 46312	Lake	City of East Chicago Phone (219) 391-8482	None	The southeastern border of the harbor borders Carmouse Lime and Stone facility. Inside of the harbor there are two permanently moored casino boats.	Illinois	SLM

Whiting Lakefront Park Whihala Boat Launch	Staging Area	41.6826	-87.4901	117th/white Oak and Park Rd, Whiting, IN 46394	Lake	The City of Whiting, Indiana City Hall 1443 119th Street Whiting, IN 46394 PHONE: 219-659- 7700	None	Two slips available for public use.	Illinois	SLM
Hammond Marina	Staging Area	41.6944	-87.509	The Hammond Port Authority 701 Casino Center Drive Hammond, IN 46320	Lake	Hammond Port Authority Phone: 219.659.7678 Email: marina@hammond marina.com	Must contact Hammond Marina to get gate access. There is a security guard post 24/7 at the entrance.	One slip and parking is available.	Illinois	SLM
Arcelor Mittal Indiana Harbor	Regulated Facility	41.6577	-87.4384	3001 Dickey Rd East Chicago, IN 46311	Lake	Steve Rose, 219-399- 1200	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles Coal, coke, taconite ore, finished steel	Illinois	SLM
Carmeuse North American Buffinton	Regulated Facility	41.6395	-87.4085	1 N Carmeuse Drive Gary, IN 46402	Lake	Carmeuse North America Buffington	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles limestone	Illinois	SLM
BP Whiting	Regulated Facility	41.6755	-87.4766	2815 Indianapolis Blvd. Whiting, IN 46394	Lake	BP, 219-473-7700	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Refinery that is a regulated 33 CFR 105 and 154 facility. Handles group I, II, III, IV, V oils.	Illinois	SLM

North American	Regulated	41.6681	-87.5836	9301 S	Cook	lan Hirt	105	IL	SLM
Stevedoring company	Facility			Iroquois Landing Port					
				of Chicago, Chicago, IL 60617					
Illinois International Port District	Regulated Facility	41.7261	-87.5364	3600 E. 95th St. Chicago, IL 60617	Cook	Michael Simons	105	IL	SLM
Kindra Lake Towing	Regulated Facility	41.7167	-87.5406	9864 S Ave N Chicago, IL 60617	Cook	Don Campbell	105, 154	IL	SLM
КСВХ	Regulated Facility	41.6845	-87.5519	10730 South Burley Ave, Chicago, IL 60617	Cook	Chenna Gunda	105	IL	SLM
Morton Salt	Regulated Facility	41.0333	-87.0333	3057 E. 100th Street Chicago, IL 60617	Cook	Jeff Greco	105	IL	SLM
SH Bell	Regulated Facility	41.7094	-87.5425	10218 S Avenue O Chicago, IL 60617	Cook	Jim Langbehn	105, 126	IL	SLM
Nidera Dock	Regulated Facility	41.6833	-87.5523	11700 South Torrence Ave Chicago, IL 60617	Cook	Raul Melgoza, Julie Curry, Dennis Populorum	105	IL	SLM
Reserve Marine Terminal	Regulated Facility	41.6823	-87.5504	11600 South Burley Avenue Chicago, IL 60617	Cook	Steven Petty, John Matusik, Hal Tolin	105	IL	SLM
LaFarge Midwest	Regulated Facility	41.6595	-87.5719	2150 E 130th St Chicago, IL 60633	Cook	James Opolony	105	IL	SLM
Kinder Morgan Chicago	Regulated Facility	41.6681	-87.5836	12200 S Stony Island Avenue Chicago, IL 60633	Cook	Jason Lorek	105, 154	IL	SLM
Emesco Marine Services Chicago	Regulated Facility	41.5088	-87.582	12100 S Stoney Island Ave Chicago, IL 60633	Cook	John Schlossberg	105	IL	SLM
St. Mary's Cement Company	Regulated Facility	41.6718	-87.591	12101 Doty Ave Chicago, IL	Cook	Dan Brezich	105	IL	SLM
Calumet Transload Railroad	Regulated Facility	41.6895	-87.5514	10730 S Burley, Chicago, IL 60617	Cook	Simon Beemsterboer	105	IL	SLM
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Chicago Port Rail Co. and Midwest Marine terminal, INC	Regulated Facility	41.6803	-87.5528	11701 Torrence Ave Chicago, IL 60617	Cook	RICK DYKSTRA	105	IL	SLM
GMI Packaging Company	Regulated Facility	41.6741	-87.5803	1600 E. 122nd Street, Chicago, IL 60633	Cook	Scott Molenhouse, Anthony Clark	105	IL	SLM
Compass Minerals American, INC	Regulated Facility	41.7268	-87.5433	9200 S Ewing Ave Chicago, IL 60617	Cook	Joseph Cummins, Jerry Pedulek	105	IL	SLM
Z- Force Transportation	Regulated Facility	41.7039	-87.5471	2900 E. 106th Street Chicago, IL 60617	Cook	Jeff Creco	105	IL	SLM
				СОММ	ENTS				
				GRP/GR	S MAF	2			



GRS:	Railroad Along	Shoreline/ Williams- Davis Park	GRS #	C17
Protection Prio	rity Sites / Ranking:		High (A)	
		LOCATION	INFORMATION	
State: Illinois			County: Cook	
		CONTACT	NFORMATION	
EPA Spill Hotline	e: 312-353-2318			
USCG Marine S	afety Unit Chicago : 6	30-986-2155		
USCG Sector La	ake Michigan : 414-74	7-7170		
Department of N	latural Resources Illin	ois: 847-608-3100		
EPA Illinois: 217	-/82-339/	70F		
Chicago File De	partment. 312-745-37			
Managed Areas		RESOURCES AT RI	SK CHARACTERISTICS	
Managed Areas	•	Williams- Davis Park , Sounding Bronzeville Gat	hering Point, Morgan Point	
Shoreline Type	:	Sheltered Scraps in Bedrock, Exposed Rocky Cl	iffs	
Sensitive Habit	at:	Oakland Shoal, Burnham Park, Morgan Point		
Wildlife:		Flowering Plants, Insects, Mammals		
Federally Threa Endangered Sp	tened / pecies:	Mead's Milkweed (T), Pitcher's Thistle (T), Karne	r Blue Butterfly (E), Indiana Ba	ats (E)
Socio-Economi	c Resources:	Oak wood- 41s Street Beach , 31 st Harbor, Care	iree Boat Club	
		SPILL F	ESPONSE	
Predicted Beha	vior:	 Temperature- Chicago, IL, is located on the exploration averages about 18 days each year with average high of 84°F(28.9°C) and an average m and an average minimum of 14°F (-10°C). The h 1995 and the lowest temperature on record is -2 below 32°F (0°C) and an average twenty days e below 41°F(5°C) and every month except June, Precipitation: The average annual precipitation due mainly to convective activity, and a marked of the wettest month is August with 4.10 inches (10 thunderstorm days occur each year with June, June, June, 2003 mm) each year. Ten-inch (254 mm) and April. About seven days each year has a snot through September. Fog is present on average 1 maximum during the winter season. Sea Conditions: Worst in October and Novematime. In October, S through SW winds are most of 10 feet or more are encountered 3 to 5 percerencountered. During the spring, high seas are in 	reme southwestern shore of La maximum temperatures in exce inimum of 63°F (17.2°C). Janua ighest temperature on record fo 7°F (-32.8°C) recorded in Janua ach year records temperatures I July, and August has recorded to in for Chicago is 35.25 inches (f dry period occurs during the wir 24 mm) and the driest, February July and August being the most I anuary averages about ten inch snowfalls in a24-hour period ha owfall total greater than 1.5 inch 31 days each year and is rathe per, when, lakewide, wave heigh often responsible, while by Novi to of the time from November th frequent, but 5- to 10-foot seas	ke Michigan and in the northeastern portion of the state. The ess of 90°F (32.2°C). July is the warmest month with an any is the coolest month with an average high of 29°F (-2°C) or Chicago is 104°F (40°C) recorded in June 1988 and July any 1985. About 132 days each year experience temperatures below 5°F (-15°C). Every month has seen temperatures at or temperatures below freezing (0°C). 895 mm). An annual maximum occurs during the summer, neter months. Precipitation falls on about 190 days each year. y, averages only 1.37 inches (34.8 mm). An average of 37 ikely months. Snow falls on about 68 days each year and nes (254mm) per year and December averages about eight ve occurred in each month of December, January, February tes (38 mm) and snow has fallen in every month except June r evenly distributed throughout the year with a slight that of 5 to 10 feet are encountered about 35 percent of the ember W through N winds often generate rough seas. Seas rough March. Extreme waves of 20 to 22 feet have been develop 15 to 30 percent of the time in the S and 20 to 40

-																		
					percer 20 per -Wind is the	nt in the N. Summer seas rcent in June and July. By Is: The prevailing wind di windiest period and a ma	climb abory August, the rection in Cation in Cation	ve 10 feet less ne fall buildup Chicago is the st of 73 knots (; than 1 µ begins. south-so occurred	percent of the outhwest. The in March 199	time, whil average \ 1.	e those in the speed	he 5- to is nine ł	10-foot ca <nots. td="" wir<=""><td>ategory dr</td><td>rop to less gh early sr</td><td>than oring</td></nots.>	ategory dr	rop to less gh early sr	than oring	
Respon	se Con	sidera	tions:		-Ice: A	A mild winter on Lake Mic	higan mea	ns about 10-pr	ercent co	overage comp	ared to ar	n average 4	0-perce	nt covera	ge and ar	1 80-perce	nt	
				l	covera	age during a severe winte	ər. Maximu	m ice coverag	e occurs	by mid-March	ι, on the ε	average, wh	ile deca	ly begins	a week or	r two later.		
				I	-Most	of the harbors on the E s	ide of Lake	∍ Michigan are	within th	ne mouths of s	small river	's or in sma'	ll lakes (connecter	d to Lake /	Michigan ł	by an	
				l	entran	nce channel. Parallel pier	s have bee	n constructed	at the m	ouths of these	+ harbors '	to aid in car	rying th	e bar into	deeper w	vater and t	.0	
				l	lesser	the need for dredging in	the harbor	r entrance. In a	addition,	several harbo	rs along t	this shore h	ave bee	n provide	d with stil	ling basins	S	
				I	formed	d by breakwaters that cor	nverge to a	in entrance op	ening in	deep water be	yond the	parallel pie	rs. Thes	e basins	dissipate	the force of	of	
					storm	generated waves to prev	ent them fr	com being cond	ducted th	nrough the cor	ifined cha	annels betw	een the	piers and	l into the h	harbors.		
						Reco	ommended	J Spill Respor	nse Stra	itegy Table								
Site ID	Site ID Latitude Longitude Response Implementation Min Staging Boat Land Access Priority Date Last State County Sector Address (Decimal (Decimal Strategy Boom Area Access Verified Verified Verified																	
SILCIE	(Decima	al	(Decim	al Str	rategy	Implementation	Boom	Area	Access	Luna Access		Verified	State	County	<u> 30000</u>	Address		
	Degrees	5)	Degree	5)			Length											
AMTR	41.8212	·	-87.599	4 Ex	clusion	These are going to be more	500'	East	Yes	Yes	High	11-1-2016	N/A	N/A	SLM	From Wau	ikegan	
ACK Bailro						land side response	ide response Chicago to Michigan City igues such as barriers Marina. there are several											
ad						and trenching. These	trenching. These Whiting These											
Along						techniques are the best way	/	Lakefront								crossings t	that	
Shorel						to prevent discharged		Park								will need t	o be	
ine						material from reaching the		Whihala							!	addressed		
(C17)						lake in these areas.		Boat							!	individualiy	у.	
								Hammon							!	1		
	<u> </u>							d Marina							!			
								LOGISTIC	;S									
							Loc	uistics Suppo	rt Table									
Name		Туре		Latitude	Longit	tude Address	Count	Owner / POC	Acc	ess Limitations		Descrip	otion			State	Sect	
				(Decimal	(Decim	nal	У										or	
East Ob		2		Degrees	Degree			O'the of Fact				These		1 1000			C' MA	
East Cn Marina	icago	Boat La	aunch	41.6539	-87.43	-87.4384 3301 Aldis St, East Lake City of East None The southeastern border of the harbor Illinois SLM Chicago IN 46312 Chicago Phone										SLIVI		
TTICK THE						onlogg,		(219) 391-848	2			facility	. Inside of	the harbor	there are			
								1				two pe	rmanenth	y moored ca	asino boats.			
\//biting		Deatly		44 6926	97.4	001 117th/white Oak and	- Laka	The City of	No			Two di		- fer nubli			CLM	
Lakefror	nt	BOAT La	aunch	41.0020	-07.48	Park Rd. Whiting. IN	Lаке	Whiting, India	na	16		I WO SII	os avallau	le for public	; use.	lilinois	SLIVI	
Park Wh	nihala					46394		City Hall 1443										
Boat La	unch							119th Street										
								46394 PHONE	=:									
								219-659-7700										

Hammond Marina	Boat Launch	41.6944	87.509	The Hammond Port Authority 701 Casino Center Drive Hammond, IN 46320	Lake	Hammond Port Authority Phone: 219.659.7678 Email: marina@hammo ndmarina.com	Must contact Hammond Marina to get gate access. There is a security guard post 24/7 at the entrance.	One slip and parking is available.	Illinois	SLM
East Chicago Marina	Staging Area	41.6539	-87.4384	3301 Aldis St, East Chicago, IN 46312	Lake	City of East Chicago Phone (219) 391-8482	None	The southeastern border of the harbor borders Carmouse Lime and Stone facility. Inside of the harbor there are two permanently moored casino boats.	Illinois	SLM
Whiting Lakefront Park Whihala Boat Launch	Staging Area	41.6826	-87.4901	117th/white Oak and Park Rd, Whiting, IN 46394	Lake	The City of Whiting, Indiana City Hall 1443 119th Street Whiting, IN 46394 PHONE: 219-659-7700	None	Two slips available for public use.	Illinois	SLM
Hammond Marina	Staging Area	41.6944	-87.509	The Hammond Port Authority 701 Casino Center Drive Hammond, IN 46320	Lake	Hammond Port Authority Phone: 219.659.7678 Email: marina@hammo ndmarina.com	Must contact Hammond Marina to get gate access. There is a security guard post 24/7 at the entrance.	One slip and parking is available.	Illinois	SLM
Arcelor Mittal Indiana Harbor	Regulated Facility	41.6577	-87.4384	3001 Dickey Rd East Chicago, IN 46311	Lake	Steve Rose, 219- 399-1200	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles Coal, coke, taconite ore, finished steel	Illinois	SLM
Carmeuse North American Buffinton	Regulated Facility	41.6395	-87.4085	1 N Carmeuse Drive Gary, IN 46402	Lake	Carmeuse North America Buffington	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Regulated 33 CFR 105 facility that handles limestone	Illinois	SLM
BP Whiting	Regulated Facility	41.6755	-87.4766	2815 Indianapolis Blvd. Whiting, IN 46394	Lake	BP, 219-473-7700	The facility is a regulated 33 CFR 105 facility. To gain access to restricted or secure areas personnel will have to go through facility security.	Refinery that is a regulated 33 CFR 105 and 154 facility. Handles group I, II, III, IV, V oils.	Illinois	SLM
North American Stevedoring Company	Regulated Facility	41.6681	-87.5836	9301 S Kreiter Ave Iroquois Landing Port of Chicago, Chicago, IL 60617	Cook	lan Hirt		105	IL	SLM
Illinois International Port District	Regulated Facility	41.7261	-87.5364	3600 E. 95th St. Chicago, IL 60617	Cook	Michael Simons		105	IL	SLM
Kindra Lake Towing	Regulated Facility	41.7167	-87.5406	9864 S Ave N Chicago, IL 60617	Cook	Don Campbell		105, 154	IL	SLM

КСВХ	Regulated Facility	41.6845	-87.5519	10730 South Burley Ave, Chicago, IL 60617	Cook	Chenna Gunda	105	IL	SLM
Morton Salt	Regulated Facility	41.0333	-87.0333	3057 E. 100th Street Chicago, IL 60617	Cook	Jeff Greco	105	IL	SLM
SH Bell	Regulated Facility	41.7094	-87.5425	10218 S Avenue O Chicago, IL 60617	Cook	Jim Langbehn	105, 126	IL	SLM
Nidera Dock	Regulated Facility	41.6833	-87.5523	11700 South Torrence Ave Chicago, IL 60617	Cook	Raul Melgoza, Julie Curry, Dennis Populorum	105	IL	SLM
Reserve Marine Terminal	Regulated Facility	41.6823	-87.5504	11600 South Burley Avenue Chicago, IL 60617	Cook	Steven Petty, John Matusik, Hal Tolin	105	IL	SLM
LaFarge Midwest	Regulated Facility	41.6595	-87.5719	2150 E 130th St Chicago, IL 60633	Cook	James Opolony	105	IL	SLM
Kinder Morgan Chicago	Regulated Facility	41.6681	-87.5836	12200 S Stony Island Avenue Chicago, IL 60633	Cook	Jason Lorek	105, 154	IL	SLM
Emesco Marine Services Chicago	Regulated Facility	41.5088	-87.582	12100 S stoney island ave Chicago, IL 60633	Cook	John Schlossberg	105	IL	SLM
St. Mary's Cement Company	Regulated Facility	41.6718	-87.591	12101 Doty Ave Chicago, IL	Cook	Dan Brezich	105	IL	SLM
Calumet Transload Railroad	Regulated Facility	41.6895	-87.5514	10730 S Burley, Chicago, IL 60617	Cook	Simon Beemsterboer	105	IL	SLM
Chicago Port Rail Co. and Midwest Marine terminal, INC	Regulated Facility	41.6803	-87.5528	11701 Torrence Ave Chicago, IL 60617	Cook	RICK DYKSTRA	105	IL	SLM
GMI Packaging Company	Regulated Facility	41.6741	-87.5803	1600 E. 122nd Street, Chicago, IL 60633	Cook	Scott Molenhouse, Anthony Clark	105	IL	SLM
Compass Minerals American, INC	Regulated Facility	41.7268	-87.5433	9200 S Ewing Ave Chicago, IL 60617	Cook	Joseph Cummins, Jerry Pedulek	105	IL	SLM

Z- Force	Regulated	41.7039	-87.5471	2900 E. 106th Street	Cook	Jeff Creco	105	IL	SLM
Transportation	Facility			Chicago, IL 60617					
						COMMENTS			
						COMMENTO			
					(GRP/GRS MAP			



GRS:	Praxair, Inc. Pip	eline			GRS #	C18
Protection Prior	rity Sites / Ranking:		High (A)			
			LOCATION I	NFORMATION		
State: Illinois				County: Cook		
			CONTACT I	NFORMATION		
EPA Spill Hotline	e: 312-353-2318	30-086-2155				
USCG Sector La	ike Michigan : 414-74	7-7170				
Department of N	atural Resources Illin	ois: 847-608-3100				
EPA Illinois: 217	-782-3397					
Chicago Fire De	partment: 312-745-37	705				
Managad Aroos		Laoras Dark Indian	RESOURCES AT RIS		RISTICS	
Manageu Areas	•	Jeorse Park, Indian	a harbor facht Club, Lakesh	ore Coar Company		
Shoreline Type		Exposed rocky Cliff	s – Hard Man- Made Structure	es, Shelving Bedrocl	k Shores, Sheltere	ed Scarps In Bedrock
Sensitive Habita	at:	Grand Calumet Rive	er, Indiana Harbor Canal, The	Forks		
Wildlife:		Migratory Birds, Ma	rine Birds, Flowering Plants, A	Aquatic Plants, Insec	cts, Mammals, Rep	otiles, Bass, Lake Trout
Federally Threa Endangered Sp	tened / ecies:	Mead's Milkweed (1	Г), Pitcher's Thistle (T), Karne	r Blue Butterfly (E), I	ndiana Bat (E)	
Socio-Economi	c Resources:	Buffington Harbor, (Gary Chicago International Air	port, East Chicago I	Marina	
			SPILL R	ESPONSE		
Predicted Beha	vior:	-Temperature- Chie location averages a average high of 84° and an average mir 1995 and the lowes below 32°F (0°C) an below 41°F(5°C) an - Precipitation: Th due mainly to conve The wettest month thunderstorm days averages about 38 inches (203 mm) ea and April. About sev through September maximum during the -Sea Conditions: V time. In October, S of 10 feet or more a encountered. During	cago, IL, is located on the extr bout 18 days each year with r F(28.9°C) and an average min nimum of 14°F (-10°C). The hi it temperature on record is -27 nd an average twenty days ea ad every month except June, J ie average annual precipitation active activity, and a marked d is August with 4.10 inches (10 occur each year with June, Ju inches (965mm) each year. Ja ach year. Ten-inch (254 mm) s ven days each year has a sno . Fog is present on average 13 e winter season. Vorst in October and Novemb through SW winds are most o are encountered 3 to 5 percent g the spring, high seas are inf	eme southwestern s naximum temperatu nimum of 63°F (17.2 ghest temperature o °F (-32.8°C) recorde ch year records tem uly, and August has n for Chicago is 35.2 ry period occurs dur 4 mm) and the dries ly and August being anuary averages abor snowfalls in a24-hou wfall total greater the 31 days each year a er, when, lakewide, ften responsible, wh to f the time from No requent, but 5- to 10	shore of Lake Mich res in excess of 9 P°C). January is the in record for Chica ed in January 198 peratures below 5 recorded tempera 25 inches (895 mm ring the winter more the most likely mo but ten inches (25- r period have occu an 1.5 inches (38 and is rather eventy wave heights of 5 ile by November V ovember through N o-foot seas develop	nigan and in the northeastern portion of the state. The 0°F (32.2°C). July is the warmest month with an e coolest month with an average high of 29°F (-2°C) igo is 104°F (40°C) recorded in June 1988 and July 5. About 132 days each year experience temperatures or (-15°C). Every month has seen temperatures at or atures below freezing (0°C). n). An annual maximum occurs during the summer, nths. Precipitation falls on about 190 days each year. ages only 1.37 inches (34.8 mm). An average of 37 onths. Snow falls on about 68 days each year and 4mm) per year and December averages about eight urred in each month of December, January, February mm) and snow has fallen in every month except June y distributed throughout the year with a slight to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40

	esponse Considerations: Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent													
Response C	Considerations	3:	Ice: A mild winter on L coverage during a sev -Most of the harbors o entrance channel. Par lessen the need for dr formed by breakwater storm generated wave	ake Michigan rere winter. Man n the E side of allel piers hav edging in the s that converges to prevent t Recomm	means ab aximum ico of Lake Mico ve been co harbor ent ge to an en hem from ended Sp	oout 10-per e coverage chigan are v nstructed a rance. In ac ntrance ope being cond ill Respon	cent cover occurs by within the t the mou ddition, se ning in de ucted thro se Strateg	age comp mid-Maro mouths of ths of thes veral harb ep water ugh the c gy Table	bared to ar ch, on the small rive se harbors bors along beyond the onfined ch	average 40- average, whil rs or in small to aid in carr this shore ha parallel piers annels betwe	percent c e decay l lakes cor ying the t ye been r s. These en the pir	overage a begins a v nnected to bar into de brovided v basins dis ers and in	and an 8 veek or t b Lake M eeper wa with stilli ssipate to to the ha	80-percent two later. dichigan by an ater and to ng basins he force of arbors.
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementa tion	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Secto</u> <u>r</u>	Address
Praxair Inc. Pipeline (C18)	Image: Normal stateImage: Normal													Throughout AOR
	LOGISTICS Logistics Support Table													

Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owner / POC	Access Limitations	Description	State	Sector
Calumet Park Boat Launch	Boat Launch	41.71939	-87.5298418	9801 South Ave G Chicago, IL 60617	Cook	Chicago Park District (312) 747- 6039	None	Entrance to park off 95th Street. 5 launch slips/parking/stagi ng. Illions Port and CG Station Calumet located in close proximity.	IL	SLM
Calumet Park	Staging Area	41.71939	-87.5298418	9801 South Ave G Chicago, IL 60617	Cook	Chicago Park District (312) 747- 6039	None	Entrance to park off 95th Street. 5 launch slips/parking/stagi ng. Illions Port and CG Station Calumet located in close proximity.	ΙL	SLM
Cook County EOC	ICP	41.59932	-87.73484	15900 South Cicero Ave., Oak Forest, IL	Cook	Cook County Department of Homeland Security and Emergency Management 312- 603-8180	Access must be granted by Cook County Departmen t of Homeland Security and Emergency Manageme nt	Emergency Operations Center with several rooms available.	IL	SLM
North American Stevedoring Company	Regulated Facility	41.66805	-87.5836	9301 S Kreiter Ave Iroquois Landing Port of Chicago, Chicago, IL 60617	Cook	lan Hirt		105	IL	SLM
Illinois International Port District	Regulated Facility	41.7261	-87.5364	3600 E. 95th St. Chicago, IL 60617	Cook	Michael Simons		105	IL	SLM
Kindra Lake Towing	Regulated Facility	41.7167	-87.54055	9864 S Ave N Chicago, IL 60617	Cook	Don Campbell		105, 154	IL	SLM
КСВХ	Regulated Facility	41.6845	-87.5519	10730 South Burley Ave, Chicago, IL 60617	Cook	Chenna Gunda		105	IL	SLM

Morton Salt	Regulated Facility	41.0333	-87.0333	3057 E. 100th Street Chicago, IL 60617	Cook	Jeff Greco	105	IL	SLM
SH Bell	Regulated Facility	41.7094	-87.5425	10218 S Avenue O Chicago, IL 60617	Cook	Jim Langbehn	105, 126	IL	SLM
Nidera Dock	Regulated Facility	41.6833	-87.5523	11700 South Torrence Ave Chicago, IL 60617	Cook	Raul Melgoza, Julie Curry, Dennis Populorum	105	IL	SLM
Reserve Marine Terminal	Regulated Facility	41.6823	-87.5504	11600 South Burley Avenue Chicago, IL 60617	Cook	Steven Petty, John Matusik, Hal Tolin	105	IL	SLM
LaFarge Midwest	Regulated Facility	41.65952	-87.57185	2150 E 130th St Chicago, IL 60633	Cook	James Opolony	105	IL	SLM
Kinder Morgan Chicago	Regulated Facility	41.66805	-87.58362	12200 S Stony Island Avenue Chicago, IL 60633	Cook	Jason Lorek	105, 154	IL	SLM
Emesco Marine Services Chicago	Regulated Facility	41.5088	-87.58195	12100 S stoney island ave Chicago, IL 60633	Cook	John Schlossberg	105	IL	SLM
St. Mary's Cement Company	Regulated Facility	41.6718	-87.591	12101 Doty Ave Chicago, IL	Cook	Dan Brezich	105	IL	SLM
Calumet Transload Railroad	Regulated Facility	41.68945	-87.5514	10730 S Burley, Chicago, IL 60617	Cook	Simon Beemsterboer	105	IL	SLM
Chicago Port Rail Co. and Midwest Marine terminal, INC	Regulated Facility	41.6803	-87.5528	11701 Torrence Ave Chicago, IL 60617	Cook	RICK DYKSTRA	105	IL	SLM
GMI Packaging Company	Regulated Facility	41.67405	-87.5803	1600 E. 122nd Street, Chicago, IL 60633	Cook	Scott Molenhouse, Anthony Clark	105	IL	SLM
Compass Minerals American, INC	Regulated Facility	41.7268	-87.5433	9200 S Ewing Ave Chicago, IL 60617	Cook	Joseph Cummins, Jerry Pedulek	105	IL	SLM
Z- Force Transportation	Regulated Facility	41.70385	-87.5471	2900 E. 106th Street Chicago, IL 60617	Cook	Jeff Creco	105	IL	SLM
				COMME	INTS				

GRP/GRS MAP



GRS:	Evanston Lakes	hore Historic Lighthous	e		GRS #	C19
Protection Prio	rity Sites / Ranking:	Medi	um (B)			
			LOCATION INI	FORMATION		
State: Illinois				County: Evanston		
			CONTACT INF	ORMATION		
EPA Spill Hotline	: 312-353-2318					
USCG Marine S	afety Unit Chicago : 6	30-986-2155				
Department of N	atural Resources Illin	ois: 847-608-3100				
EPA Illinois: 217	-782-3397					
Chicago Fire De	partment: 312-745-37	705				
		RE	SOURCES AT RISK	CHARACTER	RISTICS	
Managed Areas	:	Dawes Park , Elliot Park ,	The Lakefill			
Shoreline Type		Sand Beaches, Sheltered	Scraps in Bedrock, Expos	ed Rocky Cliffs H	lard Man- Made S	tructures
Sensitive Habit	at:	Centennial Park , Brunhan	h Shores Park			
Wildlife:		Migratory Birds, Marine Bi	ds Flowering Plants, Aqu	atic Plants, Insect	ts, Bass, Lake Tro	out, Mammals, Reptiles
Federally Threa	tened /	Piping Plover (E), Red Kno	ot (T), Eastern Prairie Frin	ged Orchid (T), L	eafy Prairie- clove	er (E), Mead's Milkweed (T), Prairie Busch- clover (T),
Endangered Sp	ecies:	Hine's Emerald Dragonfly	(E), Rattlesnake-master B	Borer Moth (Candi	date), Northern Lo	ong-eared Bat (T)
Socio-Economi	c Resources:	Greenwood Street Beach,	Dempster Street Launch	Facility, Lee Stree	et Beach	
			SPILL RES	SPONSE		
Predicted Beha	vior:	-Temperature- Chicago, I location averages about 12 average high of 84°F(28.9 and an average minimum 1995 and the lowest temp below 32°F (0°C) and an a below 41°F(5°C) and ever - Precipitation: The aver due mainly to convective a The wettest month is Augu thunderstorm days occur a averages about 38 inches inches (203 mm) each yea and April. About seven day through September. Fog is maximum during the winte -Sea Conditions: Worst in time. In October, S through feet or more are encounte encountered. During the s	, is located on the extrem days each year with max C) and an average minim of 14°F (-10°C). The higher erature on record is -27°F iverage twenty days each y month except June, July age annual precipitation for ctivity, and a marked dry ist with 4.10 inches (104 r each year with June, July a (965mm) each year. Janu r. Ten-inch (254 mm) sno ys each year has a snowfa present on average 131 r season. October and November, of SW winds are most ofter red 3 to 5 percent of the tip pring, high seas are infreq	ne southwestern s ximum temperatur num of 63°F (17.2 est temperature o (-32.8°C) recorde year records tem v, and August has or Chicago is 35.2 period occurs dur nm) and the dries and August being uary averages abo wfalls in a24-hou all total greater that days each year a when, lakewide, ' n responsible, wh me from Novemb <u>uent, but 5- to 10</u>	shore of Lake Micl res in excess of 9 °C). January is th n record for Chica ed in January 198 peratures below 5 recorded tempera 5 inches (895 mm ing the winter mo it, February, avera the most likely m but ten inches (25 r period have occi an 1.5 inches (38 nd is rather even) wave heights of 5 ile by November V er through March.	higan and in the northeastern portion of the state. The 0°F (32.2°C). July is the warmest month with an e coolest month with an average high of 29°F (-2°C) ago is 104°F (40°C) recorded in June 1988 and July 5. About 132 days each year experience temperatures 5°F (-15°C). Every month has seen temperatures at or atures below freezing (0°C). n). An annual maximum occurs during the summer, nths. Precipitation falls on about 190 days each year. ages only 1.37 inches (34.8 mm). An average of 37 onths. Snow falls on about 68 days each year and 4mm) per year and December averages about eight urred in each month of December, January, February mm) and snow has fallen in every month except June y distributed throughout the year with a slight to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas of 10 . Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40

			perc 20 p -Wi n is th	ercent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5- to 10-foot category drop to less than 0 percent in June and July. By August, the fall buildup begins. Vinds: The prevailing wind direction in Chicago is the south-southwest. The average wind speed is nine knots. Winter through early spring the windiest period and a maximum gust of 73 knots occurred in March 1991. ce : A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent												
Response	e Considera	itions:	-Ice cove -Mo entr less form stor	: A mild winter on L erage during a seve st of the harbors on ance channel. Para en the need for dre ned by breakwaters m generated waves	ake Michigan mea ere winter. Maximu the E side of Lak illel piers have bee dging in the harbo that converge to a to prevent them f	ans about 10- im ice covera e Michigan ar en constructeo or entrance. In an entrance o from being co	percent of ge occur e within d at the r addition pening ir nducted	coverage co s by mid-Ma the mouths nouths of th several ha deep wate through the	ompared to a arch, on the of small rive nese harbors arbors along er beyond th confined ch	an average average, w ers or in sm s to aid in ca this shore e parallel p nannels bet	40-percen while deca all lakes of arrying the have bee iers. Thes ween the	nt coverage y begins a connected e bar into c n provided se basins d piers and i	e and an week or to Lake N leeper wa with stilli issipate t nto the h	80-per two late lichiga ater an- ng bas he forc arbors	cent er. In by an Id to sins ce of	
Site ID	Latitude	Longitud	e Respo	nse Impleme	ntation Min	Staging	Boat	Land	e Priority	Date Last	<u>State</u>	County	Sector	A	ddress	
	(Decimal Degrees)	(Decimal Degrees)	Strate	gy	Boom Length	Area	Access	Access		Verified						
Evanston Lakeshor e Historic District (C19)	42.0419	-87.6704	4 Divers	ion Due to the l the land seg various sets diversion bo help to mini impact on ti Determining direction of travel and predominar weather for help guide t strategy. Ex booming ca used, but w conditions v severely im strategy. Th segment of protection i long	ength of 1000' gment of 000' of 000 100 100 100 100 100 100 100 100 10	Montrose Harbor	Yes	Yes	Medium	1-Nov- 2016	IL	Cook	SLM	2 sti be ru fra Na rn Un to Bc Pa	mile retch of each inning om orthweste i niversity > South oulevard ark	
			LOGISTICS													
					Log	gistics Supp	ort Table	•								
Name		Тур	Type Latitude (Decimal Degrees) Longitude (Decimal Degrees) Address County Owner / POC Access Limitations Description State Sector													

Waukegan Harbor	Boat Launch	42.36	-87.8247	55 North Harbor Place, Waukegan, IL 60085	Lake	Waukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three boat slips. Parking is available but could be limited during summer. USCG Auxiliary Flotilla 41-5 (9WR) has an operation center in a double wide trailer	IL	SLM
Lake Forest Boat Launch	Boat Launch	42.2503	-87.81861	Lake Forest Harbor, IL 60045	Lake	City of Lake Forest 847- 234-2600	The road to the launch is narrow and steep	Two slips to launch boats. Daily pass for launching a boat is \$60.	IL	SLM
North Point Marina	Boat Launch	42.4897	-87.8039	701 North Point Dr., Winthrop Harbor, IL 60096	Lake	Illinois Department of Natural Resources 847-746- 2845	No access limitations.	5 boats launches. No fee to launch boats. Fuel dock on site.	IL	SLM
Waukegan Harbor	Staging Area	42.36	-87.8247	55 North Harbor Place, Waukegan, IL 60085	Lake	Waukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three boat slips. Parking is available but could be limited during summer. USCG Auxiliary Flotilla 41-5 (9WR) has an operation center in a double wide trailer	IL.	SLM

Adeline Jay Geo-Karis Illinois Beach State Park	Staging Area	42.4303	-87.8055	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	ιL	SLM
Adeline Jay Geo-Karis Illinois Beach State Park	ICP	42.4303	-87.8055	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	IL	SLM

Waukegan Harbor	ICP	42.36	-87.8247	55 North Harbor Place, Waukegan, IL 60085	Lake	Waukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three boat slips. Parking is available but could be limited during summer. USCG Auxiliary Flottilla 41-5 (9WR) has an operation center in a double wide trailer		SLM
National Gypsum	Regulated Facility	42.3683	-87.82372	515 Sea Horse Drive Waukegan, IL 60085	Lake	National Gypsum	This is a regulated 33 CFR 105 facility. Access to a secure or restricted area must be granted by facility.	The facility handles gypsum rock and receives US flagged Lakers.	IL	SLM
				COMMENTS						
			(GRP/GRS MAP						



GRS:	Chicago Harbor	Lighthouse			GRS #	C20					
Protection Prio	rity Sites / Ranking:		Medium (B)			1					
			LOCATION I	NFORMATION							
State: Illinois				County: Cook							
			CONTACT IN	FORMATION							
EPA Spill Hotline	e: 312-353-2318										
USCG Marine S	afety Unit Chicago: 6	30-986-2155									
Department of N	atural Resources Illin	17-7170 Jois: 847-608-3100									
EPA Illinois: 217	-782-3397	1013. 047-000-0100									
Chicago Fire De	partment: 312-745-37	705									
			RESOURCES AT RIS	K CHARACTER	RISTICS						
Managed Areas	:	Milton Lee Olive Pa	rk, Northerly Island , Peanut P	ark, Navy Pier							
Shoreline Type	1	Exposed Rocky Clif	ffs- Hard Man- Made Structure	s, Extensive Wetlan	ds						
Sensitive Habit	at:	Monroe Harbor, Ch	icago Harbor, Grant Park, Jan	e Addams Memorial	l Park, Chicago Ri	iver					
Wildlife:		Migratory Birds, Marine Birds, Flowering Plants, Aquatic Plants, Insects, Mammals, Reptiles, Bass, Lake Trout									
Federally Threa	tened /	Piping Plover (E), E	astern Prairie Fringed Orchid	(T), Leafy Prairie- cl	over (E), Mead's I	Milkweed (T), Prairie Bush-clover (T), Hine's Emerald					
Endangered Sp	ecies:	Dragonfly (E), Rattle	es-master Borer Moth (E), Nor	thern Long-eared B	at (T), Eastern Ma	assassauga (T)					
Socio-Economi	c Resources:	Jardine Water Purif	ication Plant, , Chicago Childre	en's Museum , Chica	ago Riverwalk						
			SPILL R	ESPONSE							
Predicted Behavior: -Temperature- Chicago, IL, is located on the extreme southwestem shore of Lake Michigan and in the northeastem portion of the stallocation averages about 18 days each year with maximum temperatures in excess of 90°F (32.2°C). July is the warmest month with a average high of 84°F(28.9°C) and an average minimum of 63°F (17.2°C). January is the coolest month with an average high of 20°F and an average minimum of 14°F (-10°C). The highest temperature on record for Chicago is 104°F (40°C) recorded in June 1988 and 1995 and the lowest temperature on record is -27°F (-32.8°C) recorded in January 1985. About 132 days each year experience temp below 32°F (0°C) and an average twenty days each year records temperatures below 5°F (-15°C). Every month has seen temperature below 41°F(5°C) and every month except June, July, and August has recorded temperatures below freezing (0°C). - Precipitation: The average annual precipitation for Chicago is 35.25 inches (895 mm). An annual maximum occurs during the sum due mainly to convective activity, and a marked dry period occurs during the winter months. Precipitation falls on about 190 days each the driest, February, averages only 1.37 inches (34.8 mm). An average thunderstorm days occur each year with June, July and August being the most likely months. Snow falls on about 68 days each year averages about 38 inches (965mm) each year. January averages about ten inches (254mm) per year and December averages about inches (203 mm) each year. Ten-inch (254 mm) snowfalls in a24-hour period have occurred in each month of December, January, Fr and April. About seven days each year has a snowfall total greater than 1.5 inches (38 mm) and snow has fallen in every month excet through September. Fog is present on average 131 days each year and berether averages about inches (Co3 mm) each year. Ten-inch (254 mm) snowfalls in a24-hour period have occurred in each month of December, January, Fr and											

Response	 percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5- to 10-foot category drop to less than 20 percent in June and July. By August, the fall buildup begins. -Winds: The prevailing wind direction in Chicago is the south-southwest. The average wind speed is nine knots. Winter through early spring is the windiest period and a maximum gust of 73 knots occurred in March 1991. -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent 										less than ly spring percent				
			coverag -Most o entranc lessen formed storm g	ge during a severe of the harbors on the se channel. Parallel the need for dredgi by breakwaters tha generated waves to	winter. Ma e E side of piers have ng in the h at converge prevent th Recomme	ximum ica Lake Mic been co arbor ent to an en em from l ended Sp	e coverage higan are v nstructed a rance. In ac trance ope being condu	occurs by mid vithin the mout t the mouths o ddition, severa ning in deep w ucted through se Strategy Ta	March, on hs of small f these harb harbors ald ater beyond he confined	the average rivers or in s pors to aid in ong this sho d the paralle d channels b	, while d small lak a carrying re have I piers. T petween	ecay beg es conne g the bar i been prov These bas the piers	ins a week cted to Lak into deepe vided with ins dissipa and into th	or two la ce Michig r water a stilling ba ate the fo ne harbor	ater. gan by an nd to asins rce of s
Site ID	Latituda	Longitud	Posponso	Implementation	Min Boom	Staging	Boat	Land Accoss	Priority	Data Last)	Initiad	Stata	County	Soctor	Addross
Site ID	(Decima	l (Decima	Strategy	Implementation	length				Priority	Date Last V	vermea	<u>state</u>	County	Sector	Address
	Degrees) Degrees			B	7.1.00	,								
Chicago Harbor Lighthouse (C20)	41.889	-87.59062	Exclusion and Diversion	Boom off the area surrounding the lighthouse including the opening in the jetty to prevent exclude plume from impacting Navy Pier area. Use diversion booming and on water recovery to prevent plume from impacting rip-rap.	1000'	Army Corps of Engineers lot at Navy Pier, Burnham Harbor, Diversy Harbor, 31st Street Harbor	Yes	No	Medium	1-Nov-2	016	IL	Cook	SLM	N/A
						LC	OGISTICS	5							
						Logistic	s Support	Table							
Name	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County		Owner / POC		Access Limita	ations	Descriptio	on	State	S	ector

Burnham Harbor	Boat Ramp	41.8604	-87.6123	1559 S. Lake Shore Dr., Chicago, IL 60605	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM
Diversy Harbor	Boat Ramp	41.9308	-87.6353	2601 N. Cannon Dr., Chicago, IL 60614	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.	Two lane boat launch. Fuel dock. Bathrooms available	IL	SLM
31st Street Harbor	Boat Ramp	41.8346	-87.6051	3155 South Lake Shore Dr., Chicago, IL 60616	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM

Army Corps of Engineer s Lot	Stagin g Area	41.8894	-87.6101	108 N. Streeter Dr., Chicago, IL 60611	Cook	Army Corps of Engineers	Gate access must be granted by Navy Pier. Permission must be granted by ACOE to use lot.	Large lot that is unused most of the year.	IL	SLM
Burnham Harbor	Stagin g Area	41.8604	-87.6123	1559 S. Lake Shore Dr., Chicago, IL 60605	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM
Diversy Harbor	Stagin g Area	41.9308	-87.6353	2601 N. Cannon Dr., Chicago, IL 60614	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Two lane boat launch. Fuel dock. Bathrooms available	ιL	SLM
31st Street Harbor	Stagin g Area	41.8346	-87.6051	3155 South Lake Shore Dr., Chicago, IL 60616	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	1L	SLM

Montrose Harbor	Stagin g Area	41.9639	-87.6391	601 W. Montrose Ave., Chicago, IL 60613	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot.	Large parking lot with easy access to Lake shore Drive. No boat launch located at harbor.	ΊL	SLM
Cook County EOC	ICP	41.5993	-87.7348	15900 South Cicero Ave., Oak Forest, IL	Cook	Cook County Department of Homeland Security and Emergency Management 312-603-8180	Access must be granted by Cook County Department of Homeland Security and Emergency Management	Emergency Operations Center with several rooms available.	ΙL	SLM
					(COMMENTS				
					GI	RP/GRS MAP				



GRS: Waukegan B	reakwater Lighthouse GRS # C21										
Protection Priority Sites / Ranki	ng: Medium (B)										
	LOCATION INFORMATION										
State: Illinois	County: Lake										
	CONTACT INFORMATION										
EPA Spill Hotline: 312-353-2318											
USCG Marine Safety Unit Chicago	i: 630-986-2155 .747-7170										
Department of Natural Resources	Illinois: 847-608-3100										
EPA Illinois: 217-782-3397	EPA Illinois: 217-782-3397										
Chicago Fire Department: 312-74	chicago Fire Department: 312-745-3705										
RESOURCES AT RISK CHARACTERISTICS											
Managed Areas: North Beach Park, Waukegan Yacht Club, Waukegan Harbor & Marina											
Shoreline Type:	Harbor Structures, some Wetlands more inwards of Waukegan Harbor, Sand Beaches North of the Lighthouse and Exposed Rocky Cliffs at the North and South Piers										
Sensitive Habitat:	Waukegan Harbor, Waukegan Harbor, Waukegan River										
Wildlife:	Migratory Birds, Marine Birds, Flowering Plants, Aquatic Plants, Insects, Mammals, Reptiles, Bass, Lake Trout										
Federally Threatened /	Piping Plover (E), Eastern Prairie Fringed Orchid (T), Leafy Prairie- clover (E), Mead's Milkweed (T), Prairie Bush-clover (T), Hine's Emerald										
Endangered Species:	Dragonfly (E), Rattles-master Borer Moth (E), Northern Long-eared Bat (T), Eastern Massasauga (T)										
Socio-Economic Resources:	Waukegan Water Filtration Plant as well as the Managed Areas listed above										
	SPILL RESPONSE										
Predicted Behavior: -Temperature- Chicago, IL, is located on the extreme southwestern shore of Lake Michigan and in the northeastern portion of the state. The location averages about 18 days each year with maximum temperatures in excess of 90°F (32.2°C). July is the warmest month with an average high of 84°F (28.9°C) and an average minimum of 63°F (17.2°C). January is the coolest month with an average high of 84°F (28.9°C) and an average minimum of 63°F (17.2°C). January is the coolest month with an average high of 84°F (28.9°C) and an average minimum of 63°F (17.2°C). January is the coolest month with an average high of 29°F (-2°C and an average minimum of 14°F (-10°C). The highest temperature on record for Chicago is 104°F (40°C) recorded in June 1988 and July 1995 and the lowest temperature on record is -27°F (-32.8°C) recorded in January 1985. About 132 days each year experience temperatures below 32°F (0°C) and an average twenty days each year records temperatures below 5°F (-15°C). Every month has seen temperatures telow 32°F (0°C) and every month except June, July, and August has recorded temperatures below freezing (0°C). -Precipitation: The average annual precipitation for Chicago is 35.25 inches (895 mm). An annual maximum occurs during the summer, dt mainly to convective activity, and a marked dry period occurs during the winter months. Precipitation falls on about 180 days each year. The wettest month is August with 4.10 inches (104 mm) and the driest, February, averages only 1.37 inches (34.8 mm). An average of 37 thunderstorm days occur each year with June, July and August being the most likely months. Snow falls on about 68 days each year and averages about 38 inches (965mm) each year. January averages about ten inches (254mm) per year and December averages about eight inches (203 mm) each year. Ten-inch (254 mm) snowfalls in a24-hour period have occurred in each month of December, January, Februar and April. About se											

	percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5- to 10-foot category drop to less than 20 percent in June and July. By August, the fall buildup begins. -Winds: The prevailing wind direction in Chicago is the south-southwest. The average wind speed is nine knots. Winter through early spring is the windiest period and a maximum gust of 73 knots occurred in March 1991.														
Response Cor	siderations:	-lce: / cover -Most entrai lesse forme storm	A mild winter of age during a s of the harborn nce channel. In the need for ad by breakwa generated wa	on Lake A severe wi s on the E Parallel pi dredging ters that aves to pi	Vichigan me inter. Maxim E side of La iers have b g in the hark converge to revent them ecommenc	eans abou num ice co ake Michig een const bor entran o an entra n from beii ded Spill I	it 10-percent overage occu jan are within ructed at the ce. In additio nce opening ng conducted Response S	coverage c irs by mid-M the mouths mouths of t n, several h in deep wa through the trategy Tat	Arch, on s of small these har narbors a ter beyon le confine	to an avera the averag l rivers or in bors to aid long this sh id the parall d channels	age 40-pe le, while du small lake in carrying lore have t lel piers. T between	rcent cov ecay beg es conne j the bar been pro hese ba the piers	verage and gins a weel acted to La into deepervided with sins dissip- and into th	I an 80-pe k or two la ke Michig er water a stilling ba ate the fc he harbo	ercent ater. gan by an and to asins prce of rs
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Impleme	entation	Min Boom Length	Staging Are	a Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	Sector	Address
Waukegan Breakwater Lighthouse (C21)	42.36074	-87.81372	Exclusion and Diversion	Depence the dir plum exclu diversion may strate Anchori done o eithe	dent upon rection of le travel usion or in booming v be the gy used. ring can be offshore in er case.	500'	Waukegan Harbor	Yes	Yes	Medium	1-Nov- 2016	IL	Lake	SLM	55 South Harbor Place, Waukega n, IL
					L	LOG ogistics :	Support Tab	le							
Name	Name Type Latitude Longitude Address County Owner / POC Access Description State Sector Imitations Description Description Description State Sector														
Waukegan Harbo	r Boat Launch	42.36	-87.825		55 North Ha Place, Wau IL 60085	arbor Jkegan,	Lake	Waukegan I District	Port	Gate acce gate is clos Waukegan District has contacted.	ss. If sed ı Port s to be	Three bo Parking is but could during su USCG A Flotilla 4' has an o center in wide trail	at slips. s available l be limited ummer. uxiliary 1-5 (9WR) peration a double ler	IL	SLM

Lake Forest Boat Launch	Boat Launch	42.2503	-87.8186	Lake Forest Harbor, IL 60045	Lake	City of Lake Forest 847-234-2600	The road to the launch is narrow and steep	Two slips to launch boats. Daily pass for launching a boat is \$60.	IL	SLM		
North Point Marina	Boat Launch	42.4897	-87.804	701 North Point Dr., Winthrop Harbor, IL 60096	Lake	Illinois Department of Natural Resources 847-746- 2845	No access limitations.	5 boats launches. No fee to launch boats. Fuel dock on site.	IL	SLM		
Waukegan Harbor	Staging Area	42.36	-87.825	55 North Harbor Place, Waukegan, IL 60085	Lake	Waukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three boat slips. Parking is available but could be limited during summer. USCG Auxiliary Flotilla 41-5 (9WR) has an operation center in a double wide trailer	IL	SLM		
Adeline Jay Geo-Karis Illinois Beach State Park	Staging Area	42.4303	-87.805	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	IL	SLM		
Adeline Jay Geo-Karis Illinois Beach State Park	ICP	42.4303	-87.805	1 Lakefront Drive, Zion, IL 60099	Lake	Illinois Department of Natural Resources	No access limitations.	Large parking lot Hotel and conference center on site Boat launch is damaged and unusable (3 miles south of launch at North Point Marina)	IL	SLM		
Waukegan Harbor	ICP	42.36	-87.825	55 North Harbor Place, Waukegan, IL 60085	Lake	Waukegan Port District	Gate access. If gate is closed Waukegan Port District has to be contacted.	Three boat slips. Parking is available but could be limited during summer. USCG Auxiliary Flotilla 41-5 (9WR) has an operation center in a double wide trailer	IL	SLM		
National Gypsum	Regulated Facility	42.36827	-87.8237	515 Sea Horse Drive Waukegan, IL 60085	Lake	National Gypsum	This is a regulated 33 CFR 105 facility. Access to a secure or restricted area must be granted by facility.	The facility handles gypsum rock and receives US flagged Lakers.	IL	SLM		

Waukegan Harbor is a very well know area and heavily populated area. May have some high media interest.

GRP/GRS MAP



GRS: William E. Dev	ver Water Intake Crib	GRS #	C22									
Protection Priority Sites / Rankin	g: Medium (A)		1									
	LOCATION INFORMATION	١										
State: Illinois	County: Cook											
	CONTACT INFORMATION											
EPA Spill Hotline: 312-353-2318												
USCG Marine Safety Unit Chicago	630-986-2155											
USCG Sector Lake Michigan : 414-	/4/-/1/U linois: 847 608 3100											
EPA Illinois: 217-782-3397	111015. 647-000-3100											
Chicago Fire Department: 312-745-	Chicago Fire Department: 312-745-3705											
RESOURCES AT RISK CHARACTERISTICS												
Managed Areas:	NW is Diversy Harbor, directly W is Oak Street Beach, and SW is Navy Pie	er and Chicago Harbor										
Shoreline Type:	None applicable											
Sensitive Habitat:	None applicable											
Wildlife:	Migratory Birds, Marine Birds, Flowering Plants, Aquatic Plants, Ins	ects, Mammals, Re	ptiles, Bass, Lake Trout									
Federally Threatened /	Piping Plover (E), Red Knot (T), Eastern Prairie Fringed Orchid (T)	Leafy Prairie-clove	r (E), Mead's Milkweed (T), Pitcher's Thistle (T),									
Endangered Species:	Prairie Bush-clover (T), Hine's Emerald Dragonfly (E), Rattles-mas	er Borer Moth (E), N	Northern Long-eared Bat (T), Eastern Massasauga (T)									
Socio-Economic Resources:	The Water Intake											
	SPILL RESPONSE											
Predicted Behavior:	 -Temperature- Chicago, IL, is located on the extreme southwester location averages about 18 days each year with maximum temperature average high of 84°F(28.9°C) and an average minimum of 63°F (11 and an average minimum of 14°F (-10°C). The highest temperature 1995 and the lowest temperature on record is -27°F (-32.8°C) record below 32°F (0°C) and an average twenty days each year records the below 41°F (5°C) and every month except June, July, and August I -Precipitation: The average annual precipitation for Chicago is 35 mainly to convective activity, and a marked dry period occurs durin wettest month is August with 4.10 inches (104 mm) and the driest, thunderstorm days occur each year with June, July and August bei averages about 38 inches (965mm) each year. January averages a inches (203 mm) each year. Ten-inch (254 mm) snowfalls in a24-h and April. About seven days each year has a snowfall total greater through September. Fog is present on average 131 days each year maximum during the winter season. -Sea Conditions: Worst in October and November, when, lake wit time. In October, S through SW winds are most often responsible, feet or more are encountered 3 to 5 percent of the time from Nover encountered. During the spring, high seas are infrequent, but 5- to approximate and the spring. 	n shore of Lake Micl tures in excess of 9 7.2°C). January is th e on record for Chica rded in January 198 emperatures below 5 has recorded temper 25 inches (895 mm) g the winter months. February, averages ing the most likely m bout ten inches (25 bur period have occu than 1.5 inches (38 r and is rather event le, wave heights of 5 while by November 1 nber through March. 10-foot seas develop	higan and in the northeastern portion of the state. The 0°F (32.2°C). July is the warmest month with an e coolest month with an average high of 29°F (-2°C) ago is 104°F (40°C) recorded in June 1988 and July 5. About 132 days each year experience temperatures 5°F (-15°C). Every month has seen temperatures at or ratures below freezing (0°C).). An annual maximum occurs during the summer, due . Precipitation falls on about 190 days each year. The only 1.37 inches (34.8 mm). An average of 37 onths. Snow falls on about 68 days each year and 4mm) per year and December averages about eight urred in each month of December, January, February mm) and snow has fallen in every month except June y distributed throughout the year with a slight 5 to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas of 10 . Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40									

					 percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5- to 10-foot category drop to less than 20 percent in June and July. By August, the fall buildup begins. -Winds: The prevailing wind direction in Chicago is the south-southwest. The average wind speed is nine knots. Winter through early spring is the windlest period and a maximum gust of 73 knots occurred in March 1991. 													
Response Considerations:					-Ice: A mi coverage -Most of t entrance lessen the formed by storm ger	Id winter on Lak during a severe he harbors on th channel. Paralle e need for dredg y breakwaters th herated waves to	e Michigar winter. Ma le E side c el piers hav jing in the lat converg prevent t Recomm	n means aximum i of Lake M ve been c harbor ei ge to an e hem fron	about 10-pe ice coverage lichigan are constructed a ntrance. In a entrance ope n being conc spill Respon	ercent c e occurs within t at the m addition, ening in ducted t	overage s by mid- he mouth nouths of , several deep wa hrough th ategy Ta	compare March, o ns of sma these ha harbors ater beyo ne confin ble	d to an ave n the avera all rivers or i arbors to aid along this s nd the para ed channel	rage 40-pe ge, while d in small lak d in carrying hore have illel piers. T s between	rcent cov ecay begi es conner g the bar i been prov 'hese bas the piers	erage and ins a weel cted to La into deepe vided with ins dissipa and into th	I an 80-pe k or two la ke Michig r water a stilling ba ate the for he harbor:	ercent ater. Jan by an nd to asins rce of s
Site ID	Latitude Longtitude (Decimal (Decimal Degrees) Degrees)		ude al s)	Response Strategy	nse Implementation gy		Min Boom Length	Staging A	Staging Area		Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address	
William E. Dever Water intake Crib (C22)	41.9161		-87.57	264	Exclusion and Diversion	Boom off th surrounding th intake crib. Use booming and recovery to p plume from ir rip-rap	off the area 500' ing the water . Use diversion and on water y to prevent om impacting p-rap.		Army Corps of Engineers lot at Navy Pier, Burnham Harbor, Diversy Harbor, 31st Street Harbor		Yes	No	High	1-Nov- 2016	IL	Cook	SLM	N/A
								L	OGISTIC	S								
								Logist	tics Suppor	t Table	•							
Name		Type Latitu Degra		Latitu Degre	de (Decimal es)	Longitude (Decimal Degrees)	Address		County	Owner	/ POC		Access Limita	tions	Description		State	Sector
Burnham Harbor		Boat Ramp		41.86042		-87.6123	5 1559 S. Lake Shore Dr., Chicago, IL 60605		Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)			Must contact launch vesse daily fee may Parking could limited during summer mor	harbor to el. \$27 / apply. d be g peak hths.	Three lane boat launch. Fuel dock. Bathrooms available.		IL	SLM
Diversy Harbor		Boat	Boat Ramp 41.930		908	-87.6353	2601 N. Cannon Dr., Chicago, IL 60614		Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)		Joint rict inas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.		Two lane boat launch. Fuel dock. Bathrooms available		IL	SLM
31st Street Harbor		Boat	Ramp	41.83	1462	-87.6051	3155 Sor Lake Sho Chicago 60616	3155 South Lake Shore Dr., Chicago, IL 60616		Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)		Joint rict inas)	Must contact launch vessel. fee may apply could be limit peak summer	harbor to \$27 daily 2. Parking ed during months.	Three lane boat launch. Fuel dock. Bathrooms available.		IL	SLM

Army Corps of Engineers Lot	Staging Area	41.88937	-87.6101	108 N. Streeter Dr., Chicago, IL 60611	Cook	Army Corps of Engineers	Gate access must be granted by Navy Pier. Permission must be granted by ACOE to use lot.	Large lot that is unused most of the year.	IL	SLM	
Burnham Harbor	Staging Area	41.86042	-87.6123	1559 S. Lake Shore Dr., Chicago, IL 60605	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM	
Diversy Harbor	Staging Area	41.9308	-87.6353	2601 N. Cannon Dr., Chicago, IL 60614	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Two lane boat launch. Fuel dock. Bathrooms available	IL	SLM	
31st Street Harbor	Staging Area	41.83462	-87.6051	3155 South Lake Shore Dr., Chicago, IL 60616	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM	
Montrose Harbor	Staging Area	41.96394	-87.6391	601 W. Montrose Ave., Chicago, IL 60613	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot.	Large parking lot with easy access to Lake shore Drive. No boat launch located at harbor.	IL	SLM	
Cook County EOC	ICP	41.59932	-87.7348	15900 South Cicero Ave., Oak Forest, IL	Cook	Cook County Department of Homeland Security and Emergency Management 312-603- 8180	Access must be granted by Cook County Department of Homeland Security and Emergency Management	Emergency Operations Center with several rooms available.	IL	SLM	
COMMENTS											
GRP/GRS MAP											



GRS: Edward F. Duni	ne Water Intake Crib		GRS #	C23										
Protection Priority Sites / Ranking:	Medium (A)													
	LOCATION INFORMA	TION												
State: Illinois	County:	ook												
	CONTACT INFORMA	ΓΙΟΝ												
EPA Spill Hotline: 312-353-2318														
USCG Marine Safety Unit Chicago: 6	30-986-2155													
USCG Sector Lake Michigan: 414-74	7-7170													
EPA Illinois: 217-782-3397	1015. 647-606-3100													
Chicago Fire Department: 312-745-3	705													
RESOURCES AT RISK CHARACTERISTICS														
Managed Areas:	NW is Promontory Point Park, directly W is Jackson Park (which	NW is Promontory Point Park, directly W is Jackson Park (which includes 57 th /63 rd Street Beach, Jackson Park Outer/Inner Harbor, East/West Lagoon,												
	Chicago Park District 59 th St Harbor, Columbia Basin, Osaka Garder	on Woo	ded Island and Jack	son Park Yacht Club) and SW is Rainbow Beach Park										
Shoreline Type:	None applicable													
Sensitive Habitat:	None applicable													
Wildlife:	Migratory Birds, Marine Birds, Flowering Plants, Aquatic Plants, Insects, Mammals, Reptiles, Bass, Lake Trout													
Federally Threatened /	Piping Plover (E), Red Knot (T), Eastern Prairie Fringed Orchid (T), Leafy Prairie-clover (E), Mead's Milkweed (T), Pitcher's Thistle (T),													
Endangered Species:	Prairie Bush-clover (T), Hine's Emerald Dragonfly (E), Rattles-master Borer Moth (E), Northern Long-eared Bat (T), Eastern Massasauga (T)													
Socio-Economic Resources:	The Water Intake													
	SPILL RESPONS													
Predicted Behavior:	 Temperature- Chicago, IL, is located on the extreme southy location averages about 18 days each year with maximum ter average high of 84°F (28.9°C) and an average minimum of 6 and an average minimum of 14°F (-10°C). The highest temperature on record is -27°F (-32.8°C) below 32°F (0°C) and an average twenty days each year record below 41°F (5°C) and every month except June, July, and Au-Precipitation: The average annual precipitation for Chicago mainly to convective activity, and a marked dry period occurs wettest month is August with 4.10 inches (104 mm) and the or thunderstorm days occur each year with June, July and Augu averages about 38 inches (965mm) each year. January aver inches (203 mm) each year. Ten-inch (254 mm) snowfalls in and April. About seven days each year has a snowfall total g through September. Fog is present on average 131 days each maximum during the winter season. Sea Conditions: Worst in October and November, when, la time. In October, S through SW winds are most often respondent of the time from encountered. During the spring, high seas are infrequent, but the spring high seas are infrequent. 	estern nperatu "F (17, rature c record rds ten gust ha is 35.2 during riest, Fe st being ges ab 24-ho eater th n year a se wide ible, wh lovemb 5- to 10	shore of Lake Mic ures in excess of 9 .2°C). January is the pon record for Chica ed in January 198 mperatures below 5 is recorded temper 5 inches (895 mm) the winter months ebruary, averages g the most likely m out ten inches (25 ur period have occ nan 1.5 inches (38 and is rather evenl , wave heights of 5 hile by November 1 per through March. D-foot seas develo	higan and in the northeastern portion of the state. The 0°F (32.2°C). July is the warmest month with an ne coolest month with an average high of 29°F (-2°C) ago is 104°F (40°C) recorded in June 1988 and July 5. About 132 days each year experience temperatures 5°F (-15°C). Every month has seen temperatures at or ratures below freezing (0°C). 0. An annual maximum occurs during the summer, due . Precipitation falls on about 190 days each year. The only 1.37 inches (34.8 mm). An average of 37 onths. Snow falls on about 68 days each year and 4mm) per year and December averages about eight curred in each month of December, January, February mm) and snow has fallen in every month except June y distributed throughout the year with a slight 5 to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas of 10 . Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40										

Response Considerations:					 percent in the N. Summer seas climb above 10 feet less than 1 percent of the time, while those in the 5- to 10-foot category drop to less than 20 percent in June and July. By August, the fall buildup begins. -Winds: The prevailing wind direction in Chicago is the south-southwest. The average wind speed is nine knots. Winter through early spring is the windiest period and a maximum gust of 73 knots occurred in March 1991. -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent 													
					coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. -Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by an entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors													
	Recommended Spill Response Strategy Table																	
Site ID	Site ID Latitude (Decimal Degrees)		Longtitude (Decimal Degrees)		Response Implementation Strategy		ition E	Min Boom Lengt h	Staging Area		Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Address
Edward F. Dunne Water Intake Crib (C23)	41.786	617 -87.53129		129	Exclusion and Diversion	Boom off the surrounding the intake crib. diversion boom on water reco- prevent plume impacting rip	area 500' e water Use ning and very to e from D-rap.		Army Corps of Engineers lot at Navy Pier, Burnham Harbor, Diversy Harbor, 31st Street Harbor		Yes	No	High	1-Nov- 2016	IL	Cook	SLM	N/A
LOGISTICS																		
								Logis	tics Suppor	t Table								
Name		Туре		Latitude (Decimal Degrees)		Longitude (Decimal Degrees)	Address		County	Owner ,	wner / POC		Access Limitati	ons	Description		State	Sector
Burnham Harbor		Boat Ramp 41.8		41.86	042 -87.6123 1559 S. Lal Shore Dr., Chicago, IL 60605		ake L	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)			Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.		Three lane boat launch. Fuel dock. Bathrooms available.		IL	SLM	
Diversy Harbor		Boat Ramp 41.5		41.93	308	-87.6353	2601 N. Cannon Dr., Chicago, IL 60614		Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)			Must contact h aunch vessel. \$ ee may apply. could be limited beak summer n	arbor to 27 daily Parking d during nonths.	Two lane boat launch. Fuel dock. Bathrooms available		IL	SLM
31st Street Harbor	Boat Ramp	41.83462	-87.6051	3155 South Lake Shore Dr., Chicago, IL 60616	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to launch vessel. \$27 daily fee may apply. Parking could be limited during peak summer months.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM								
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Army Corps of Engineers Lot	Staging Area	41.88937	-87.6101	108 N. Streeter Dr., Chicago, IL 60611	Cook	Army Corps of Engineers	Gate access must be granted by Navy Pier. Permission must be granted by ACOE to use lot.	Large lot that is unused most of the year.	IL	SLM								
Burnham Harbor	Staging Area	41.86042	-87.6123	1559 S. Lake Shore Dr., Chicago, IL 60605	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM								
Diversy Harbor	Staging Area	41.9308	-87.6353	2601 N. Cannon Dr., Chicago, IL 60614	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Two lane boat launch. Fuel dock. Bathrooms available	IL	SLM								
31st Street Harbor	Staging Area	41.83462	-87.6051	3155 South Lake Shore Dr., Chicago, IL 60616	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot. Parking fee will apply.	Three lane boat launch. Fuel dock. Bathrooms available.	IL	SLM								
Montrose Harbor	Staging Area	41.96394	-87.6391	601 W. Montrose Ave., Chicago, IL 60613	Cook	Chicago Harbors (Joint venture between Chicago Park District and Westrec Marinas)	Must contact harbor to use parking lot.	Large parking lot with easy access to Lake shore Drive. No boat launch located at harbor.	IL	SLM								
Cook County EOC	ICP	41.59932	-87.7348	15900 South Cicero Ave., Oak Forest, IL	Cook	Cook County Department of Homeland Security and Emergency Management 312-603- 8180	Access must be granted by Cook County Department of Homeland Security and Emergency Management	Emergency Operations Center with several rooms available.	IL	SLM								
				C	COMMEN	rs												



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- D1: Cedar Creek Pipeline Crossing
- D2: Power Plant Road Channel
- D3: West half of Muskegon Lake
- D4: East Half of Muskegon Lake
- D5: RR Crossing CSX/Muskegon Lakeshore Trail
- D6: Railroad Along Shoreline/ Oakridge
- D7: Pipeline on Harbor Island Drive
- D8: Offshore Vessel
- D9: Near Shore VSL with Offshore Wind
- D10: Nav.Thank Structures at Frankfort Harbor
- D11: Ottawa Historic Beach District
- D12: Pier and Revements Gh
- D13: Leland Historical District
- D14: North Manitou Shoal Light
- D15: SS Badger
- D16: Manistee Car Ferry
- D17: Manistee Harbor South Breakwater
- D18: Manistee Harbor North Pier head
- D19: USS Silversides
- D20: Nav Structures at Pentwater Harbor

Cedar Creek Pipe	line Crossing			GRS #	D1						
ity Sites / Ranking:		Cedar Creek Pipeline, Priority M	edium (B)								
		LOCATION IN	NFORMATION								
			County: Muskegor	n							
		CONTACT IN	FORMATION								
skegon: 231-744-162	21										
Parks Department:	231-724-6707										
vvorks: 231-724-41	00										
ological Service Field	Office: 517-351-2555	i									
ke Michigan Comma	nd Center: 414-747-7	182									
ment of Environment	al Quality Environmen	tal Emergencies Hotline: 800-2	292-4706								
: 312-353-2318											
of Michigan (Lansin	ig): 517-324-1828										
onmental Research	and Education Society										
Managed Areas: Veterans Memorial Park, Muskegon Conservation Club, Wilder Nature Preserve											
Managed Areas: Veterans Memorial Park, Muskegon Conservation Club, Wilder Nature Preserve Shoreline Type: Mixed Sand and Gravel Beaches, Fine Grain Sand Beaches, Rip Rap											
	Mixed Sand and Gr	avel Beaches, Fine Grain Sand	d Beaches, Rip Rap)							
it:	Wilder Nature Prese	erve, Muskegon Lake EPA Are	a of Concern								
	Brown Trout, Walley Wading Birds, and	Forage Fish, Salmonids, Federally Threatened / Endangered Species listed below, Shorebirds, Raptors, Waterfowl,									
tened /	Piping Plover (Enda	angered), Karner Blue Butterfly	(Endangered), Indi	ana Bat (Endand	gered) Red Knot (Threatened), Pitchers						
ecies:	Thistle(Threatened)	, Northern Long Eared Bat(Thr	eatened), Eastern	Massasauga(Thr	reatened)						
c Resources:	Water intakes, park	s, high use areas, commercial	ports, recreational	marinas, docks, r	recreational fishing areas, etc						
	Muskegon Conserv	ation Club (Marina), West Mich	igan Dock and Mai	rket Non Potable	water intake (Intake is located 18' deep next to						
	oodwally	SPILL RE	ESPONSE								
vior:	-Sea Conditions: V	Vorst in October and Novembe	r, when, lake wide,	wave heights of	5 to 10 feet are encountered about 35 percent of the						
	time. In October, S	through SW winds are most of	en responsible, wh	ile by November	W through N winds often generate rough seas. Seas						
	of 10 feet or more a	re encountered 3 to 5 percent	of the time from No	vember through	March. Extreme waves of 20 to 22 feet have been						
	encountered. During	g the spring, high seas are infre	equent, but 5- to 10	-foot seas develo	op 15 to 30 percent of the time in the S and 20 to 40						
	20 percent in the N. St	and July By August the fall bu	ildun begins	int of the time, wr	life those in the 5- to 10-loot category drop to less than						
	-Water: River flows	ater: River flows from the Muskegon River into the Northeast portion of Muskegon Lake, River has depth between 2-9'									
	-Temperature: The	The location averages about three days each year with maximum temperatures in excess of 90°F (32.2°C). July is the									
	warmest month with	n an average high of 81°F (27.2	2°C) and an averag	e minimum of 60	^o F (15.6°C). January is the coolest month with an						
	recorded in August	1964 and the lowest temperatu	ure on record is -15	°F (-26.1°C) reco	brded in December 1976. About 141 days each vear						
	experience temperatures	atures below 32°F (0°C) and an below 40°F (4.4°C) except July	average ten days	each year record n is 41°F (5°C)) a	Is temperatures below 5°F (-15°C). Every month has and every month except July and August has recorded						
	Cedar Creek Pipe ity Sites / Ranking: skegon: 231-744-162 h Parks Department: Works: 231-724-6724 blogical Service Field ke Michigan Comma ment of Environment : 312-353-2318 v of Michigan (Lansin pomental Research : : at: tened / ecies: c Resources: vior:	Cedar Creek Pipeline Crossing ity Sites / Ranking: Skegon: 231-744-1621 n Parks Department: 231-724-6707 : Works: 231-724-4100 h: 231-724-6724 plogical Service Field Office: 517-351-2555 ke Michigan Command Center: 414-747-7 ment of Environmental Quality Environment : 312-353-2318 / of Michigan (Lansing): 517-324-1828 ponmental Research and Education Society : Veterans Memorial Mixed Sand and Gr at: Wilder Nature Prese Brown Trout, Waller Wading Birds, and 2 tened / ecies: Thistle(Threatened) c Resources: Water intakes, park Muskegon Conserv seawall)	Cedar Creek Pipeline, Priority M Ity Sites / Ranking: Cedar Creek Pipeline, Priority M IDOCATION IN Contract IN Skegon: 231-744-1621 Parks Department: 231-724-6707 Works: 231-724-6724 Dolspan="2">Dolspan="2">Contract IN Start Science Field Office: 517-351-2555 ke Michigan Command Center: 414-747-7182 ment of Environmental Quality Environmental Emergencies Hotline: 800-2 Start Science Field Office: 517-351-2555 ke Michigan Command Center: 414-747-7182 ment of Environmental Quality Environmental Emergencies Hotline: 800-2 of Michigan Command Center: 414-747-7182 ment of Environmental Quality Environmental Emergencies Hotline: 800-2 of Michigan Command Center: 414-747-7182 ment of Environmental Quality Environmental Research and Education Society: 616-455-6236 RESOURCES AT RISE Weterans Memorial Park, Muskegon Conservation Mixed Sand and Gravel Beaches, Fine Grain Sand Intermet Total, Walleye, Forage Fish, Salmonids, Fe Wading Birds, and 24 Migra	Cedar Creek Pipeline Crossing ity Sites / Ranking: Cedar Creek Pipeline, Priority Medium (B) LOCATION INFORMATION County: Muskego Contact INFORMATION skegon: 231-744-1621 1 Parks Department: 231-724-6707 Works: 231-724-4100 1: 231-724-6724 Jogical Service Field Office: 517-351-2555 ke Michigan Command Center: 414-747-7182 ment of Environmental Quality Environmental Emergencies Hotline: 800-292-4706 : 312-353-2318 r of Michigan (Lansing): 517-324-1828 onmental Research and Education Society: 616-455-6236 RESOURCES AT RISK CHARACTEF : Veterans Memorial Park, Muskegon Conservation Club, Wilder Natur Mixed Sand and Gravel Beaches, Fine Grain Sand Beaches, Rip Rap tt: Wilder Nature Preserve, Muskegon Lake EPA Area of Concern Brown Trout, Walleye, Forage Fish, Salmonids, Federally Threatened Wading Birds, and 24 Migratory Birds tened / Piping Plover (Endangered), Karner Blue Butterfly (Endangered), Indiceis: : Secources: Water intakes, parks, high use areas, commercial ports, recreational Muskegon Conservation Club (Marina), West Michigan Dock and Mariseawall) Secources: Seca Conditions: Worst in October and November, w	Cedar Creek Pipeline Crossing GRS # ity Sites / Ranking: Cedar Creek Pipeline, Priority Medium (B) LOCATION INFORMATION County: Muskegon County: Muskegon County: Muskegon CONTACT INFORMATION County: Muskegon Norks: 231-724-6724 County: 31-724-6724 Diogical Service Field Office: 517-351-2555 Ke Michigan Command Center: 414-747-7182 ment of Environmental Quality Environmental Emergencies Hotline: 800-292-4706 : : : : : : : : : : : : : : : : : : :						

Respons	 Homperators below werage annual precipitation for Muskegon is 32.56 inches (827 mm) which is fairly evenly distributed throughout the year. Precipitation falls on about 208 days each year. The wettest month is September with 3.32 inches (84 mm) and the driest, February, averages only 1.65 inches (42 mm). An average of 35 thunderstorm days occur each year with June, July and August being the most likely months. Snow falls on about 93 days each year and averages about 104 inches (2642 mm) each year. January averages nearly 34 inches (864 mm) per year while December, January, February and April. About 24 days each year. One-foot (305 mm) snowfalls in a 24- hour period have occurred in each month of December, January, February and April. About 24 days each year has a snowfall total greater than 1.5 inches (38 mm) and snow has fallen in every month except June, July, and August. Fog is present on average 140 days each year and is rather evenly distributed throughout the year with a slight maximum during the late summer and early autumn. -Winds: The prevailing wind direction in Muskegon is the west-northwest. Late winter through spring is the windiest period but a maximum gust of 58 knots occurred in February 1987 Boom: Cascade boom across creek from the eastern side of the creek, using causeway pilings to help support the boom strings, cascade booming should lead to a collection area near the park parking lot on the north western side of creek for easy access -lee: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. 													
Site ID	ite ID Latitude Longitude Response Implementation Min Staging Area Boat Access Land Access Priority Date Last State County Sector Address													
Site ib	Site ID Latitude Longitude Response Implementation Min Staging AreaBoat Access Land Access Priority Date Last State County Sector Address (Decimal (Decimal Strategy Boom Boom Boom Priority Decimal Strategy Verified Verified Priority Date Last State County Sector Address													
	Degrees) Degrees) Length													
	Degrees) Degrees)													
Cedar	43.262644	86.246152	Containment and	Cascade boom acros	s1500'	Marathon	Limited to	No nearby	Medium	25-Oct-	MI	Muskegon	SLM	"The
Creek			Collection:	Cedar Creek. Collect		Petroleum	small craft	roads due to		2016				Causeway"
Pipeline				product at boom		Facility	due to	marsh and						Bridge crossing
Crossing				collection points			shallow	wooded terra	ain					Cedar Creek,
(D1)							water	surrounding						IVIUSKEgon
								the crossing.						Lake
		_		•	1	-	•	ł		- L			-	11
						LOGIS	TICS							
					Lo	ogistics Sup	port Table							
Name	Туре	Latitude	Longitude	Address		County	Owner	/ POC Ad	cess Limitati	ons		Description	Stat	e Sector
		(Decimal Degrees)	(Decimal Degrees)											
Pointe	Boat	43.242	928 86.2964	14 350 Cihal	< St.	Muskegon	Pointe	Marina	Local marina	i, Boat laund	h	Boat launch	M	SLM
iviarine	Marine Launch Muskegon, Mi (231) 744-3236 and marina 49445 494													
		•				COMME	ENTS	·			•			
-Safetv!														



GRS:	Power Plant Roa	ad Channel			GRS #	D2
Protection Prior	ity Sites / Ranking:		Power Plant Road Channel, Priority	Medium (B)		
			LOCATION INF	ORMATION		
State: Michigan			C	ounty: Ottawa		
			CONTACT INFO	ORMATION		
City of Grand Hav	/en: 616-842-3210					
Grand Haven Pul	olic Works: 616-847-3	493				
Grand Haven Ha	bor Transit: 616-842-	3220				
East Lansing Eco	logical Service Field	Office: 517-351-2555	_			
USCG Sector La	ke Michigan Comman	d Center: 414-747-718	32 1 Eastaine ann an Albertin an 200, 200, 41	700		
Michigan Departr	nent of Environmental	Quality Environmenta	Il Emergencies Hotline: 800-292-4	706		
EPA Spill Hotilne	of Michigan (Lancing). 517 224 1929				
Wolverine Pinelin	of Michigan (Lansing). 517-324-1626				
	e. 000-402-7171		RESOURCES AT RISK (CHARACTER	ISTICS	
Managed Areas		Parks Preserves B	aches etc. Areas with an assign	ed manager (sta	keholder) Kitche	al induist Dunes Preserve Lighthouse Connector
managea Areas.		Park, Escanaba Par	k, Grand Haven State Park	eu manager (sta	ikenoider). Ritche	er-Einaquist Dunes i reserve, Eighthouse Connector
Shoreline Type:		Sand Shores, Riprap	o (Boulder) Structures, Manmade L	Jnranked Harbo	r Structures (concr	ete, steel bulkheads, etc.), Fresh water marshes
Sensitive Habita	t:	N/A				
Wildlife:		Brown Trout, Walley Wading Birds, and 2	e, Forage Fish, Salmonids, Federa 5 Migratory Birds	ally Threatened	Endangered Spec	cies listed below, Shorebirds, Raptors, Waterfowl,
Federally Threat	ened / Endangered	Indiana Bat (Endang	gered) Red Knot (Threatened), Pit	tchers Thistle(Th	nreatened), Northei	rn Long Eared Bat(Threatened),
Species:						
Socio-Economic	Resources:	Wharf Marina North	Shore Marina J.B. Sims Power P	lant non Potable	Water intake(Har	bor Island) Grand Haven Board of Light and Power
		Non Potable water in	ntake (Near US Coast Guard Static	on Grand Haven)	son blandy, chana navon board of Eight and rowor
			SPILL RESI	PONSE	/	
Predicted Behav	ior:	-Sea Conditions: W	ater High-water periods on the Gra	and River are us	sually for two month	hs during the spring. During these periods, currents
		may reach 3 to 5 mp	h. Currents up to 5 mph should be	expected after	periods of heavy p	recipitation, regardless of season.
		-Temperature: The	location averages about three day	s each year witl	h maximum temper	ratures in excess of 90°F (32.2°C). July is the warmest
		month with an avera 30° E (1° C) and an a	ge high of 81°F (27.2°C) and an av	verage minimum	n of 60°F (15.6°C).	January is the coolest month with an average high of
		1964 and the lowest	temperature on record is -15°F (-2	26 1°C) recorded	in December 197	6 About 141 days each year experience temperatures
		below 32°F (0°C) an	d an average ten days each year r	records tempera	tures below 5°F (-1	15°C). Every month has seen temperatures below 40°F
		(4.4°C) except July (extreme minimum is 41°F (5°C)) a	ind every month	except July and A	ugust has recorded temperatures below freezing (0°C).
		-Precipitation: The	average annual precipitation for M	luskegon is 32.5	56 inches (827 mm) which is fairly evenly distributed throughout the year.
		Precipitation falls on	about 208 days each year. The we	ettest month is S	september with 3.3	2 inches (84 mm) and the driest, February, averages
		falls on about 93 day	inity. All average of 55 thundersto is each year and averages about 1	104 inches (2642	each year with Jun 2 mm) each vear - I	e, July and August being the most likely months. Show lanuary averages nearly 34 inches (864 mm) per year
		while December ave	rages nearly 27 inches (686 mm)	each year. One-	foot (305 mm) snov	wfalls in a 24- hour period have occurred in each
		month of December,	January, February and April. Abo	ut 24 days each	year has a snowfa	Il total greater than 1.5 inches (38 mm) and snow has

			fallen in ev the year w -Winds: _T of 58 knots	very month except June, J ith a slight maximum durir he prevailing wind directic s occurred in February 196	uly, and Au ng the late s on in Muske 87 <u>.</u>	gust. Fog summer a gon is the	is presen nd early a west-nort	t on averaç utumn. thwest. Lat	ge 140 e winte	days each ye er through spr	ear and is ra	ther evenly	/ distributed iod but a ma	throughout ximum gust	
Response	Consider	ations:	-Boom: Du product co -Water co islands. Se side chanr -Ice: A mil coverage o Most of the entrance o the need fo breakwate waves to p	eploy anchors along N an- intaminates marsh area an nsiderations : The lower everal connected bayous, hels, cuts across a bend ir d winter on Lake Michigar during a severe winter. Ma e harbors on the E side of thannel. Parallel piers hav or dredging in the harbor of rs that converge to an ento prevent them from being c	d S shorelin nd reaches part of Grar or bays, ha n the river be n means abe aximum ice Lake Michig e been cons entrance. In trance open onducted th	es, as we marina nd River I ve very s etween prout 10-pe coverage gan are w structed a addition, ing in dee rough the	ell as 2-3 a has connect hallow ent oints abou rcent cove occurs by vithin the n at the mout several has ep water be confined	tinchors in (cting shalld rances with t 1.2 and 3 erage comp mid-Marcl nouths of s ths of these arbors alon eyond the channels b	Grand I ow side n deep 3.3 mile bared to h, on th mall riv e harbo ng this s paralle betwee	River. Contai e channels se water inside. Is above the r o an average ne average, w vers or in sma ors to aid in c shore have b I piers. These n the piers ar	n and collect parated from South Char nouth and h 40-percent while decay h all lakes con arrying the t een provide basins dise nd into the h	t product i n the main nnel the fa las a contr coverage a begins a w nected to l oar into de d with stilli sipate the f arbors.	n low curren river by low rthest downs olling depth and an 80-pe eek or two la _ake Michiga eper water a ng basins fo orce of storr	t area before marshy stream of the of 3 feet ercent ater. an by an nd to lessen rmed by n generated	
				Recomm	nended Spi	II Respo	nse Strate	egy Table							
Site ID	Latitude (Decimal Degrees)	Longitu (Decima Degree	de Response al Strategy s)	onse Implementation Min Boom Area Access Access Access Verified Verified County Sector Address											
Power plant road Channel (D2)	43.070083	3 -86.226	754 Containment and Collectic	t Deploy anchors along N and S shorelines, as well as 2-3 anchors in Grand River. Contain and collect product in low current area before product contaminates marsh area and reaches marina	400' 5	Yes	Yes	Yes	Medi	um 14-Oc 2014	t- MI	Ottawa	SLM	N. Third Street Bridge over the Grand River, Grand Haven, MI	
					Logistic	GISTIC	S								
				Logistics Support Table											
Name		Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	Cou	nty	Owner	/ POC	Access Limitations	Description		State	Sector	

Grand Haven Municipal Boat Launch	Boat Ramp	43.075863	86.229015	Harbor Island End of 3rd Street	Ottawa	Grand Haven	None	Hard Surface ramp for trailered watercraft	Michigan	SLM
				COM	MENTS					
				••••						
			_							
			-Ensui	e safety and	proper wear of	PPE				
			-Highly s	ensitive shor	eline through C	hannel				
				-5 ft draft	in Channel					



GRS:	West half of Muskeg	on Lake			GRS #	D3					
Protection Price	ority Sites / Ranking:		West Half of Muskegon Lake, Priority: B (Medium)								
-			LOCATION INFORMATION								
State: Michigan				County: N	Auskegon						
			CONTACT INFORMATION								
City of North M	uskegon: 231-744-1621										
City of Muskege	on: 231-724-6724										
East Lansing E	cological Service Field Offi	ice: 517-35	1-2555								
USCG Sector L	ake Michigan Command C	Center: 414	747-7182								
Michigan Depar	tment of Environmental Q	uality Envir	onmental Emergencies Hotline: 800-292-4706								
EPA Spill Hotlin	e: 312-353-2318										
Historical Socie	ty of Michigan (Lansing): 5	517-324-18	28								
Lake Express: a	366-914-1010										
			RESOURCES AT RISK CHARACTERISTICS		NA	<u> </u>					
Managed Area	S:	Muskegor	1 State Park, Lake Express High Speed Passenger Vessel Terminal,	Harbour I	owne Marina, Muskeg	on Fish Dock, Muskegon					
Shorolino Tyr		Mooth Di	D, Pointe Marina	Jorbor Ctru	aturaa (aanarata, ataa	hulkhaada ata)					
Shoreline Type	ctures (concrete, stee	i buikneads, etc.).									
Sensitive Habi	tat:	Potential	for endangered species and shoreline								
Wildlife:		Brown Tro	out, Walleye, Federally Threatened / Endangered Species listed belo	w, and Mig	ratory Birds						
Federally Thre	atened / Endangered	Piping Plo	over (Endangered), Karner Blue Butterfly (Endangered), Indiana Bat (Endangere	ed) Red Knot (Threate	ened), Pitchers					
Species:		Thistle(Th	reatened), Northern Long Eared Bat(Threatened), Eastern Massasa	uga(Threat	ened)						
Socio-Econom	ic Resources:	Lake Exp	ress High Speed Passenger Vessel Terminal, Harbour Towne Marina	a, Muskego	on Fish Dock, Muskego	on Yacht Club, Pointe					
		Marina, V	Vest Michigan Dock and Market (Non Potable water intake) Intake is	located 18	deep next to seawall						
			SPILL RESPONSE								
Predicted Beha	avior:	-Sea Con	ditions: Worst in October and November, when, lakewide, wave hei	ghts of 5 to	10 feet are encounter	red about 35 percent of the					
		time. In O	ctober, S through SW winds are most often responsible, while by No	vember W	through N winds often	generate rough seas.					
		Seas of 1	0 feet or more are encountered 3 to 5 percent of the time from Nover	nber throug	gh March. Extreme wa	ves of 20 to 22 feet have					
		been enco	ountered. During the spring, high seas are infrequent, but 5- to 10-foo	ot seas dev	elop 15 to 30 percent	of the time in the S and 20					
		to 40 perc	ent in the N. Summer seas climb above 10 feet less than 1 percent of	of the time,	while those in the 5- to	o 10-foot category drop to					
		less than	20 percent in June and July. By August, the fall buildup begins.								
		-Tempera	Iture: The location averages about three days each year with maxim	um temper	atures in excess of 90	°F (32.2°C). July is the					
		average h	for the manual average flight of 81 F (27.2 C) and an average minimum of 18° F (-7.8°C). The big	nhest temp	(15.6 C). January is in perature on record for I	Muskegon is 99°F (37.2°C)					
		recorded	in August 1964 and the lowest temperature on record is -15°F (-26.1)	°C) recorde	ed in December 1976.	About 141 days each year					
experience temperatures below 32°F (0°C) and an average ten days each year records temperatures below 5°F (-15°C). Every month											
	has seen temperatures below 40°F (4.4°C) except July (extreme minimum is 41°F (5°C)) and every month except July and August has										
		recorded	temperatures below freezing (U°C). Intion: The average annual precipitation for Muskegon is 32.56 inches	s (827 mm)	which is fairly evenly	distributed throughout the					
		year. Pred	cipitation falls on about 208 days each year. The wettest month is Se	ptember wi	ith 3.32 inches (84 mm	and the driest. February.					
		averages	only 1.65 inches (42 mm). An average of 35 thunderstorm days occu	ir each yea	r with June, July and A	August being the most					

Response	Consid	erations:	likely inche perio 1.5 ir and i: -Win maxin -Boo	months. Snow fal s (864 mm) per ye d have occurred ir iches (38 mm) and s rather evenly dis ds:_The prevailing mum gust of 58 km m: Anchoring will	ls on about ear while D each mor d snow has tributed thr wind direc ots occurre be depend	: 93 days ecember th of Dec fallen in oughout tion in Mu ed in Feb ent on ar	each ye average cember, every m the year uskegor ruary 19 eas of p	ear and es nea Janua nonth e r with a n is the 987 protecti	l averages rly 27 inche ry, Februar xcept June slight max west-north	about 1 es (686 i y and A , July, a timum d west. La	04 inches (264 mm) each year pril. About 24 o nd August. Fo uring the late s ate winter throu	2 mm) eac r. One-foot days each y g is presen summer and ugh spring i	h year. Janua (305 mm) sn year has a sn t on average d early autum s the windies	ary averag owfalls in a lowfall tota 140 days nn. st period b tional suppr	es nearly 34 a 24- hour al greater than each year ut a
			-Ice: cover -Mos by ar conve preve	A mild winter on L rage during a seve t of the harbors on e entrance channe erge to an entranc ent them from bein	ake Michig ere winter. I the West : I. In additio e opening g conducte Recomme	an mean Maximum side of La n, severa in deep w ed througl nded Spi	s about n ice cov ake Mich al harbon vater be h the co ill Resp	10-per verage nigan a rs alon yond th onfined onse \$	cent covera occurs by r re within th g this shore he parallel p channels b Strategy Ta	age com mid-Mar e mouth e have b biers. Th etween able	pared to an avech, on the avech, on the avech so f small rivecter provided where basins distributed the piers and	verage 40-p rage, while rs or in sma with stilling ssipate the into the har	bercent cover decay begin all lakes conr basins forme force of storr bors.	rage and a s a week o nected to L ed by breal n generate	in 80-percent or two later. .ake Michigan kwaters that ed waves to
Site ID	ID Latitude (Decimal Degrees) Longitude (Decimal Degrees) Response Strategy Implementation Min Boom Length Staging Area Length Boat Access Land Access Priority Date Last Verified State County Sector Address st Half 43.2325 86.309 Exclusion Protection of 300' multiple Yes Yes Medium 14-Oct- Michigan Muskegon,														
West Half of Muskego n Lake (D3)	43.232586.309ExclusionProtection of marinas and shoreline of Muskegon Lake. Exclude material from entering marinas.300'multiple locations, marinas/boat rampsYesYesYesMedium14-Oct- 2014MichiganMuskegonSLMMuskegon, Muskegon,														
						LC	OGIST	ICS							
						Logistic	s Supp	ort Ta	ble						
Name	e	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Addr	ess	Coun	ity	Owner /	POC	Access Limitations	Des	cription	State	Sector
Leeland M Boat Lau	Image: Second														
Glenn Ar	Boat Lauliciti Staging Area Staging Area Leeland With Leeland With Leeland With Limited WaterCraft Michigan SLM Glenn Arbor Boat Ramp 44.90151 85.988896 End of S Lake St, Glen Arbor Leelanau Glen Arbor Limited Medium Sized Michigan SLM Glen Arbor Township Find Arbor Township Township Parking. Watercraft Michigan SLM														

Empire Beach Park	Boat Ramp and Staging Area	44.81427	86.06793	Lake Michigan Dr, Empire Township	Leelanau	Empire	None	Medium Sized watercraft	Michigan	SLM
Lake Michigan Road	Boat Ramp and Staging Area	44.73083	86.15628	End of Lake Michigan Rd	Benzie	Lake Township	None	Medium Sized watercraft	Michigan	SLM
Arcadia Dock	Boat Ramp and Staging Area	44.49101	86.23866	End of Pine St, Arcadia Township	Manistee	Arcadia Township	Limited parking	Hard Surface for large trailered watercraft.	Michigan	SLM
Portage Lake Boat Launch	Boat Ramp and Staging Area	44.36953	96.24763	End of Lake Park Dr, Onekama Township	Manistee	Onekama Township	None	Hard Surface for large trailered watercraft.	Michigan	SLM
First Street Boat Launch	Boat Ramp and Staging Area	44.24722	86.33988	1st St and Beach Road, Manistee	Manistee	Manistee	None	Hard Surface for large trailered watercraft.	Michigan	SLM
Loomis Boat Launch	Boat Ramp and Staging Area	43.95448	86.46168	End W Loomis St and Stearns Dr	Ludington	Mason	None	Hard Surface for large trailered watercraft.	Michigan	SLM
Pent Water Lake	Boat Ramp and Staging Area	43.7746	86.42888	Intersection of Bean and E Lake Rd	Pentwater Township	Oceana	Limited Parking	Medium Sized watercraft	Michigan	SLM
Oval Park Boat Launch	Boat Ramp	43.55979	86.50798	End of W Garfield Rd	Benona Township	Oceana	Limited Parking	Medium Sized watercraft	Michigan	SLM
White Lake Scenic Drive Boat Launch	Boat Ramp	43.36314	86.41198	End of N Scenic Dr	Fruitland Township	Muskegon	Limited Parking	Medium Sized watercraft	Michigan	SLM
Snug Harbor Muskegon State Park	Boat Ramp and Staging Area	43.2493	86.33032	Memorial Dr, Laketon Township	Laketon Township	Muskegon	None	Hard Surface for large trailered watercraft.	Michigan	SLM
Grand Haven Municipal Boat Launch	Boat Ramp and Staging Area	43.075863	86.229015	Harbor Island End of 3rd Street	Ottawa	Grand Haven	None	Hard Surface for large trailered watercraft.	Michigan	SLM

Pigeon River Boat Launch	Boat Ramp and Staging Area	42.90352	86.1982	Intersection of Crab Dr and Lakeshore Dr	Port Sheldon Township	Ottawa	None	Hard Surface for large trailered watercraft.	Michigan	SLM
Lake Macatawa Boat Launch	Boat Ramp and Staging Area	42.79093	86.186532	End of Bower St	Park Township	Ottawa	None	Hard Surface for large trailered watercraft.	Michigan	SLM
Black River Park Boat Launch	Boat Ramp and Staging Area	42.41045	86.27276	E Wells St, South Haven	South Haven	Van Buren	None	Hard Surface for large trailered watercraft.	Michigan	SLM
Marina Island Boat Launch	Boat Ramp and Staging Area	42.101957	86.468607	End of Industrial Court, St Joseph	Berrien	St. Joseph	None	Hard Surface ramp for trailered watercraft. Parking for 130 Trailers and Vehicles	Michigan	SLM
New Buffalo Beach Park Boat Launch	Boat Ramp and Staging Area	41.80097	86.745	Marquette Dr, New Buffalo	New Buffalo	Berrien	None	Hard Surface for large trailered watercraft.	Michigan	SLM
				C	OMMENTS					
			-Heavy	-Ensure safety recreational tra	and proper w affic during th	vear of PPE ne summer mor	nths			



GRS:	East Half of Mus	skegon Lake			GRS #	D4				
Protection Prio	rity Sites / Ranking:		East Half of Muskegon Lake, Pr	iority: B (medium)						
			LOCATION II	NFORMATION						
State: Michigan				County: Muskegor	n					
			CONTACT IN	FORMATION						
City of North Mu	skegon: 231-744-162	1								
City of Muskego	n: 231-724-6724		2							
USCG Sector La	ike Michigan Comma	nd Center: 414-747-78	2 Di Emorgonaios Hatlina: 800 (202 4706						
FPA Spill Hotline			ai Emergencies nouine. 600-2	292-4700						
			RESOURCES AT RIS	K CHARACTER	RISTICS					
Managed Areas	:	Ashton Marine, Lake	shore Yacht Harbor, Hartshor	rn Marina, Terrace I	Point Marina, Mus	skegon Conservation Club				
Shoreline Type	:	Mostly Riprap (Bould	er) Structures, Gravel Shores	s, and Unranked Ha	arbor Structures (c	concrete, steel bulkheads, etc.). A few Sandy Shores				
Sonsitivo Habit		and Wet Lands in the	NE portions of Muskegon La	аке						
Sensitive Habit	at.	Potential for endangered species and shoreline								
Wildlife:		Brown Trout, Walley	e, Federally Threatened / Enc	dangered Species lis	sted below, and N	ligratory Birds				
Federally Threa	tened /	Piping Plover (E), Re	ed Knot (T), Pitcher's Thistle (T), Karner Blue But	terfly (E), Indiana	Bat (E), Northern Long-eared Bar (T), and Eastern				
Endangered Sp	ecies:	Massasauga (T)								
Socio-Economi	c Resources:	Managed Areas liste	d above as well as Veterans I	Memorial Park						
			SPILL RI	ESPONSE						
Predicted Beha	vior:	-Sea Conditions: W	orst in October and Novembe	er, when, lakewide,	wave heights of 5	to 10 feet are encountered about 35 percent of the				
		time. In October, S th	rough SW winds are most of	ten responsible, wh	ile by November \	W through N winds often generate rough seas. Seas				
		of 10 feet or more ar	e encountered 3 to 5 percent	of the time from No	vember through N	March. Extreme waves of 20 to 22 feet have been				
		encountered. During	the spring, high seas are infr	equent, but 5- to 10	-toot seas develo	p 15 to 30 percent of the time in the S and 20 to 40				
		percent in the N. Sur	nmer seas climb above 10 fe	et less than 1 perce	ent of the time, whi	lie those in the 5- to 10-toot category drop to less than				
		20 percent in June a	nd July. By August, the fall bu	uliqup begins.	th maximum tamp	paraturas in exercise of 00°E (22.2°C). July is the				
		warmest month with	an averages about three	2°C) and an average	e minimum of 60°	F (15.6°C) January is the coolest month with an				
		average high of 30°F	(-1°C) and an average minin	num of 18°F (-7.8°C	C). The highest ter	nperature on record for Muskegon is 99°F (37.2°C)				
		recorded in August 1	964 and the lowest temperate	ure on record is -15	°F (-26.1°C) recor	rded in December 1976. About 141 days each year				
		experience temperat	ures below 32°F (0°C) and ar	n average ten days	each year records	s temperatures below 5°F (-15°C). Every month has				
		seen temperatures b	elow 40°F (4.4°C) except July	y (extreme minimum	n is 41°F (5°C)) ar	nd every month except July and August has recorded				
		-Precipitation: The	average annual precipitation f	for Muskegon is 32	56 inches (827 m	m) which is fairly evenly distributed throughout the				
		year. Precipitation fa	lls on about 208 days each ye	ear. The wettest mo	onth is September	with 3.32 inches (84 mm) and the driest, February,				
		averages only 1.65 in	nches (42 mm). An average o	of 35 thunderstorm of	days occur each y	ear with June, July and August being the most likely				
		months. Snow falls o	n about 93 days each year ar	nd averages about	104 inches (2642	mm) each year. January averages nearly 34 inches				
		(864 mm) per year w	hile December averages nea	rly 27 inches (686 n	nm) each year. Oi	ne-toot (305 mm) snowtalls in a 24- hour period have				
		mm) and snow has f	allen in every month except J	une, July, and Augu	ust. Fog is present	t on average 140 days each vear and is rather evenly				
L		I mini and show has h	allen in every month except J	une, July, and Augu	ist. Fug is present	i on average 140 days each year and is rather evenily				

			distributed t -Winds: Th gust of 58 k	hroughout the year e prevailing wind nots occurred in l	ar with a s direction i February 1	light maximum n Muskegon is 1987	during the late the west-north	e summer and west. Late wir	early autunter throug	ımn. Ih spring is	the wind	diest period	but a ma	ximum
Response C	onsideratio	ons:	-Ice: A mild coverage du -Most of the entrance ch lessen the r formed by b storm gene	winter on Lake M uring a severe wir harbors on the E annel. Parallel pic need for dredging oreakwaters that o rated waves to pr	lichigan m nter. Maxir side of La ers have b in the har converge to event then	eans about 10 num ice cover ake Michigan a been constructe bor entrance. I o an entrance n from being co	-percent covera age occurs by r are within the m ed at the mouth n addition, seve opening in deep onducted throug	age compared mid-March, on ouths of smal is of these hai eral harbors a p water beyon gh the confine	I to an ave the avera I rivers or bors to aid long this s d the para ed channel	rage 40-pe ige, while c in small lak d in carryin hore have illel piers. ⁻ s between	ercent co decay be kes conn g the ba been pro These ba the piers	overage and gins a week ected to Lak r into deepe ovided with s asins dissipa s and into th	an 80-pe or two la ce Michig r water a stilling ba te the for e harbor	rcent iter. an by an nd to isins rce of s.
				Re	commend	led Spill Resp	onse Strategy	/ Table						
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Implementation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	State	County	Sector	Address
Image: Normal state														
						LOGIST	ICS							
					L	ogistics Supp	oort Table							
Name	Туре	Latitudo (Decima Degrees	e Long al (Dec s) Deg	itude Ado Simal rees)	lress	County	Owner / POC	Access Limitation	ns	De	scription		State	Sector
Pointe Marine	Boat Launch	43.24292	28 86.2	9644 350 Ci Muske 49	hak St. gon, MI 445	Muskegon	Pointe Marina (231) 744- 3236	Local mari Boat laun	na, ch	Boat laur	ich and m	arina	МІ	SLM
Hartshorn Marina	Boat Launch	43.23455	58 86.27	74643 920 W Ave. Mu MI 4	Western Jskegon, 9441	Muskegon	Hartshorn Marina (231) 724-6785	Marina with launch and c	boat rane	Ν	⁄larina		MI	SLM
	COMMENTS													
This area is very busy b	his area is a heavily populated area in the summer with fishermen (land side and on recreational vessel) and tourists. This area in the winter is not ary busy but has some ice fishermen on the lake.													



GRS:	RR Crossing CS	SX/Muskegon Lakeshore Trail	GRS #	D5								
Protection Prior	rity Sites / Ranking:	RR Crossing CSX, Priority: A (high)										
		LOCATION INFORMATION	J									
State: Michigan		County: Muske	gon									
		CONTACT INFORMATION	l									
City of Muskego	n: 231-724-6724											
USCG Sector La	ke Michigan Comma	nd Center: 414-747-782										
FPA Spill Hotline	ment of Environmenta	al Quality Environmental Emergencies Hotline: 800-292-4706										
		RESOURCES AT RISK CHARACTE	RISTICS									
Managed Areas	:	All in Muskegon Lake: Ashton Marine, Lakeshore Yacht Harbor, Ha	rtshorn Marina, Te	rrace Point Marina, Muskegon Conservation Club								
				•								
Shoreline Type:		Mainly wet lands shoreline with this location being in the Muskegon	River									
Sensitive Habita	at:	Potential for endangered species along shoreline										
Wildlife:	Wildlife: Mostly likely in Muskegon Lake, however, these may go down stream into the Muskegon River: Brown Trout, Walleye, Federally Threatened / Endangered Species listed below, and Migratory Birds											
Federally Threa	/ Endangered Species listed below, and Migratory Birds Federally Threatened / Piping Plover (E), Red Knot (T), Pitcher's Thistle (T), Karner Blue Butterfly (E), Indiana Bat (E), Northern Long-eared Bar (T), and Eastern											
Federally Threatened /Piping Plover (E), Red Knot (T), Pitcher's Thistle (T), Karner Blue Butterfly (E), Indiana Bat (E), Northern Long-eared Bar (T), and EasternEndangered Species:Massasauga (T)												
Socio-Economi	c Resources:	Muskegon Lakeshore Trail which is just west of the Railroad										
		SPILL RESPONSE										
Predicted Beha	vior:	-Sea Conditions: Worst in October and November, when, lakewide	e, wave heights of t	5 to 10 feet are encountered about 35 percent of the								
		time. In October, S through SW winds are most often responsible,	while by November	W through N winds often generate rough seas. Seas								
		of 10 feet or more are encountered 3 to 5 percent of the time from I	November through	March. Extreme waves of 20 to 22 feet have been								
		encountered. During the spring, high seas are infrequent, but 5- to	10-100t seas develo	bp 15 to 30 percent of the time in the 5 and 20 to 40								
		20 percent in lune and luly. By August the fall buildup begins	cent of the time, wi									
		-Temperature: The location averages about three days each year	with maximum tem	peratures in excess of 90°F (32.2°C) July is the								
		warmest month with an average high of 81°F (27.2°C) and an average	age minimum of 60	°F (15.6°C). January is the coolest month with an								
		average high of 30°F (-1°C) and an average minimum of 18°F (-7.8	°C). The highest te	mperature on record for Muskegon is 99°F (37.2°C)								
		recorded in August 1964 and the lowest temperature on record is -	15°F (-26.1°C) reco	brded in December 1976. About 141 days each year								
		experience temperatures below 32° F (0°C) and an average ten day seen temperatures below 40° F (4 4°C) except July (extreme minim	vs each year record	is temperatures below 5°F (-15°C). Every month has								
		temperatures below freezing (0°C).										
	-Precipitation: The average annual precipitation for Muskegon is 32.56 inches (827 mm) which is fairly evenly distributed throughout the											
	year. Precipitation falls on about 208 days each year. The wettest month is September with 3.32 inches (84 mm) and the driest, February,											
	months. Snow falls on about 93 days each year and averages about 104 inches (2642 mm) each year. January averages nearly 34 inches											
		(864 mm) per year while December averages nearly 27 inches (686	6 mm) each year. C	One-foot (305 mm) snowfalls in a 24- hour period have								
		occurred in each month December, January, February and April. A	oout 24 days each	year has a snowfall total greater than 1.5 inches (38								
		mm) and snow has fallen in every month except June, July, and Au distributed throughout the year with a slight maximum during the last	gust. Fog is preser	it on average 140 days each year and is rather evenly ly autumn.								

	-Winds:_The prevailing wind direction in Muskegon is the west-northwest. Late winter through spring is the windiest period but a maximum gust of 58 knots occurred in February 1987 ponse Considerations: -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent															
Response	Considerat	ions:	-Ice: A mild coverage du -Most of the entrance ch lessen the r formed by b storm gener	winter o uring a s harbors annel. P need for reakwat rated wa	n Lake Michiga evere winter. M s on the E side Parallel piers ha dredging in the ers that conver ves to prevent Recomm	In means Iaximum of Lake N ve been harbor e ge to an them fror nended S	about 10 ice cover /lichigan a constructo ntrance. entrance n being c Spill Resp	percent c age occurs are within t ed at the n in addition opening in onducted to ponse Stra	overage s by mic he mou houths c , severa a deep w through ategy Ta	e compared I-March, on Iths of small of these hark I harbors ald vater beyond the confined able	to an averag the averag rivers or in pors to aid ong this sh d the parall d channels	age 40-perce e, while deca small lakes in carrying th ore have bee el piers. The between the	nt coverag ay begins a connected e bar into en provideo se basins o piers and	e and an a week or to Lake I deeper w d with still dissipate into the h	80-pe two la Vichig ater a ing ba ing ba the fo	Freent ater. Jan by an nd to asins rce of s.
Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Response Strategy	Impler	nentation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Addı	ress
Railroad Crossing (D5)43.2520486.23915ExclusionBoom off the canal or channel near the railroad crossing that is potentially affecting the coastal waters. These are typically in areas that will have ample shore access for recoveryYesYesYesYesHigh14-Oct- 2014MichiganN/ASLMFrom Waukeg Michiga there are several railroad crossingLOGISTICS											ו kegan to nigan City e are rral oad sings that need to be ressed <i>v</i> idually.					
						Logis	tics Sup	port Table)						_	
Name	Туре	Latitud (Decim Degree	le Long al (Dec s) Deg	itude timal rees)	Address	C	ounty	Owner /	POC	Access Limitation	s	Descrip	otion	SI	ate	Sector
Pointe Marine	Boat Launch	43.2429	28 86.2	9644	350 Cihak St Muskegon, N 49445	. Mu 11	skegon	Pointe Ma (231) 74 3236	arina 14-	Local marin Boat launc	a, h	Boat launch a	and marina		MI	SLM
HartshornBoat43.23455886.274643920 W WesternMuskegonHartshornMarina with boatMarinaMarinaMarinaLaunchAve. Muskegon,Muskegon,Marina (231)Iaunch and craneIaunch and craneMIS									SLM							
	COMMENTS															
Muskego	skegon Lakeshore Trail is just west of the Railroad crossing and is heavily used during the summer months and less used during the winter.															



GRS:	Railroad Along S	Shoreline/ Oakridge	GRS #	D6							
Protection Prior	ection Priority Sites / Ranking: Railroad Along Shoreline, Priority: A (high) LOCATION INFORMATION										
		LOCATION INFORMATION									
State: Michigan		County: Ludington	n								
		CONTACT INFORMATION									
City of Ludington	: 231-843-3425										
USCG Sector La	ke Michigan Commar	nd Center: 414-747-782									
EPA Spill Hotline	: 312-353-2318	a Quality Environmental Emergencies Founde. 600-292-4706									
		RESOURCES AT RISK CHARACTER	RISTICS								
Managed Areas	:	Lincoln Hills Golf Club									
Oh analia a Tamaa											
Snoreline Type:		Mostly Wetlands and a few Sandy Shores									
Sensitive Habita	at:	Potential for endangered species and shoreline									
Wildlife:		Coho salmon, Federally Threatened / Endangered Species listed bel	ow, and Migratory	Birds							
Federally Threa	tened /	Piping Plover (E), Red Knot (T), Pitcher's Thistle (T), Small Whorled	Pogonia (T), Karn	er Blue Butterfly (E), Mitchell's Satyr Butterfly (E),							
Endangered Sp	ecies:	Indiana Bat (E), Northern Long-eared Bar (T), and Eastern Massasa	uga (T)								
Socio-Economi	c Resources:	Lincoln Hills Golf Club and the N Lakeshore Dr Bridge E of the Railroad									
		SPILL RESPONSE									
Predicted Behav	vior:	-Sea Conditions: Worst in October and November, when, lakewide,	wave heights of 5	to 10 feet are encountered about 35 percent of the							
		time. In October, S through SW winds are most often responsible, who of 10 feet or more are encountered 3 to 5 percent of the time from No.	nile by November \ ovember through N	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been							
		encountered. During the spring, high seas are infrequent, but 5- to 10)-foot seas develo	p 15 to 30 percent of the time in the S and 20 to 40							
		percent in the N. Summer seas climb above 10 feet less than 1 perce	ent of the time, whi	le those in the 5- to 10-foot category drop to less than							
		20 percent in June and July. By August, the fall buildup begins.									
		- Iemperature: The location averages about three days each year will warmest month with an average high of 81°F (27.2°C) and an average average high of 30°F (-1°C) and an average minimum of 18°F (-7.8°C is 99°F (37.2°C) recorded in August 1964 and the lowest temperature days each year experience temperatures below 32°F (0°C) and an average month has seen temperatures below 40°F (4.4°C) except July August has recorded temperatures below freezing (0°C).	th maximum temp le minimum of 60° C). The highest ter e on record is -15° verage ten days ea (extreme minimum	eratures in excess of 90°F (32.2°C). July is the F (15.6°C). January is the coolest month with an nperature on record for the east side of Lake Michigan F (-26.1°C) recorded in December 1976. About 141 ach year records temperatures below 5°F (-15°C). In is 41°F (5°C) and every month except July and							
		-Precipitation: The average annual precipitation for the east side of distributed throughout the year. Precipitation falls on about 208 days and the driest, February, averages only 1.65 inches (42 mm). An averages the most likely months. Snow falls on about 93 days earayerages nearly 34 inches (864 mm) per year while December average in a 24- hour period have occurred in each month of December, Janu greater than 1.5 inches (38 mm) and snow has fallen in every month each year and is rather evenly distributed throughout the year with a	Lake Michigan is 3 each year. The we rage of 35 thunde ch year and avera ges nearly 27 inch iary, February and except June, July, slight maximum di	22.56 incnes (827 mm) which is fairly evenly ettest month is September with 3.32 inches (84 mm) rstorm days occur each year with June, July and ges about 104 inches (2642 mm) each year. January ies (686 mm) each year. One-foot (305 mm) snowfalls April. About 24 days each year has a snowfall total and August. Fog is present on average 140 days uring the late summer and early autumn.							

				-Winds	s:_The p but a m	orevailing aximum	wind direction gust of 58 knot	in the ea s occurre	st side of l d in Febru	Lake Micł Iary 1987	nigan is t	he west-n	orthwest. L	ate winter t	hrough sp	oring is the	e wind	iest
Response (Considerat	ions:		-Ice: A coverag -Most o entranc lessen formed storm g	mild wir ge durin of the ha ce chan the nee I by brea generate	nter on L ng a seve arbors on nel. Para ed for dre akwaters ed waves	ake Michigan n ere winter. Maxi the E side of L allel piers have adging in the ha that converge to prevent the Recommen	neans ab imum ice .ake Mich been cor rbor entra to an ent m from b ded Spil	out 10-pe coverage nigan are v istructed a ance. In ac rance ope eing cond I Respons	occurs b occurs b within the t the mou ddition, se ning in de ucted thro se Strate	erage col y mid-Ma mouths of ths of the everal ha eep wate ough the gy Table	mpared to arch, on th of small riv ese harbo rbors alon r beyond t confined o	an averag e average, vers or in s rs to aid in g this shor he parallel channels bo	e 40-percer while deca mall lakes c carrying the e have been piers. Thes etween the	nt coverag y begins a connected e bar into n provideo e basins o piers and	ge and an a week or to Lake M deeper wa d with stilli dissipate t into the h	80-pe two la Aichiga ater ar ing ba the for arbors	rcent ter. an by an nd to sins ce of 3.
Site ID	Latitude (Decimal Degrees)	Longi (Deci Degre	itude imal ees)	Response Strategy	e	Impleme	ntation	Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	State	County	Sector	Addr	ess
Railroad Along Shoreline (D6)	Railroad Along Shoreline (D6)43.9806 43.9806-86.46195 estate containmentContainment more land sid response tect such as barrie trenching. Th techniques al way to preve discharged m from reaching in these are going							N/A		No	Yes	High	14-Oct- 2014	Michigan	N/A	SLM	From Wau Mich there sevel railro cross will r be ao indiv	kegan to igan City are ral bad lings that need to ddressed idually.
								LO	GISTICS	5	L							
								Logistic	s Support	Table								
Name	Туре		Latitud (Decim Degree	le L nal (l es) D	Longitud (Decimal Degrees)	e	Address	Co	unty	Own	er / POC	Acces Limita	s tions	Descriptio	on	State		Sector
Loomis Boa Launch	Loomis Boat Boat 43.95 86.5 End W Loor Launch Ramp and Staging Area							St. Lu	dington	Maso	on	None		Hard Surf large trail watercraf	ace for ered t.	Michigan		SLM
								CO	MMENT	S								
	GRP/GRS MAP																	



GRS:	Pipeline on Hart	oor Island Drive			GRS #	D7
Protection Prior	ity Sites / Ranking:		Pipeline, Priority: A (high)			l
			LOCATION II	NFORMATION		
State: Michigan				County: Ottawa		
			CONTACT IN	FORMATION		
City of Grand Ha	ven: 616-842-3460					
USCG Sector La	ke Michigan Comma	nd Center: 414-747-78	2			
Michigan Depart	ment of Environmenta	al Quality Environment	al Emergencies Hotline: 800-2	292-4706		
	. 312-303-2316		RESOURCES AT RIS			
Managed Areas	•	Harbor Island Boat I	aunch Grand Isle Marina WI	haft Marina IB Sim	S Generating Stat	ion Rix Robin Park, Dornhos and Fastmans Island
Managea Areas	•	and Keenan Marina			o Cenerating Olar	ion, rux robin r arx, bombos and Eastmans Island,
Shoreline Type:		Mostly Wet Lands a	nd Unranked Harbor Structure	es (concrete, steel b	ulkheads, etc.) wi	th some Riprap (Boulder) Structures and Gravel
		Shores				
Sensitive Habita	at:	Potential for endang	ered species along shoreline			
Wildlife:		Rainbow trout, Chine	ook salmon, Coho salmon, Ye	ellow perch, Channe	el catfish, Federall	y Threatened / Endangered Species listed below, and
		Migratory Birds		-		
Federally Threa	tened /	Piping Plover (E), Re	ed Knot (T), Pitcher's Thistle (T), Small Whorled I	Pogonia (T), Karn	er Blue Butterfly (E), Mitchell's Satyr Butterfly (E),
Endangered Sp	ecies:	Indiana Bat (E), Nor	inern Long-eared Bar (1), and	Eastern Massasau	iga (T)	
Socio-Economi	c Resources:	Managed Areas liste	ed above as well as Spring Lal	ke (NE of the site) a	and The Sag (NW	of the site)
			SPILL RI	ESPONSE		
Predicted Beha	vior:	-Sea Conditions: W	orst in October and Novembe	er, when, lakewide,	wave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S t	hrough SW winds are most of	ten responsible, wh	ile by November V	W through N winds often generate rough seas. Seas
		of 10 feet or more an	e encountered 3 to 5 percent	of the time from No	vember through N	Arch. Extreme waves of 20 to 22 feet have been
		percent in the N_Su	mmer seas climb above 10 fe	equent, but 5- to 10	ent of the time whi	le those in the 5- to 10-foot category drop to less than
		20 percent in June a	ind July. By August, the fall bu	uildup begins.		
		-Temperature: The warmest month with average high of 30°F recorded in August 1 experience temperat seen temperatures be temperatures below -Precipitation: The	location averages about three an average high of 81°F (27.2 F (-1°C) and an average minin 1964 and the lowest temperatu tures below 32°F (0°C) and ar below 40°F (4.4°C) except July freezing (0°C). average annual precipitation f	e days each year wir 2°C) and an averag num of 18°F (-7.8°C ure on record is -15 n average ten days y (extreme minimun for Muskegon is 32.	th maximum temp e minimum of 60° C). The highest ten °F (-26.1°C) recor each year records n is 41°F (5°C)) ar 56 inches (827 mi	eratures in excess of 90°F (32.2°C). July is the F (15.6°C). January is the coolest month with an nperature on record for Muskegon is 99°F (37.2°C) ded in December 1976. About 141 days each year is temperatures below 5°F (-15°C). Every month has not every month except July and August has recorded m) which is fairly evenly distributed throughout the
		year. Precipitation fa averages only 1.65 i months. Snow falls o (864 mm) per year w occurred in each mo mm) and snow has f distributed throughou	Ils on about 208 days each ye nches (42 mm). An average o on about 93 days each year ar while December averages nea onth of December, January, Fe allen in every month except J ut the year with a slight maxim	ear. The wettest mo of 35 thunderstorm of nd averages about rly 27 inches (686 r ebruary and April. A une, July, and Augu num during the late	onth is September days occur each yo 104 inches (2642 nm) each year. Or bout 24 days each ust. Fog is present summer and early	with 3.32 inches (84 mm) and the driest, February, ear with June, July and August being the most likely mm) each year. January averages nearly 34 inches ne-foot (305 mm) snowfalls in a 24- hour period have n year has a snowfall total greater than 1.5 inches (38 c on average 140 days each year and is rather evenly v autumn.

			-Wind aust o	s:_The prevailing	wind direction in ed in February 19	Muskegon is the	west-nort	hwest. La	te winter th	nrough spri	ing is the	windiest	period but	a maximum
Response	e Consid	erations:	-Ice: A covera -Most entran lessen formed storm	a mild winter on L age during a seve of the harbors or ce channel. Para the need for dre d by breakwaters generated waves	ake Michigan me ere winter. Maxim n the E side of La allel piers have be edging in the harb s that converge to s to prevent them Recommend	ans about 10-per um ice coverage ke Michigan are w een constructed at or entrance. In ad an entrance oper from being condu	cent cove occurs by vithin the r t the mout ldition, se hing in de ucted thro se Strateg	rage com mid-Marc mouths of ths of thes veral harb ep water h ugh the co gy Table	pared to an ch, on the a small river se harbors pors along peyond the pofined cha	n average, w average, w rs or in sma to aid in ca this shore l parallel pi annels bety	40-perce hile deca all lakes arrying th have bee ers. The ween the	nt coverag ay begins a connected e bar into en provideo se basins o piers and	ge and an a week or I to Lake N deeper wa d with stilli dissipate t into the h	80-percent two later. /lichigan by an ater and to ng basins he force of arbors.
Site ID	Latitude (Decima Degrees	e Longitu II (Decima 5) Degrees	de Response al Strategy s)	Implementatio	on Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	State	County	Sector	Address
Pipeline (D7)	'ipeline D7)43.075686.22068ExclusionBoom near the jurisdictional boundary to prevent the spread of material out of the canals;250'Most areas have ramps/marinas nearby.yesYesHigh14-Oct- 2014N/AN/AThroughout AOR													
						LOGISTICS	\$							
					Lo	ogistics Support	Table							
Nam	e	Туре	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Address	County	Owr	er / POC	Acc Limita	ess ations	Descri	iption	State	Sector
Grand H Municipa Laund	Grand Haven Aunicipal Boat LaunchBoat Ramp and Staging Area43.075986.229Harbor Island End of 3rd StreetOttawaGrand HavenNoneHard Surface for large trailered watercraft.MichiganSLM													
						COMMENTS	S							



GRS:	Offshore Vessel				GRS #	D8					
Protection Prio	rity Sites / Ranking:		Offshore Vessel, Priority: A (high	n)							
			LOCATION IN	FORMATION							
State: Michigan				County: Muskego	n						
			CONTACT IN	FORMATION							
City of Muskego	n: 231-724-6724										
USCG Sector La	ke Michigan Commar	d Center: 414-747-78	2								
Michigan Depart	ment of Environmenta	I Quality Environment	al Emergencies Hotline: 800-2	292-4706							
	9. 312-303-2310										
Managed Areas		Muskegon State Par	k Pere Marguette Park Kruse	Park Margaret Dr	ake Elliot Park, a	nd Muskegon Lighthouse					
Managea Areas	•	Musicegon Otale 1 al		er and, margaret Di							
Shoreline Type		Mostly Sandy Shore	s on the western shores of Mic	chigan. Muskegon I	_ake does have m	nostly Riprap (Boulder) Structures, Gravel Shores, and					
		Unranked Harbor St	ructures (concrete, steel bulkh	eads, etc.).							
Sensitive Habit	at:	Potential for endang	ered species and shoreline								
Wildlife:	Wildlife: Brown Trout, Walleye, Federally Threatened / Endangered Species listed below, and Migratory Birds										
Federally Threa	derally Threatened / Piping Plover (E), Red Knot (T), Pitcher's Thistle (T), Karner Blue Butterfly (E), Indiana Bat (E), Northern Long-eared Bar (T), and Eastern										
Endangered Sp	ecies:	Massasauga (T)									
Socio-Economi	c Resources:	Managed Areas liste	d above as well as Muskegon	City Water Filtratio	n. The Lake Expr	ess also transits to and from the Port of Muskegon					
			SPILL RE	SPONSE							
Predicted Beha	vior:	-Sea Conditions: W	orst in October and Novembe	r, when, lakewide, v	wave heights of 5	to 10 feet are encountered about 35 percent of the					
		time. In October, S tl	nrough SW winds are most oft	en responsible, wh	ile by November \	<i>N</i> through N winds often generate rough seas. Seas					
		of 10 feet or more an	e encountered 3 to 5 percent of	of the time from No	vember through N	Aarch. Extreme waves of 20 to 22 feet have been					
		percent in the N. Sur	mer seas climb above 10 fee	equent, but 5- to 10	nt of the time whi	p 15 to 30 percent of the time in the 5 and 20 to 40					
		20 percent in June a	nd July. By August, the fall bu	ildup begins.	int of the time, with						
warmest month with an average high of 81°F (27.2°C) and an average minimum of 60°F (15.6°C). January is the coolest month with an average high of 30°F (-1°C) and an average minimum of 18°F (-7.8°C). The highest temperature on record for the east side of Lake Michi is 99°F (37.2°C) recorded in August 1964 and the lowest temperature on record is -15°F (-26.1°C) recorded in December 1976. About 14 days each year experience temperatures below 32°F (0°C) and an average ten days each year records temperatures below 5°F (-15°C). Every month has seen temperatures below 40°F (4.4°C) except July (extreme minimum is 41°F (5°C)) and every month except July and August has recorded temperatures below freezing (0°C). -Precipitation: The average annual precipitation for the east side of Lake Michigan is 32.56 inches (827 mm) which is fairly evenly distributed throughout the year. Precipitation falls on about 208 days each year. The wettest month is September with 3.32 inches (84 mm and the driest, February, averages only 1.65 inches (42 mm). An average of 35 thunderstorm days occur each year with June, July and August being the most likely months. Snow falls on about 93 days each year and averages about 104 inches (2642 mm) each year. January averages nearly 34 inches (864 mm) per year while December averages nearly 27 inches (686 mm) each year. As a snowfall tota greater than 1.5 inches (38 mm) and snow has fallen in every month except June, July, and August. Fog is present on average 140 days											
		greater than 1.5 inch each year and is rath	es (38 mm) and snow has fall her evenly distributed througho	en in every month e out the year with a s	except June, July, slight maximum di	, and August. Fog is present on average 140 days uring the late summer and early autumn.					

Response	Considerat	tions:	-Winds period -Curre to 5 mp -Ice: A covera	: The prevailing v but a maximum g nts: High-water p h. Currents up to mild winter on La ge during a sever	vind direction in th ust of 58 knots oc eriods on the Grai 5 mph should be ke Michigan mear e winter. Maximur	ne east side curred in Fe nd River are <u>expected a</u> ns about 10 n ice covera	of Lake Mich bruary 1987 e usually for t fter periods o -percent cove age occurs by	igan is the wes wo months dur <u>f heavy precipi</u> rage compare mid-March, o	st-northwe ing the spr tation, reg d to an ave n the avera	st. Late wir ing. During ardless of s erage 40-po age, while o	nter thro g these p season. ercent co decay be	ugh spring periods, co overage a egins a we	g is the wir urrents ma ind an 80- eek or two	ndiest ay reach 3 percent later.
			-Most of entrand lessen formed storm of	f the harbors on t e channel. Parall the need for dred by breakwaters t enerated waves t	he E side of Lake el piers have beer ging in the harbor hat converge to ar to prevent them fro Recommended	Michigan a n constructe entrance. In n entrance o om being co Spill Resp	are within the ad at the mou n addition, se opening in de onducted thro onse Strates	mouths of sma ths of these ha veral harbors a ep water beyo ugh the confin gy Table	Il rivers or orbors to ai along this s nd the para ed channe	in small lal d in carryin shore have allel piers. Is between	kes conr ig the ba been pr These b the pier	nected to ar into dee rovided wi asins diss rs and into	Lake Mich per water th stilling I ipate the f o the harbo	igan by an and to pasins force of prs.
Site ID	Latitude (Decimal Degrees)	Longit (Decin Degree	ude Response nal Strategy es)	e Implementatio	on Min Boom Length	Staging Area	Boat Access	Land Access	Priority	Date Last Verified	State	County	Sector	Address
Offshore Vessel (D8)	43.22674	-86.47	867 Diversion	DiversionInitial is to circle the stricken vessel with offshore boom (3 X ships length) in an effort to prevent total loss. Diversion boom will funnel discharge to a natural collection point or to a skimming barge. Deploy from nearest marina with boom and skimming vessels to prevent or minimize landfall of the discharge. Chevron diversion booming will be used to funnel missed discharge to an area of shore with theVaried vesselNumerous locations around Lake Michigan depending on the vessel's actual location.High access points around Lake Michigan depending upon the actual location of locationHigh access points around Lake Michigan depending upon the actual location.High access points around Lake Michigan depending upon the actual location.High access points around Lake Michigan depending upon the actual location of location.High access points around Lake Michigan depending upon the vessel's actual location.High access points around Lake Michigan depending upon the vessel.High access points around Lake Lake Michigan depending upon the vessel.Z5-Oct- 2016Diversion booming will be used to funnel missed discharge to an area of shore with theThe discharge to an area of shore with theThe discharge to an area of shore with theHigh to an undepending upon the to access to an undepending upon the to funnel missed discharge to an area of shore with theThe discharge to an area to funnel missed to funnel missed								N/A	SLM	Anywhere offshore, 2 miles or greater, with the winds out of the north.
					Logi	LOGIST	ICS port Table							
Name	Ту	Type Latitude Longitude Address County Owner / POC Access Description State Sect (Decimal (Decimal Degrees) Degrees) Degrees) Degrees Degrees Degrees								Sector				

White Lake Scenic Drive	Boat Bamp	43.36314	86.41198	End of N Scenic Dr	Fruitland Townshin	Muskegon	Limited Parking	Medium Sized	Michigan	SLM
Boat Launch	namp				i o misinp			Waterchart		
Snug Harbor	Boat	43.2493	86.33032	Memorial Dr,	Laketon	Muskegon	None	Hard Surface for	Michigan	SLM
Muskegon	Ramp and			Laketon Township	Township			large trailered		
State Park	Staging							watercraft.		
	Area									
				C	OMMENTS					
-During the su	immer and	l open water s	eason, the Lak	e Express (pass	enger vessel)	transits to an	d from Milwauke	ee and Muskego	on.	
				GR	P/GRS MAP					



GRS:	Near Shore Ves	ssel w/ Offshore Wind		GRS #	D9						
Protection Priorit	y Sites / Ranking:	Near Shore Vessel, Priority: A	(High)		•						
		LOCATION IN	IFORMATION								
State: Michigan			County: N/A								
		CONTACT IN	FORMATION								
City of Ludington: 2	231-845-6237										
City of Manistee: 2	31-398-2801	0									
Michigan Departme	e Michigan Command	Center: 414-747-7182 Quality Environmental Emergencies Hotline: 800-2	92-4706								
EPA Spill Hotline: 3	312-353-2318		32-4700								
•		RESOURCES AT RISP	CHARACTER	ISTICS							
Managed Areas:		Ludington State Park, Orchard Beach State Park	< colored and set of the set of t								
Charolina Turna		Cand Charge Diagon (Dauldar) Churchurge Futer		and Divitta Mive	d Cond and Cravel Charge						
Shoreline Type:		Sand Shores, Riprap (Boulder) Structures, Exter									
Sensitive Habitat:		Migratory Birds, White Sand Beaches									
Wildlife:		Salmonids, Gamefish, Waterfowl, Raptors									
Federally Threate	ned / Endangered	Piping Plover (E), Red Knot (T), Pitcher's Thistle (T), Karner Blue Butterfly (E), Indiana Bat (E), Northern Long-eared Bat (T), Eastern									
Species:		Massasauga (T)									
Socio-Economic	Resources:	Recreational Beaches south of Manistee, Marinas in Manistee, Ludington State Park Campgrounds, Drinking Water Intakes North of									
		mouth of Pere Marquette Lake									
Predicted Behavid	or	SFILL RE	SFUNSE	wave beights of	5 to 10 feet are encountered about 35 percent of the						
		time. In October, S through SW winds are most of Seas of 10 feet or more are encountered 3 to 5 p been encountered. During the spring, high seas to 40 percent in the N. Summer seas climb abov less than 20 percent in June and July. By Augus - Winds: Coastal winds are more localized and v when northerlies, easterlies, and southerlies are preponderance of winds out of the S, particularly likelihood of encountering winds of 28 knots or m likely cause of strong winds in spring and summer percent of the time and less than 2 percent most morning hours, swinging to the S and NW by after windspeeds. Speeds of 28 knots or more increases the time. Morning directions are variable, with E, through W. The strong winds continue throughout through NE.	often responsible, w bercent of the time f are infrequent, but s e 10 feet less than t, the fall buildup be ariable. Along the M among the most co with the approach hore falls from a 4- t er are thunderstorm of the time. Summernoon, with an incr se to 4 to 6 percent. S, and W winds an ut the winter and are	while by November from November th 5- to 10-foot seas 1 percent of the til gins. Michigan shore, sp mmon. By afterno of summer. Summer of summer. Summer of summer. Summer gusts. By summer er winds along the ease in speed. By By December, the nong the most cor	r W through N winds often generate rough seas. rough March. Extreme waves of 20 to 22 feet have develop 15 to 30 percent of the time in the S and 20 me, while those in the 5- to 10-foot category drop to oring winds are variable, particularly in the morning, oon, aided by a lake-breeze effect, there are a ner also brings a slackening of windspeeds. The nee in March to less than 3 percent by May. The most er, windspeeds of 28 knots or more occur less than 4 e shore are usually out of the E through S during the v October, there is a noticeable increase in ese speeds can be encountered up to 11 percent of mmon. Afternoon winds are most often out of the S winter storms, which bring a variety of winds from SW						

Response	Considerat	ions:	between co This area li -Temperat except July -Precipitat inches (864 period have 1.5 inches is rather ev -Ice: A mild coverage d -Most of the an entrance to lessen th formed by b storm gene	old and warm air, the es at the NE edge ure: Every month h r and August has re- ion: Snow falls on a f mm) per year while occurred in each (38 mm) and snow renly distributed thre winter on Lake Minuring a severe winter harbors on the E e channel. Parallel he need for dredgin preakwaters that con- trated waves to pre Recor	ounderstorm of the nation has seen ter ecorded ter about 93 da le Decembe month Dece has fallen i oughout the chigan mea ter. Maximu side of Lake piers have l g in the har onverge to a vent them f mmended §	is and squ mperatures aperatures ays each y er average ember, Jar n every mo e year with m ice cove e Michigar been cons bor entranc rom being Spill Resp	all lines ca um freque s below 40 below fre ear and a s nearly 2 huary, Fet onth exce a slight m 10-percen erage occ a are withi tructed at ce. In add e opening conducte onse Stra	an be viol ency belt for 0°F (4.4°C ezing (0°C verages a 7 inches pruary and pt June, J naximum of t coverag urs by mid n the mout the mout dition, sev in deep v d through ategy Tak	ent. On o or tornade C) except C). bout 104 (686 mm) d April. At luly, and <i>i</i> during the e compar d-March, iths of sm hs of thes eral harbowater bey the confi ble	ccasion they oes. July (extrem inches (264.) each year. oout 24 days August. Fog e late summe red to an ave on the avera hall rivers or i se harbors to ors along this ond the para ned channel	r may trigger e minimum 2 mm) each One-foot (30 each year h is present o er and early rage 40-per ge, while de n small lake aid in carry s shore have illel piers. Th s between th	tornadoes is 41°F (5° year. Janu 5 mm) sno has a snow h average autumn. cent cover icay begins s connecte ing the bar been pro hese basin he piers ar	c)) and e uary avera owfalls in fall total g 140 days age and a s a week o ed to Lake into deep vided with s dissipate ad into the	waterspouts. very month ages nearly 34 a 24- hour preater than each year and on 80-percent or two later. Michigan by per water and stilling basins e the force of harbors.
Site ID	ite ID Latitude Longitude Response Implementation Min Staging Boat Land Priority Date State County Sector Address Degrees) Degrees)													
Near Shore Vessel with Offshore Wind (D9)	Degrees)Degrees)ServedServedServedLengthImage: Containance of the containanc										Location will vary, but will encompass a discharge within 2 miles of shore. This will also be based upon a wind out of the south.			
						LOGIST	ICS							
	Logistics Support Table													
Name	me Type Latitude Longitude Address County Owner/POC Access Description State Sector (Decimal Degrees) Degrees)													

Pent Water Lake	Boat Ramp and Staging Area	43.7746	86.42888	Intersection of Bean and E Lake Rd	Pentwater Township	Oceana	Limited Parking	Medium Sized watercraft	Michigan	SLM	
Oval Park Boat Launch	Boat Ramp	43.55979	86.50798	End of W Garfield Rd	Benona Township	Oceana	Limited Parking	Medium Sized watercraft	Michigan	SLM	
White Lake Scenic Drive Boat Launch	Boat Ramp	43.36314	86.41198	End of N Scenic Dr	Fruitland Township	Muskegon	Limited Parking	Medium Sized watercraft	Michigan	SLM	
Snug Harbor Muskegon State Park	Boat Ramp and Staging Area	43.2493	86.33032	Memorial Dr, Laketon Township	Laketon Township	Muskegon	None	Hard Surface for large trailered watercraft.	Michigan	SLM	
Grand Haven Municipal Boat Launch	Boat Ramp and Staging Area	43.075863	86.229015	Harbor Island End of 3rd Street	Ottawa	Grand Haven	None	Hard Surface for large trailered watercraft.	Michigan	SLM	
Pigeon River Boat Launch	Boat Ramp and Staging Area	42.90352	86.1982	Intersection of Crab Dr and Lakeshore Dr	Port Sheldon Township	Ottawa	None	Hard Surface for large trailered watercraft.	Michigan	SLM	
Lake Macatawa Boat Launch	Boat Ramp and Staging Area	42.79093	86.186532	End of Bower St	Park Township	Ottawa	None	Hard Surface for large trailered watercraft.	Michigan	SLM	
Black River Park Boat Launch	Boat Ramp and Staging Area	42.41045	86.27276	E Wells St, South Haven	South Haven	Van Buren	None	Hard Surface for large trailered watercraft.	Michigan	SLM	
Marina Island Boat Launch	Boat Ramp and Staging Area	42.101957	86.468607	End of Industrial Court, St Joseph	Berrien	St. Joseph	None	Hard Surface ramp for trailered watercraft. Parking for 130 Trailers and Vehicles	Michigan	SLM	
New Buffalo Beach Park Boat Launch	Boat Ramp and Staging Area	41.80097	86.745	Marquette Dr, New Buffalo	New Buffalo	Berrien	None	Hard Surface for large trailered watercraft.	Michigan	SLM	
				CC	MMENTS						


GRS:	S: Navigation Structures at Frankfort Harbor GRS # D10											
Protection Prio	rity Sites / Ranking:	Navigation Structures at Frankfort Harbor, Priority: Co	(Low)									
		LOCATION INFORMATION										
State: Michigan		County: Benzie										
		CONTACT INFORMATION										
City of Frankfort	231-352-7117											
USCG Sector La	ke Michigan Commar	nd Center: 414-747-7182 N. Quality Environmental Emergencies Hatline: 800-202-4706										
EPA Spill Hotline	: 312-353-2318	a Quality Environmental Emergencies Hotime. 800-292-4706										
		RESOURCES AT RISK CHARACTE	RISTICS									
Managed Areas	:	Frankfort Harbor, Frankfort North Pierhead										
Shoreline Type	1	Sand Shores, Riprap (Boulder) Structures, Exposed Bluffs, Unranked	d Harbor Structure	s (concrete, steel bulkheads, etc.)								
Sensitive Habit	at:	Migratory Birds, White Sand Beaches, Rare Coastal Vegetation										
Wildlife:		Salmonids, Waterfowl, Raptors										
Federally Threa	tened /	Piping Plover (E), Red Knot (T), Michigan Monkey-Flower (E), Pitche	er's Thistle (T), Indi	ana Bat (E), Northern Long-eared Bat (T), Eastern								
Endangered Sp	ecies:	Massasauga (T)										
Socio-Economi	c Resources:	Recreational Beaches at mouth of Betsie River, Marinas along Betsie	e Lake, Elberta 's \	Naterfront Park, Paul Oliver Memorial Hospital,								
		SPILL RESPONSE										
Predicted Beha	vior:	-Sea Conditions: Worst in October and November, when, lakewide, time. In October, S through SW winds are most often responsible, wh of 10 feet or more are encountered 3 to 5 percent of the time from Ne encountered. During the spring, high seas are infrequent, but 5- to 10 percent in the N. Summer seas climb above 10 feet less than 1 perce 20 percent in June and July. By August, the fall buildup begins. -Winds: Coastal winds are more localized and variable. Along the M when northerlies, easterlies, and southerlies are among the most cor preponderance of winds out of the S, particularly with the approach of likelihood of encountering winds of 28 knots or more falls from a 4- to likely cause of strong winds in spring and summer are thunderstorm percent of the time and less than 2 percent most of the time. Summe morning hours, swinging to the S and NW by afternoon, with an incre Speeds of 28 knots or more increase to 4 to 6 percent. By December Morning directions are variable, with E, S, and W winds among the m The strong winds continue throughout the winter and are associated - While thunderstorms can occur at any time, they are most likely from between cold and warm air, thunderstorms and squall lines can be vit This area lies at the NE edge of the nation's maximum frequency bel	wave heights of 5 hile by November N ovember through N 0-foot seas develop ent of the time, whi ichigan shore, spri mmon. By afternoo of summer. Summer of summer. Summer gusts. By summer er winds along the ease in speed. By 0 r, these speeds ca nost common. Afte with winter storms m May through Se iolent. On occasior It for tornadoes.	to 10 feet are encountered about 35 percent of the <i>W</i> through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than ng winds are variable, particularly in the morning, on, aided by a lake-breeze effect, there is a er also brings a slackening of windspeeds. The ce in March to less than 3 percent by May. The most , windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the October, there is a noticeable increase in windspeeds. n be encountered up to 11 percent of the time. rnoon winds are most often out of the S through W. , which bring a variety of winds from SW through NE. ptember. In spring, when there is often a clash in they may trigger tornadoes or even waterspouts.								

Precipitation: Snow fails on abour 38 days each year and averages show? If the inches (686 mm) each year. January averages nearly 34 inches (686 mm) each year. Snow Control in each north December, January, February and April. Abours 24 days each year has a snowfail total greater than 1.5 inches (68 mm) and year. One-for 10.5 mm) and snow has fallen in everage while december averages ender 27 inches (686 mm) each year. January averages nearly 34 inches (686 mm) each year. January average total areas a snowfail total greater than 1.5 inches (68 mm) and ynow has fallen in everage while december averages ender 27 inches (686 mm) each year. January average that a staft moving during the late summer and early autum. Response Considerations: -dec. A mild winter on Lake Michigan means about 10-percent coverage document on average 40-percent coverage and an 80-percent coverage autom average by mild-March, on the early autom and so the tabors on the E side of Lake Michigan means about 10-percent coverage document on average while decay begins a week or two later Most of the hathors on the E side of Lake Michigan means about 10-percent coverage counts of all no arring the basin stores and so the coverage document water and the labors aborg this shore have been provided with stilling basins formed by breakwaters that coverage to an average. While december average, while december average, while december average, while december average, while december average while december average while december average while december average. While december average while december average while december average while december average. While december average while december average while december average. While december average while december average while december average. While december average while december average while december average while december average while december average. While december average while december average while december average. While de			-Te	mperature: Every	month has seer	temperat	tures be	elow 40°F (4 low freezing	.4°C) exc (0°C)	ept July (extreme n	ninimum is 4	41°F (5°	C)) and e	very month	i
Inches (864 mm) per year while December, averages nearly 27 inches (886 mm) each year. One-ford (305 mm) snowfalls in a 24- hour perint have occurred in each month December, annuary, February and April. About 24 days each year near as envolval total greater than 1.5 inches (38 mm) and snow has fallen in every month except June, July, and August. Fog is present on average 140 days each year near and early autum. Response Considerations: Pee: A mild winter on Lake Michigan means about 10-percent coverage course by mid-March, on the average, while decay begins a week or two later. -Most of the harbors on the E side of Lake Michigan are within the mouths of small haves connected to Lake Michigan base in termance. In addition, several harbors to aid in carrying the bar into deeper water and to lesson the need for dredging in the harbor beach being conducted at the mouths of these harbors to aid in carrying the bar into deeper water and to lesson the need for dredging in the harbor beach being conducted through the confined channels beats duspate the force of storm generated waves to prevent them from being conducted through the confined channels beats duspate the toroe of storm generated waves to prevent them from being conducted through the confined channels beats duspate the toroe of storm generated waves to prevent them from being conducted through the confined channels beats duspate the toroe of storm generated waves to prevent them from being conducted through the confined channels beats duspate the force of storm generated waves to prevent them from being conducted through the confined channels beats duspate the force of storm generate waves to prevent them from being conducted through the confined through			-Pre	ecipitation: Snow	falls on about 9	3 days ea	ch year	and average	es about	104 inche	es (2642 m	nm) each ye	ar. Janu	ary avera	iges nearly	34
Steel D Country Devine year with a sight maximum during the lase number and early autum. Response Considerations:			inch	nes (864 mm) per y	ear while Dece	mber aver	rages n	early 27 inch	ies (686 i	mm) each	year. On	e-foot (305 r	mm) sno	owfalls in	a 24- hour	period
Response Considerations: det Mini and Station the Statient in every indim texcel jubite, Juby, and Valuab. Pog is present on Average 40-percent coverage and an 80-percent coverage dring a sever winter. Maximum leic overage compared to an average 40-percent coverage dring a sever winter. Maximum leic overage corus by mid-March, on the average, while deach yeeling a week of two laterMost of the harbors on the E side of Lake Michigan pare within the mouths of small rivers or in small lakes connected to Lake Michigan by a vertaine channel. Parallel piers have been constructed at the mouths of small rivers or in small lakes connected to Lake Michigan by a vertaine channel. Parallel piers have been constructed at the mouths of small rivers or in small lakes connected to Lake Michigan by a vertaine channel. Parallel piers have been constructed at the mouths of mast harbors to adit in corvering to heap water bypoint be parallel piers. These basies and sings the harbors cost in the construct at the norther contrained the number of the harbors have been provided with stilling basins to med by brakwaters that converge to an entrance operand harbors on altin coverage and into the harbors. Recommended Spill Response Strategy Table Stet ID latitude (Decimal Degrees) Implementation Main State County Stet or County Stet or County Stet ID latitude (Decimal Degrees) Stet on the second present harbors counting the second presecond present harbors counting the second pres			hav	e occurred in each	month Decemb	per, Janua	ary, ⊢eb	ruary and Ap	oril. Abou	t 24 days	each yea	r has a snov	wfall tota	al greater	than 1.5 in	ches
Response Considerations: Verify distinued indugitability bed with 3 singli interaction during a login relate summer late summer later summer late summer			(38	mm) and show has	s rallen in every	month ex	cept Ju	ine, July, and vimum during	a August.	Fog is pr	esent on a	average 140) days e	ach year	and is rath	3L
New price Construction New Ariting unification of Easter mentigener materials watering of particulation of the particulation of theparticulation of the particulation of the	Response Co	nsiderations:		· A mild winter on	ake Michigan i	will a slig	out 10-i	Arcent cove		Summer	anu eany	autumn.	nt cover	ane and a	n 80-nerce	nt
And so to the harbors on the E side of Lake Michigan are within the mouths of small hores or used in manual lakes connected to Lake Michigan by a entrance channel. Parallel piers have been constructed at the mouths of small hores to all in carrying the bar into deeper water and to lessen the need for dredging in the harbors entrance. In eaddition, several harbors along this shore have been provided with stilling basins of small hores or used to an entrance opening in deeper water beyond the parallel piers. These basins disspate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.Site IDLatitude (Decimal (Decimal (Decimal Collection))ResponseImplementationMin to mplementationStaging to mplementationBoat taging tend to the parallel piers. These basins disspate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.Site IDLatitude (Decimal (Decimal Collection)Response StrategyImplementationMin tengthStaging tengthBoat AccessIndick tengthPriority 		nsiderations.		erade during a sev	ere winter Max	imum ice	covera	ne occurs hy	mid-Mar	rch on the	an average	while decay	v heains	s a week (n two later	, in t
entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and o lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water and been provided with stilling basins. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors. Recommended Spill Response to the confined channels between the piers and into the harbors. The set is a state to be prevent the piers and into the harbors. The set is a state to be prevent the piers and into the harbors. The set is a state to be prevent the piers and into the harbors. The set is a state to be prevent the piers and into the harbors. The set is a state to be prevent the piers and into the harbors. The set is a state to be prevent the piers and into the harbors. The set is a state prevent the piers and into the harbors. The set is a state prevent the piers and into the harbors. The set is a state prevent the piers and into the harbors. The set is a state prevent the piers and into the harbors. The set is a state prevent the piers and into the harbors. The set is a state prevent the piers and into the harbors. The set is a state prevent the piers and into the harbor set is a state prevent the piers and into the harbor set is a state prevent the piers and into the harbors. The set is a state prevent the piers and into the harbor set is a state prevent the piers and into the harbor set is a state prevent the piers and into the harbor set is a state prevent the piers and into the harbor set is a state prevent the prevent the piers and into the harbor set is a state prevent the piers and into the harbor set is a state prevent the piers and into the harbor set is a state prevent the piers and into the piers and into the piers and into the piers and piers (pie			-Mo	st of the harbors o	n the E side of I	ake Mich	igan ar	e within the r	mouths o	f small riv	ers or in s	mall lakes o	connecte	ed to Lake	Michigan	bv an
lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors. Site ID Latitude (Decimal Degrees) Congitude Degrees) Response Strategy Implementation Mine Boom Area Boott Area Land Arces Priority Date Last State County Sector Navigation Structures at Frankfort Harbor 44.62984 86.24584 Ecclusion and Rip rap along both south sides of north and south jetties. Exclusion booming needed for rip rap. Natural collection areas in southwest Corner of Coast Guard Station. Yes Yes Low 14-Nov- Michig an Harbor Stategy and			entr	ance channel. Par	allel piers have	been con	structed	d at the mout	ths of the	se harbor	s to aid in	carrving the	e bar int	o deeper	water and	to
formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm being conducted through the confined channels between the piers and into the harbors. Recommed Spill Response Strategy Table Site ID Latitude (Decima) Longitude (Decima) Response Implementation Min Length Stating Boat Land, Ceess Priority Date Last State County Sector Navigation (D10) 44.62984 86.24584 Exclusion and sides of north and south jetties. Exclusion booming needed for rip rap. Networe of Coast Guard Station. 200' Jand Yes Yes Lond 16'n Affer paralong both south jetties. Exclusion of Coast Guard Station. South jetties. Exclusion for rip rap. Networe of Coast Guard Station. Now Jand 16'n an'n Affer paralong both south jetties. Exclusion of Coast Guard Station. South jetties. Exclusion for rip rap. Networe of Coast Guard Station. South jetties. Exclusion for rip rap. Networe of Coast Guard Station. South jetties. Exclusion for rip rap. Networe of Coast Guard Station. South jetties. South jetties. South jetties. Exclusion of Coast Guard Station. South jetties.			less	en the need for dr	edging in the ha	rbor entra	ance. In	addition, se	veral har	bors along	g this sho	e have beer	n provid	ed with st	illing basin	S
In the prevent them from being conducted through the confined channels between the piers and into the harbors. Recommended Spill Responses United the prevent them from being conducted through the confined channels between the piers and into the harbors. Recommended Spill Responses United through the confined channels between the piers and into the harbors. Strategy Decimal Degrees Strategy Decimal South Jette Strategy Decimal Degrees Strategy Decimal South Jette Stra			forn	ned by breakwater	s that converge	to an entr	rance o	pening in de	ep water	beyond th	ne parallel	piers. Thes	e basin:	s dissipate	e the force	of
Recommended Spill Response Strategy Table Site ID Latitude (Decimal Degrees) Longitude (Decimal Degrees) Response Strategy Implementation Length Min Boom Length Staging Area Boat Access Land Access Priority Access Date Last Verified State County Sector Navigation Structures at Frankfort (D10) 44.62984 86.24584 Exclusion and Collection Rip rap along both sides of north and south jettles. Exclusion booming needed for rip rap. Natural collection or areas in southwest corner of Coast Verified Low 14-Nov- 16 Michig an Benzie SLM SLM Name Type Latitude (Decimal Degrees) Congitude (Decimal Degrees) Address Corner of 9th Street and Main Street Frankfort MI County Owmer / POC Latitude Degrees) Access Limitations Description State State Sector Frankfort Municipal Boat Ramp and Staging Area 44.63135 86.2306 Corner of 9th Street and Main Street Frankfort MI County Owmer / POC Access Limitations Description State Sector Frankfort Municipal Boat Ramp Boat Ramp and Staging Area 44.63135 86.2306 Corner of 9th Street and Main Street Frankfort MI State County Street and Main Street Frankfort MI			stor	m generated wave	s to prevent the	m from be	eing co	nducted thro	ugh the c	onfined c	hannels b	etween the	piers an	d into the	harbors.	
Site ID Latitude (Decinal Degrees) Longitude (Decinal Degrees) Response Strategy Implementation Min Boom Length Staging Area Boat Access Land Access Priority Date Last Verified State County Sector Navigation Structures at Frankfort Harbor (D10) 44.62984 86.24584 Exclusion and Collection Rip rap along both sides of north and south jetties. Exclusion booming needed for rip rap. Natural collection ar reas in southwest corner of Coast 200' Veris Yes Vers Low 14-Nov- 16 Miching and Benzie and SLM					Recommer	nded Spill	l Respo	onse Strateg	gy Table							
Image: Degrees) Degrees)Derive and Degrees)Strategy Degrees)Strategy Rip rap along both sides of north and south jetties. Exclusion booming needed for rip rap. Natural collection areas in southwest. CollectionArea LengthAccess AccessAccess AccessImage: Degrees and the part of the p	Site ID	Latitude	Longitude	Response	Implementa	tion N	/lin	Staging	Boat	Land	Priority	Date Last	State	Count	y Sector	A
Degrees)Degrees)Degrees)Degrees)Image: Construction of the construction o		(Decimal	(Decimal	Strategy		В	Boom	Area	Access	Access		Verified				d
Navigation Structures at Frankfort (D10)44.6298486.24584Exclusion and CollectionRip rap along both sides of north and south jettles. Reclusion booming needed for rip rap. Natural collectionYesYesLow16 hMichig anBenzieSLMBenzie (D10)SubSubSubSubSubSubSubSubSubSubSubWateral collection (D10)SubSubSubSubSubSubSubSubSubSubSubNatural collection (D10)SubSubAddress Guard Station.CollectionSubSubSubSubSubSubNameTypeLatitude (Decimal Degrees)Longitude (Decimal Degrees)AddressCourtyOwner / POC SubAccess LimitationsDescriptionSubSubSubSubFrankfort Municipal Boat Ramp Area44.6313586.2306Corner of 9th Street and Main Street Frankfort MiLeelanu Street and Main Street Frankfort MiSubFrankfort Municipal Boat Ramp Boat Ramp44.6313586.2306Corner of 9th SubLeelanu Sub </th <th></th> <th>Degrees)</th> <th>Degrees)</th> <th></th> <th></th> <th>L</th> <th>ength</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>e</th>		Degrees)	Degrees)			L	ength									e
Marge all Marge	Navigation	44 62984	86 24584	Exclusion and	Rin ran along	poth 2	000'		Vec	Ves	Low	14-Nov-	Michi	z Benzi	a SIM	S
Frankfort Harbor (D10) Latitude (D2) Latitude South jetties. Exclusion booming. Natural collection areas in southwest Corner of Coast Guard Station. Latitude Image: South jetties. Exclusion booming. Natural collection areas in southwest Corner of Coast Guard Station. South jetties. Image: South jetties. Support Table Latitude Image: South jetties. Image: South jetties. Support Table Latitude Image: South jetties. Support Table Logistics Support Table Name Type Latitude (Decimal Degrees) Longitude (Decimal Degrees) Address County Owner / POC Support Table Access Limitations Description State Sector Frankfort Municipal Boat Ramp Boat Ramp Area 44.63135 86.2306 Corner of 9th Street and Main Street Frankfort MI Lealanu Ain Street Frankfort MI Frankfort Support Sate Sots A hard-surface ramp with sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20 feet from shore). MI SLM	Structures at	44.02504	00.24004	Collection	sides of nort	h and	.000		103	103	LOW	16	an	5 DCH2N		
Harbor (D10)Image: Discrete structureExclusion booming needed for rip rap. Natural collection areas in southwest corner of Coast Guard Station.Image: Discrete structure Comer of Coast Guard Station.Image: Discrete structure Comer of Coast Comer of CoastImage: Discrete structure Comer of Coast	Frankfort				south jetties							-	-			
(D10)Image: Constraint of Constra	Harbor				Exclusion bo	oming										
Natural collection areas in southwest corner of Coast Guard Station.Natural collection areas in southwest corner of Coast Guard Station.Image: Collection General Collection Logistics Support TableNameTypeLatitude (Decimal Degrees)Longitude (Decimal Degrees)AddressCountyOwner / POC LimitationsAccess LimitationsDescriptionStateStateSectorFrankfort Municipal Boat Ramp Area44.6313586.2306Corner of 9th Street and Main Street Frankfort MILeelanau Street and Main Street Frankfort MIFrankfort Street and Main Street Frankfort MIBoat ramp has over115 parking spotsA hard-surface ramp with sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20)MISLMUU <t< td=""><td>(D10)</td><td></td><td></td><td></td><td>needed for r</td><td>ip rap.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	(D10)				needed for r	ip rap.										
Image: State in the second station. Image: State in the second station. Image: State in the second station. Image: State in the second state in the se					Natural colle	ction										
Image: State of the state					corper of Co	nwest										
Name Type Latitude (Decimal Degrees) Longitude (Decimal Degrees) Address County Owner / POC Access Limitations Description State Sector Frankfort Boat Ramp and Staging Boat Ramp 44.63135 86.2306 Corner of 9th Street and Main Street Frankfort MI Leelanau Frankfort 231-263-7905 Boat ramp has over115 parking spots A hard-surface ramp with sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20 feet from shore). MI SLM					Guard Statio	n.										
LOGISTICS Logistics Support TableNameTypeLatitude (Decimal Degrees)Longitude (Decimal Degrees)AddressCountyOwner / POC ImitationsAccess LimitationsDescriptionStateSectorFrankfort Municipal Boat Ramp Area44.6313586.2306Corner of 9th Street and Main Street Frankfort MILeelanau Street and Main Street Frankfort MIFrankfort 231-263-7905Boat ramp has over115 parking spotsA hard-surface ramp with sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20 feet from shore).MISLM			1													
NameTypeLatitude (Decimal Degrees)Longitude (Decimal 						LO Logistics	GISTI s Supp	CS ort Table								
NameTypeLattudeLattudeLattudeLattudeLattudeLattudeLattudeLattudeLattudeLattudeJatteJatteJatteJatte(Decimal Degrees)Degrees)Degrees)Degrees)Degrees)Degrees)Degrees)LeelanauFrankfort 231-263-7905Boat ramp has over115 parking spotsA hard-surface ramp with sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet 	Name	Туре	Latitude	Longitude	Address	County		wher / POC	٨٢٢٥٥٢		Descrin	tion		State	Sector	
Image: constraint of the state of the sta	Name	Type	(Decimal	(Decimal	Address	county			Limitat	ions	Descrip			State	5000	
Frankfort Municipal Boat Ramp Area44.6313586.2306Corner of 9th Street and Main Street Frankfort MILeelanau Street and Main Street Frankfort MIFrankfort Street and Main Street Frankfort MIBoat ramp has over115 parking spotsA hard-surface ramp with sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20 feet from shore).MISLM			Degrees)	Degrees)												
Municipal Boat Rampand Staging AreaStreet and Main Street Frankfort MI231-263-7905over115 parking spotssufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20 feet from shore).sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft deep at a distance of 20 feet from shore).	Frankfort	Boat Ramp	44.63135	86.2306	Corner of 9th	Leelanau	J F	rankfort	Boat ra	mp has	A hard-	surface ramp	with	MI	SLM	
Boat Ramp Area Main Street Frankfort MI spots lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20 feet from shore). et from shore).	Municipal	and Staging			Street and		2	31-263-7905	over11	5 parking	sufficie	nt water dept	th and			
COMMENTS	Boat Ramp	Area			Main Street				spots		lake or	impoundmer	nt size			
COMMENTS					Frankfort IVII						to acco	mmodate all	F+			
COMMENTS											(minim	m of 2.5 - 3	feet			
COMMENTS											deep at	a distance of	f 20			
COMMENTS											feet fro	m shore).				
						COI	MMEN	ITS								



GRS:	Ottawa Beach H	Historic District			GRS #	D11
Protection Prio	rity Sites / Ranking:		Ottawa Beach Historic District, P	riority: Medium (B)		
			LOCATION IN	IFORMATION		
State: Michigan				County: Ottawa		
			CONTACT IN	FORMATION		
Historic Ottawa	Beach Parks: 616-786	6-4847				
City of Holland, I	VII: 616-796-1210		_			
East Lansing Ec	ological Service Field	D Office: 517-351-255) 182			
Michigan Depart	ment of Environment	al Quality Environmer	tal Emergencies Hotline: 800-2	92-4706		
EPA Spill Hotline	: 312-353-2318					
			RESOURCES AT RIS	CHARACTER	RISTICS	
Managed Areas	:	Holland State Park	, Tunnel Park, Ottawa Beach			
Oh ana line a Terra	_					
Shoreline Type		Sand Shores, Ripra	ap (Boulder) Structures, Expose	d Bluffs, Unranked	Harbor Structure	es (concrete, steel bulkneads, etc.)
Sensitive Habit	at:	White Sand Beach	es			
Wildlife:		Salmonids				
Federally Threa	tened /	Red Knot (T), Pitch	er's Thistle (T), Karner Blue But	tterfly (E), Indiana I	Bat (E), Northern	Long-eared Bat (T), Eastern Massasauga (T)
Endangered Sp	ecies:					
Socio-Economi	c Resources:	Holland State Park	Beach Campground, Lake Mac	atawa Campgroun	d, Big Red Lighth	oouse, Public Drinking Water Intake (42.7947, -
		086.2267), Marinas				
Predicted Beha	vior:	-Sea Conditions: \	OFILL RE	when lakewide v	wave beights of F	5 to 10 feet are encountered about 35 percent of the
Tredicted Della		time. In October, S of 10 feet or more a	through SW winds are most oft are encountered 3 to 5 percent of	en responsible, wh of the time from No	ile by November	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been
		encountered. Durin	g the spring, high seas are infre	equent, but 5- to 10	-foot seas develo	pp 15 to 30 percent of the time in the S and 20 to 40
		percent in the N. S	ummer seas climb above 10 fee	t less than 1 perce	ent of the time, wh	ile those in the 5- to 10-foot category drop to less than
		20 percent in June	and July. By August, the fall bui	ldup begins.	ahigan ahara ang	ing winds are verified, particularly in the marning
		when northerlies	asterlies, and southerlies are an	nong the most com	omon By afternor	ang winds are variable, particularly in the morning,
		preponderance of v	vinds out of the S. particularly w	ith the approach of	f summer. Summ	er also brings a slackening of windspeeds. The
		likelihood of encou	ntering winds of 28 knots or mo	re falls from a 4- to	10-percent chan	ce in March to less than 3 percent by May. The most
		likely cause of stron	ng winds in spring and summer	are thunderstorm g	gusts. By summer	r, windspeeds of 28 knots or more occur less than 4
		percent of the time	and less than 2 percent most of	the time. Summer	r winds along the	shore are usually out of the E through S during the
		morning hours, swi	nging to the S and NW by afterr	noon, with an increa	ase in speed. By	October, there is a noticeable increase in windspeeds.
		Speeds of 28 knots	s or more increase to 4 to 6 perc	inde among the m	, these speeds ca	an be encountered up to 11 percent of the time.
		The strong winds o	ontinue throughout the winter a	nd are associated v	with winter storms	s, which bring a variety of winds from SW through NF
		- While thunderstor	ms can occur at any time, they	are most likely from	n May through Se	eptember. In spring, when there is often a clash

	between cold and warm air, thunderstorms and squall lines can be violent. On occasion they may trigger tornadoes or even waterspouts. This area lies at the NE edge of the nation's maximum frequency belt for tornadoes.																	
			-Ter	nperature: Every	/ month has	s seen tempe	eratures belov	w 40°F (4.4°C	C) except J	uly (extreme	e minimum	is 41°F (5°	°C)) and e	very month				
			exce	pt July and Augu	ust has reco	orded tempe	ratures below	/ freezing (0°	C).	, , , , , , , , , , , , , , , , , , ,		- (-	- //	-)				
			-Pre	cipitation: Snow	falls on ab	out 93 days	each year an	nd averages a	about 104 in	nches (2642	2 mm) each	year. Janu	uary avera	ages nearly 34				
			inch	es (864 mm) per	year while	December a	verages neai	rly 27 inches	(686 mm) e	each year. C	One-foot (30)5 mm) sn	owfalls in	a 24- hour peric	bd			
			have	e occurred in eac	h month De	ecember, Jai	nuary, Februa	ary and April.	About 24 c	lays each ye	ear has a si	nowfall tota	al greater	than 1.5 inches	i			
			(38)	mm) and snow ha	as fallen in	every month	except June	, July, and Au	ugust. ⊢og	is present o	n average '	140 days e	each year	and is rather				
Deenene	. Consida	rational	ever	ny distributed thr		e year with a	slight maxim	ium during th	e late sumr	mer and ear	iy autumn.		ana and a					
Respons	coverage during a severe winter on Eale Miningar means about to percent coverage compared to an average, while decay begins a week or two later.																	
			-Moe	st of the harbors	on the E sid	. Maximum i No of Loko M	lichigan are w	vithin the mou	uthe of sma	Il rivers or in	je, wrile ue o small lake	s connect	od to lake	a Michigan by a	n			
			entr	ance channel Pa	on the L sit	have heen o	constructed at	t the mouths	of these ha	in rivers or in whors to aid	in carrying	the har int	to deener	water and to				
	lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins																	
	lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of																	
			stori	m generated wav	es to preve	nt them from	n being condu	ucted through	the confin	ed channels	between tl	ne piers ar	nd into the	harbors.				
				0	Reco	mmended S	pill Respons	se Strategy T	able			•						
										-				1	_			
Site ID	Site ID Latitude Longitude Response Implementation Min Staging Boat Access Land Priority Date State County Sector Address (Decimal (Decimal Strategy Boom Area Access Land Priority Date State County Sector Address																	
	Site ID Latitude Longitude Response Implementation Min Staging Boat Access Land Priority Date State County Sector Address (Decimal Degrees) Degrees) Degrees) Degrees) Degrees) Length Area Boat Access Land Priority Date State County Sector Address																	
				Length Length														
Ottawa	42.76975	86.21362	Diversion/	Protection of	300'	Multiple	Yes	Yes	Medium		Michigan	Ottawa	SLM	P.O. Box 8462				
Beach			Exclusion	marinas and		locations,								Holland, MI				
District				Muskegon Lake.		at ramps								49422 101 0111ce.				
(D11)				Exclude material														
				from entering														
				marinas.														
						L	OGISTICS	5										
					-	Logist	ics Support	Table		-								
Name		Туре	Latitude	Longitude	Address		County	Owner / POC		Access	Descr	iption	State	Sector				
			(Decimal	(Decimal Degrees)						Limitations								
			Degrees	Degrees														
Eldoan Ma	rina	Roat	12 76825	86 202667	2225 S Shor	o Dr	Ottowa	Eldoan Marina		Nono	Marin		MI	SIM				
Boathouse	2	Ramp	42.70825	80.203007	Macatawa,	MI 49434	Ottawa	Boathouse	1	None	Iviaili	ia		SLIVI				
		-																
Parkside N	/larina	Boat	42.772564	86.203163	2314 Ottaw	a Beach	Ottawa	Parkside Mari	na	None	Marir	a	MI	SLM	-			
		Ramp			Road. Holla	nd, MI 49424												
						С	OMMENT	S										



GRS:	Pier and Revetn	nents Grand Haven		GRS #	D12
Protection Prior	rity Sites / Ranking:	Priority: Medium (B)			•
		LOCATION I	NFORMATION		
State: Michigan			County: Ottawa		
		CONTACT II	NFORMATION		
City of Grand Ha	ven: 616-842-3210				
East Lansing Ec	ological Service Field	Office: 517-351-2555			
USCG Sector La	ke Michigan Commai	nd Center: 414-747-7182			
Michigan Depart	ment of Environmenta	al Quality Environmental Emergencies Hotline: 800-	292-4706		
EPA Spill Hotline	: 312-353-2318				
Managed Areas	•	RESOURCES AT RIS		AISTICS	North Roach Park, Posy Mound Natural Area
Managed Areas		Escanaba Faik, Nichel/ Linuquist/ Hanger Dunes	Fleselve, Glanu H	aven State Faik, i	North Beach Faik, Rosy Mound Natural Area
Shoreline Type		Sand Shores, Riprap (Boulder) Structures, Unran	ked Harbor Structur	es (concrete, stee	l bulkheads, etc.)
Sensitive Habita	at:	White Sand Beaches, Rare Coastal Vegetation			
Wildlife:		Salmonids, Other Gamefish			
Federally Threa	tened /	Red Knot (T), Pitcher's Thistle (T), Indiana Bat (E), Northern Long-ea	red Bat (T), Easte	rn Massasauga (T)
Endangered Sp	ecies:				
Socio-Economi	c Resources:	Northwest Ottawa Co. Water System Public Drink	ing Water Intakes (43.05113, -086.25	506), (43.04980, -086.24860), Recreational Beaches
		SPILL R	ESPONSE		
Predicted Beha	vior:	-Sea Conditions: Worst in October and Novembor time. In October, S through SW winds are most of of 10 feet or more are encountered 3 to 5 percent encountered. During the spring, high seas are infin percent in the N. Summer seas climb above 10 fe 20 percent in June and July. By August, the fall be -Winds: Coastal winds are more localized and var when northerlies, easterlies, and southerlies are a preponderance of winds out of the S, particularly likelihood of encountering winds of 28 knots or more likely cause of strong winds in spring and summer percent of the time and less than 2 percent most of morning hours, swinging to the S and NW by after Speeds of 28 knots or more increase to 4 to 6 per Morning directions are variable, with E, S, and W The strong winds continue throughout the winter a - While thunderstorms can occur at any time, they	er, when, lakewide, ften responsible, wh of the time from No requent, but 5- to 10 et less than 1 perce uildup begins. riable. Along the Mi among the most con with the approach o ore falls from a 4- to r are thunderstorm g of the time. Summer moon, with an incre rcent. By December winds among the m and are associated of are most likely from	wave heights of 5 ile by November V ovember through M b-foot seas develop ent of the time, whi chigan shore, sprin mon. By afternoo f summer. Summer, 10-percent chance gusts. By summer, r winds along the s ase in speed. By C , these speeds can ost common. After with winter storms n May through Se	to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than and winds are variable, particularly in the morning, n, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The er in March to less than 3 percent by May. The most windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the Dctober, there is a noticeable increase in windspeeds. n be encountered up to 11 percent of the time. rmoon winds are most often out of the S through W. , which bring a variety of winds from SW through NE. ptember. In spring, when there is often a clash

Intervention that the the begin that intervention intermediation intermedination intermediation													en water d every i rerages i in a 24- ter than er than ar and is nd an 80- ek or two ake Micl ber water h stilling pate the the harb	spouts. month nearly 34 hour period 1.5 inches s rather -percent o later. nigan by an r and to basins force of pors.		
Cite ID	Latituda	Lausituda	Deserves				Deet		Duiauitu	Data Last	Chata	Country	Castan	0 dduoso		
Site ID	(Decimal Degrees)	(Decimal Degrees)	Strategy	onse Implementation Min Staging Boat Area Boat Access Priority Date Last Verified State County Sector Addre												
Piers and Revetments at Grand Haven (D12)	43.05725	86.25385	Exclusion	 The revetments and rip rap along the pier leading up to the navigation structure leads way to oil settling into the fine crevices within making it difficult to clean. Apply exclusion booming to protect these areas and utilize natural collection points to skim the oil from the surface. 	~ 1500'	Grand Haven State Park	Boat access is not limited as the piers and revetments are easily accessible via Lake Michigan	Land access is limited to travel through Grand Have State Park.	m Medium	25-Oct-2016	MI	Ottawa	SLM	1001 S. Harbor Drive, Grand Haven, MI 49417		
						LOGIST	TICS									
					Lo	ogistics Sup	port Table									
Name	Туре	Latit (Dec Deg	ude L imal [rees)	ongitude (Decimal Degrees)	Address		County	Owner / POC	Access Limitat	ions	D	escription	State	Sector		
Grand Haven Municipal Boa Launch	Boat La	unch 43.0	86.22902 Coho Dr. Grand Haven, MI 49417 Ottawa ACOE Located in Rix Robinson Park in Grand Haven. 105 parking spots Boat Launch MI SLM											SLM		



GRS:	Leland Historica	al District			GRS #	D13
Protection Prior	ity Sites / Ranking:		Priority: Medium (B)	L		
			LOCATION II	FORMATION		
State: Michigan				County: Leelanau		
			CONTACT IN	FORMATION		
Leland Michigan	Chamber of Comme	rce: 231-866-1133				
East Lansing Ec	ological Service Field	Office: 517-351-2555	00			
USCG Sector La	Duty Grand Haven:	nd Center: 414-747-71 616-850-2582	82			
Michigan Depart EPA Spill Hotline	ment of Environmentation: 312-353-2318	al Quality Environment	al Emergencies Hotline: 800-2	292-4706		
			RESOURCES AT RIS	K CHARACTER	ISTICS	
Managed Areas	:	Leland Township Ha	arbor, Whaleback Natural Area	, Carp River Point		
Shoreline Type		Sand Shores, Ripra	o (Boulder) Structures			
Sensitive Habita	at:	White Sand Beache	s, Rare Coastal Vegetation			
Wildlife:		Gamefish				
Federally Threa Endangered Sp	tened / ecies:	Piping Plover(E), Re	ed Knot (T), Michigan Monkey-	flower (E), Pitcher's	Thistle (T), India	na Bat (E), Northern Long-eared Bat (T)
Socio-Economi	c Resources:	Drinking Water Intak	kes (43.03345, -085.76310), F	Recreational Beache	es, Boat Ramp at	the mouth of Leland River, Marina at mouth of Leland
		River, Leelanau-Sou	th Manitou Island Ferry, Leela	nau-North Manitou	Island Ferry	
		F	SPILL RI	ESPONSE		
Predicted Beha	vior:	-Sea Conditions: W time. In October, S t of 10 feet or more an encountered. During percent in the N. Su 20 percent in June a -Winds: Coastal wir when northerlies, ea preponderance of w likelihood of encoun likely cause of strong percent of the time a morning hours, swin Speeds of 28 knots Morning directions a The strong winds co - While thunderstorm	Vorst in October and November hrough SW winds are most of re encountered 3 to 5 percent g the spring, high seas are infro- mmer seas climb above 10 fer and July. By August, the fall bu- nds are more localized and van sterlies, and southerlies are a inds out of the S, particularly w tering winds of 28 knots or mo g winds in spring and summer and less than 2 percent most of ging to the S and NW by after or more increase to 4 to 6 per- ure variable, with E, S, and W w intinue throughout the winter a ns can occur at any time, they	r, when, lakewide, we en responsible, whi of the time from Nov- equent, but 5- to 10- et less than 1 percer- ildup begins. iable. Along the Mic mong the most com <i>v</i> ith the approach of re falls from a 4- to are thunderstorm g f the time. Summer moon, with an increa- cent. By December, vinds among the mo- nd are associated v are most likely from	wave heights of 5 ile by November V vember through M foot seas develop nt of the time, whi chigan shore, sprin mon. By afternoo summer. Summer 10-percent chanc usts. By summer, winds along the s ase in speed. By C these speeds can ost common. After vith winter storms, n May through Sep	to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than and winds are variable, particularly in the morning, n, aided by a lake-breeze effect, there are a ter also brings a slackening of windspeeds. The ter in March to less than 3 percent by May. The most windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the Dctober, there is a noticeable increase in windspeeds. In be encountered up to 11 percent of the time. rmoon winds are most often out of the S through W. , which bring a variety of winds from SW through NE. ptember. In spring, when there is often a clash

			between This area	cold and warm	air, thunde dae of the	rstorms a nation's	ind squall I maximum	lines freai	can be viole	nt. On r torna	occa does	ision the	ey may trig	ger tornado	bes or ev	/en watersp	outs.
			-Temper	ature: Every mo	onth has se	en tempe	eratures be	elow	40°F (4.4°C)	exce	pt Jul	y (extrer	me minim	um is 41°F	(5°C)) ar	nd every mo	onth
			except Ju	Ily and August h	as recorde	ed temper	ratures bel	low f	reezing (0°C)).	74 :	haa (00	40 mm) a				and to A
			inches (8	64 mm) per ves	s on about r while De	combor a	verages n	and oarly	averages ab	886 m)4 inc m) ໑໑	nes (20 [,]	42 mm) ea One-foot	(305 mm)	anuary a snowfalle	verages nea	ariy 34
			have occ	urred in each m	onth Dece	mber. Jar	nuarv. Feb	oruary	v and April. A	bout 2	24 da	vs each	vear has	a snowfall t	otal area	ater than 1.5	5 inches
			(38 mm)	and snow has fa	allen in eve	ery month	except Ju	ine, .	July, and Aug	just. F	og is	present	on avera	ge 140 day	s each y	ear and is r	ather
			evenly di	stributed throug	hout the ye	ear with a	slight max	ximu	m during the	late s	umme	er and e	arly autun	nn.			
Response	Consideratio	ons:	-lce: A m	ild winter on Lal	ke Michiga	n means	about 10-p	perce	ent coverage	comp	ared	to an av	erage 40-	percent cov	/erage a	nd an 80-pe	ercent
			coverage	during a severe	e winter. M	aximum i	ce covera	ge oo	ccurs by mid-	March	n, on	the aver	age, while	e decay beg	jins a we	ek or two la	iter.
			-Most of	the harbors on t	he E side o	of Lake M	lichigan ar	e wit	hin the mout	hs of s	small	rivers or	r in small I	akes conne	ected to l	_ake Michig	an by an
	entrance channel. Parallel piers have been constructed at the mouths of these harbors to ald in carrying the bar into deeper water and to lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins																
	Iessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of																
			storm ge	nerated waves t	o prevent f	them from	n beina coi	nduc	ted through t	he co	nfined	d channe	els betwee	en the piers	and into	the harbors	3.
					Recomm	ended S	pill Respo	onse	Strategy Ta	ble							
Site ID	Latitude	Longitude	Response	Implementation	Min	Staging	Boat	Lan	nd Access	Prior	ity	Date	<u>State</u>	County	<u>Sector</u>	Address	
	(Decimal Degrees) (Decimal Degrees) Strategy Boom Length Area Length Access Last Verified County County County																
	U ,	U ,															
Leland			Containm ent and	Containment on	2000'	Yes	Yes	Yes	5	Medi	um	19-Oct- 2016	MI	Leelanau	SLM	Leeland To	ownship
Historical			Exclusion	collection point.								2010					
District				Exclusion along													
(D13)	45.024144	85.762461		across the jetty.													
				1 ,	I										1		
						L	OGISTI	CS									
						Logist	ics Suppo	ort Ta	able								
Name	Туре	L	atitude	Longitude	Address		County	,	Owner / POC	2	Acce	ess	Description	ı		State	Sector
		((Decimal egrees)	(Decimal Degrees)							Limit	tations					
Leeland	Boat Ramp ar	nd 4	5.024788	85.7627	105 N Lake S	t, Leeland	Leelana	au	Leeland Towr	nship	None	e	Hard Surfa	ce for trailered	d b	Michigan	SLM
Marina	Staging Area				MI								watercraft				
Boat																	
						С	OMMEN	ITS									
						GR	P/GRS	MA	P								



GRS: Nor	th Manitou SI	hoal Light Station			GRS #	D14
Protection Priority Si	tes / Ranking:		Priority: Low (C)			
			LOCATION IN	FORMATION		
State: Michigan				County: Leelanau		
			CONTACT IN	FORMATION		
Leland Michigan Cham	ber of Commerce	ce: 231-866-1133				
East Lansing Ecologica	al Service Field (Office: 517-351-2555	00			
USCG Detached Duty	Grand Haven: 6	16-850-2582	02			
Michigan Department of EPA Spill Hotline: 312-	of Environmenta 353-2318	I Quality Environment	al Emergencies Hotline: 800-2	292-4706		
			RESOURCES AT RIS	K CHARACTEF	RISTICS	
Managed Areas:		Leland Township Ha	rbor, Whaleback Natural Area	a, Carp River Point,	Sleeping Bear Du	unes National Lakeshore
Shoreline Type:		Sand Shores, Mixed	Sand and Gravel Shores, Exp	bosed Bluffs, Ripra	p (Boulder) Struct	ures
Sensitive Habitat:		Protected Dunes, W	hite Sand Beaches, Rare Coa	stal Vegetation		
Wildlife:		Gamefish, Wading B	irds, Shorebirds, Diving Birds	, Waterfowl, Rare C	Coastal Mammals	
Federally Threatened Endangered Species:	/	Piping Plover(E), Re	d Knot (T), Michigan Monkey-	flower (E), Pitcher's	s Thistle (T), India	na Bat (E), Northern Long-eared Bat (T)
Socio-Economic Res	ources:	Drinking Water Intak Marina at mouth of L Campground	es (43.03345, -085.76310), (- .eland River, Leelanau-South	45.01366, -086.098 Manitou Island Fer	841), Recreational ry, Leelanau-North	Beaches, Boat Ramp at the mouth of Leland River, h Manitou Island Ferry, North Manitou Island Village
			SPILL RE	ESPONSE		
Predicted Behavior:		-Sea Conditions: W time. In October, S to of 10 feet or more ar encountered. During percent in the N. Sur 20 percent in June a -Winds: Coastal win when northerlies, ea preponderance of wi likelihood of encount likely cause of strong percent of the time a morning hours, swin Speeds of 28 knots of Morning directions a The strong winds co	orst in October and November hrough SW winds are most off e encountered 3 to 5 percent the spring, high seas are infre- mmer seas climb above 10 fee nd July. By August, the fall builds are more localized and var sterlies, and southerlies are an nds out of the S, particularly we rering winds of 28 knots or mo g winds in spring and summer nd less than 2 percent most of ging to the S and NW by after for more increase to 4 to 6 percent re variable, with E, S, and W we ntinue throughout the winter a	rr, when, lakewide, ten responsible, wh of the time from No equent, but 5- to 10 et less than 1 perce ildup begins. iable. Along the Mi mong the most con vith the approach of re falls from a 4- to are thunderstorm of f the time. Summer noon, with an increa- cent. By December winds among the m nd are associated b	wave heights of 5 hile by November N ovember through N h-foot seas develop ent of the time, whi chigan shore, spri mon. By afternoo f summer. Summer 10-percent chance gusts. By summer r winds along the s ase in speed. By (, these speeds ca ost common. Afte with winter storms	to 10 feet are encountered about 35 percent of the <i>W</i> through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than ng winds are variable, particularly in the morning, on, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The ce in March to less than 3 percent by May. The most , windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the October, there is a noticeable increase in windspeeds. n be encountered up to 11 percent of the time. rnoon winds are most often out of the S through W.

- While thunderstorms can occur at any time, they are most likely from May through September. In spring, when there is often a clash between cold and warm air, thunderstorms and squall lines can be violent. On accession they may trigger torradees or even waterspectre														
between cold and warm air, thunderstorms and squall lines can be violent. On	occasion they may trigger tornadoes or even waterspouts.													
I his area lies at the NE edge of the nation's maximum frequency belt for torna	does. $1 \times 10^{\circ}$													
- remperature. Every month has seen temperatures below 40 F (4.4 C) except	of July (extreme minimum is 41 F (5 C)) and every monut													
-Precipitation: Snow falls on about 93 days each year and averages about 10	4 inches (2642 mm) each year. January averages nearly 34													
inches (864 mm) per year while December averages nearly 27 inches (686 mr	n) each year. One-foot (305 mm) snowfalls in a 24- hour period													
have occurred in each month December, January, February and April. About 2	4 days each year has a snowfall total greater than 1.5 inches													
(38 mm) and snow has fallen in every month except June, July, and August. F	og is present on average 140 days each year and is rather													
evenly distributed throughout the year with a slight maximum during the late su	Immer and early autumn.													
coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later.														
-Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by an														
entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to														
lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins														
formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of														
storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.														
Recommended Spill Response Strategy Table														
Recommended Spill Response Strategy Lable Site ID Latitude Longitude Response Implementation Min Staging Boat Land Priority Date Last <u>State</u> County Sector Address														
Site IDLatitude (DecimalLongitude (DecimalResponse StrategyImplementationMin BoomStaging AreaBoat AccessLand AccessPriorityDate Last VerifiedState CountyCountySectorAddress														
(Decimal (Decimal Strategy Boom Area Access Verified Degrees) Degrees) Degrees) Length Length Length Length Length														
Small structure														
Narth Masiteu Shael														
Light Station (D14) Boom around														
45 02095 85 95735 Exclusion structure 1000' Yes No	Low 11/14/2016 ML Leelanau SLM													
LOGISTICS														
Logistics Support Table														
Name Type Latitude Longitude Address County Owner / POC	Access Description State Sector													
(Decimal (Decimal Degrees)	Limitations													
Leeland Boat Ramp and 45.024788 85.7627 105 N Lake St, Leeland Leelanau Leeland Township	None Hard Surface for trailered Michigan SLM													
Marina Staging Area MI	watercraft													
Boat														
COMMENTS														
GRP/GRS MAP														



GRS:	S.S. Badger Ca	r Ferry			GRS #	D15
Protection Prio	rity Sites / Ranking:		Priority: Medium (B)			•
			LOCATION I	NFORMATION		
State: Michigan				County: Mason		
			CONTACT II	NFORMATION		
City of Ludingtor	: 231-845-6237					
East Lansing Ec	ological Service Field	Office: 517-351-2555	5			
USCG Detached	Duty Grand Haven	616-850-2582	102			
Michigan Depart	ment of Environment	al Quality Environmer	ntal Emergencies Hotline: 800-	292-4706		
EPA Spill Hotline	2: 312-353-2318					
Managed Areas	•	Ludington State Pa	rk Ludington Breakwater Light	thouse		
inanagoa / il cae						
Shoreline Type		Sand Shores, Expo Wetlands	sed Bluffs, Riprap (Boulder) S	tructures, Unranked	Harbor Structure	s (concrete, steel bulkheads, etc.), Extensive
Sensitive Habit	at:	White Sand Beache	es			
Wildlife:		Salmonids, Waterfo	owl			
Federally Threa	tened /	Piping Plover(E), R	ed Knot (T), Pitcher's Thistle (T), Karner Blue Butt	erfly (E), Indiana	Bat (E), Northern Long-eared Bat (T), Easter
Endangered Sp	ecies:	Massasauga (T)				
Socio-Economi	c Resources:	Drinking Water Inta	kes (43.96029, -086.46987), (ounds	(43.96177, -086.465	92), Marinas in P	ere Marquette Lake, Recreational Beaches, Ludington
			SPILL R	ESPONSE		
Predicted Beha	vior:	-Sea Conditions: V	Norst in October and Novembe	er, when, lakewide,	wave heights of 5	to 10 feet are encountered about 35 percent of the
		time. In October, S of 10 feet or more a encountered. Durin percent in the N. Su 20 percent in June -Winds: Coastal wi when northerlies, en preponderance of w	through SW winds are most of are encountered 3 to 5 percent g the spring, high seas are infr ummer seas climb above 10 fe and July. By August, the fall bunds are more localized and va asterlies, and southerlies are a vinds out of the S, particularly v	ten responsible, wh of the time from No requent, but 5- to 10 et less than 1 perce uildup begins. riable. Along the Min among the most corr with the approach of	ile by November November November through November through November through November through November November, which is the time, which is the time, which is the time, which is the time of the time	W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than ing winds are variable, particularly in the morning, on, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The
		likelihood of encour likely cause of stror percent of the time morning hours, swin Speeds of 28 knots Morning directions The strong winds co - While thunderstor	ntering winds of 28 knots or mong ong winds in spring and summer and less than 2 percent most of nging to the S and NW by after or more increase to 4 to 6 per are variable, with E, S, and W ontinue throughout the winter a ms can occur at any time, they	ore falls from a 4- to r are thunderstorm of the time. Summer moon, with an increa- cent. By December winds among the m and are associated w r are most likely from	10-percent chang gusts. By summer winds along the ase in speed. By (, these speeds ca ost common. Afte with winter storms n May through Se	ce in March to less than 3 percent by May. The most , windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the October, there is a noticeable increase in windspeeds. In be encountered up to 11 percent of the time. ernoon winds are most often out of the S through W. a, which bring a variety of winds from SW through NE. ptember. In spring, when there is often a clash

between cold and warm air, thunderstorms and squall lines can be violent. On occasion they may trigger tornadoes or even waterspouts. This area lies at the NE edge of the nation's maximum frequency belt for tornadoes.																
		This	s area lies at	the N	E edge of the nation	n's maxin	num freque		for tornado	es.						46
		-Te	ept.lulv.and	=very Auau≪	month has seen ter	nperature	s below fre	27 (4.4° 27 pzina (09	°C) except	July (extre	ne minimu	um is 4	1°F (5°C))	and ever	y mon	m
		-Pre	ecipitation:	Snow	falls on about 93 da	ays each	year and a	verages	about 104	inches (26	42 mm) ea	ach yea	ar. January	average	s neai	rly 34
		inch	nes (864 mm) per y	ear while Decembe	er averag	es nearly 2	7 inches	(686 mm)	each year	. One-foot	(305 n	nm) snowfa	alls in a 2	4- hou	ur period
		hav	e occurred ir	each	month December,	January,	February a	and April	. About 24	days each	year has	a snow	/fall total gr	eater tha	n 1.5 i	inches
		(38	mm) and sn	ow ha	s fallen in every mo	onth except	ot June, Ju	y, and A	ugust. Fog	is present	on averag	ge 140	days each	year and	d is rat	her
		eve	nly distribute	d thro	ughout the year wit	h a slight	maximum	during th	ne late sum	mer and e	arly autum	nn.				
Response Consid	Considerations: -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later.															cent
		cov	erage during	a sev	ere winter. Maximu	im ice cov	verage occ	urs by m	id-March, o	on the aver	age, while	decay	begins a v	week or to	wo late	ər.
	-Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by an entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to															
	entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins															
	lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of															
	formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.															
storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors. Recommended Spill Response Strategy Table																
Recommended Spill Response Strategy Table																
Site ID Latitude Longtitude Response Implementation Min Staging Boat Land Priority Date State County Sector Address																
	(Decimal	(Decimal	al Strategy Boom Area Access Access Last Last Last Address													
	Degrees)	Degrees)				Length					Verified					
S.S. Badger (car	43.949432	86.451103	Containme	nt and	Deploy boom	1000'	Parking	Yes	Yes	Medium	9-Nov-	MI	Mason	SLM	701	
ferry) (D15)			Collection		around vessel. Total		lot for				16				Mari	time Dr.
					capacity of		the facility								Ludir	igton,
					is approximately		can be								1111 43	9451
					1000 gallons.		used for									
							staging.									
						LOGI	STICS									
					Log	gistics S	upport Tab	le								
Name	Туре	Latitude	Longitude	Addre	ess		County	0	wner / POC		Access		Description	State		Sector
		(Decimal	(Decimal								Limitati	ons				
Harbor View Marina	Other	43.951	86.4501	400 S	Rath Ave. Ludington, N	11 49431	Mason	H	arbor View N	Narina	None		Marina	Michi	gan	SLM
						COM										
						COMIN										
Sister ship Spa	Sister ship Spartan is moored next to ferry landing.															
						GRP/GI	RS MAP									



GRS:	Museum Ship S	S City of Milwaukee		GRS #	D16
Protection Prio	rity Sites / Ranking:	Priority: Medium (B)		1	
		LOCATI	ON INFORMATION		
State: Michigan			County: Manistee		
		CONTA	CT INFORMATION		
City of Manistee	Fire Department: 231	-723-1549			
East Lansing Ec	ological Service Field	Office: 517-351-2555			
USCG Detached	l Duty Grand Haven: (10 Center: 414-747-7182 316-850-2582			
Michigan Depart	ment of Environmenta e: 312-353-2318	al Quality Environmental Emergencies Hotline:	800-292-4706		
		RESOURCES AT	RISK CHARACTER	RISTICS	
Managed Areas	:	5 th Avenue Beach, Douglas Park, Lighthous	e Park		
Shoreline Type	:	Sand Shores, Exposed Bluffs, Riprap (Bould Wetlands	der) Structures, Unrankeo	Harbor Structure	s (concrete, steel bulkheads, etc.), Extensive
Sensitive Habit	at:	White Sand Beaches, Rare Coastal Vegetat	ion		
Wildlife:		Forage Fish, Salmonids, Other Gamefish, S	horebirds, Raptors, Wate	erfowl. Wading Bird	ds
Federally Threa Endangered Sp	tened / ecies:	Piping Plover(E), Red Knot (T), Pitcher's Th	istle (T), Indiana Bat (E),	Northern Long-ea	red Bat (T), Easter Massasauga (T)
Socio-Economi	c Resources:	Recreational Beaches, Manistee North Pier	Head		
		SPIL	L RESPONSE		
Predicted Beha	vior:	-Sea Conditions: Worst in October and Nov time. In October, S through SW winds are m of 10 feet or more are encountered 3 to 5 pe encountered. During the spring, high seas a percent in the N. Summer seas climb above 20 percent in June and July. By August, the -Winds: Coastal winds are more localized a when northerlies, easterlies, and southerlies preponderance of winds out of the S, particu- likelihood of encountering winds of 28 knots likely cause of strong winds in spring and su percent of the time and less than 2 percent n morning hours, swinging to the S and NW by Speeds of 28 knots or more increase to 4 to Morning directions are variable, with E, S, an The strong winds continue throughout the w	vember, when, lakewide, lost often responsible, where recent of the time from Nor re infrequent, but 5- to 10 10 feet less than 1 perce fall buildup begins. Ind variable. Along the Mi are among the most con ilarly with the approach o or more falls from a 4- to mmer are thunderstorm of most of the time. Summer y afternoon, with an incre 6 percent. By December and W winds among the mo- inter and are associated	wave heights of 5 hile by November 1 ovember through N 0-foot seas develo ent of the time, wh 1 chigan shore, sprin nmon. By afternoo of summer. Summer of summer. Summer of summer. Summer of summer. By summer r winds along the ase in speed. By 0 or, these speeds ca nost common. After with winter storms	to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than ing winds are variable, particularly in the morning, on, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The ce in March to less than 3 percent by May. The most , windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the October, there is a noticeable increase in windspeeds. In be encountered up to 11 percent of the time. ernoon winds are most often out of the S through W. s, which bring a variety of winds from SW through NE.

							COMM	ENTS								
Arthur Stree	et Boat Launcl	n Boat Lau	inch 4	44.256913	86.3174	47 Ma 496	Arthur St. nistee, MI 560	Manistee	City Of Manistee (231) 723- 4051	Local Marina	Boa par	it Laun king	ch with	MI	SLM	
Name		Type		(Decimal Degrees)	(Decimal Degrees)	Ad		County	POC	Limitations	Des	scriptio	n	State	Sector	
Name		Tune		latituda	Longitude	Lo	ogistics Su	pport Table	Owner /	A	Des	orin±i-	•	State	Sactor	г
							LOGIS	STICS								
				deepest beach												L
				funnel missed	discharge to re with the			Lake								
				booming will b	e used to			Manistee								
				landfall of the	discharge.			accessible	vessel.							l
				and skimming prevent or min	vessels to limize			revetments are easily	unimpeded access to the							
				nearest marina	with boom			and	and gives							I
e (D16)				shoreline on ei vessel. Deplov	ther side of from		Manistee, Michigan	limited as the piers	alongside Manistee Lake						Manistee, MI 49660	
SS City of Milwauke	44.25961	86.31553	Diversion	Circle bow of barrier boon a	vessel with nchored to	~ 1200'	Dutty Park,	Boat access is not	Via Arthur Street which runs	Medium	25-Oct- 2016	MI	Manistee	SLM	99 Arthur Street,	
	Degrees)	Degrees)				Length					Verifië d					
	(Decimal	(Decimal	Strategy			Boom	Area	Access		1 nonty	Last	te	county	00000		
Site ID	Latitude	Longitude	Response	Implementatio	n	Min	Staging	Boat	Land Access	Priority	Date	Sta	County	Sector	Address	T
			otonin	generated na	Reco	mmend	ed Spill Re	sponse Stra	tegy Table							
			storme	d by breakwat denerated wa	ers that con	verge to ent them	an entrance from being	e opening in conducted t	deep water bey prough the conf	ond the pai	allel piers	s. The en the	se basins di piers and i	issipate th nto the ha	ne force of arbors.	
			lesser	the need for	dredging in	the harb	or entrance	. In addition,	several harbors	s along this	shore ha	ve bee	en provided	with stillin	ng basins	
			entrar	nce channel. P	arallel piers	have be	en construc	cted at the m	ouths of these l	harbors to a	id in carry	ving th	ne bar into d	leeper wa	ter and to	
			covera	age during a s	evere winte	r. Maxim	um ice cove	erage occurs	by mid-March,	on the aver	age, while	e deca	ay begins a	week or t	wo later.	
Response	Considera	ations:	-Ice: A	A mild winter o	n Lake Micł	nigan me	ans about ?	10-percent co	overage compa	red to an av	erage 40	-perce	ent coverage	e and an 8	30-percent	
			evenly	/ distributed th	roughout th	e year w	ith a slight r	maximum du	ring the late sur	mmer and e	arly autur	nn.		r year and		
			have of (38 m	occurred in ea	ch month D		, January, F	ebruary and	l April. About 24 and August, Eo	l days each	year has		wfall total g	reater tha	In 1.5 inches	
			inches	s (864 mm) pe	r year while	Decem	per average	s nearly 27 i	nches (686 mm) each year	One-foo	t (305	mm) snowf	alls in a 2	4- hour period	ł
			excep -Prec	t July and Aug ipitation: Sno	gust has rec w falls on al	orded te cout 93 (mperatures lays each y	below freezi ear and aver	ng (0°C). ages about 104	inches (26	42 mm) e	ach y	ear. Januar	y average	s nearly 34	
			-Temp	perature: Eve	ry month ha	s seen t	emperature	s below 40°F	(4.4°C) except	July (extrem	me minim	um is	41°F (5°C))	and ever	y month	
			This a	rea lies at the	NE edge of	the nati	on's maxim	um frequenc	y belt for tornad	loes.	y may m	gger t		even wat	lerspouls.	
			hotwo		orm oir thu	ndereter	ma and agu	all lines con	ha vialant On a	o i i					loronouto	

Museum ship that is permanently moored in slip.

GRP/GRS MAP



GRS:	Manistee Harbo	r, South Breakwater		GRS #	D17
Protection Prior	rity Sites / Ranking:	Priority: Medium (B)		I	
		LOCATION IN	FORMATION		
State: Michigan			County: Manistee		
		CONTACT IN	FORMATION		
City of Manistee	Fire Department: 231	-723-1549			
East Lansing Ec	ological Service Field	Office: 517-351-2555			
USCG Sector La	Duty Grand Haven:	nd Center: 414-747-7182 616-850-2582			
Michigan Depart EPA Spill Hotline	ment of Environmenta e: 312-353-2318	al Quality Environmental Emergencies Hotline: 800-29	92-4706		
		RESOURCES AT RISK	CHARACTER	RISTICS	
Managed Areas	:	5 th Avenue Beach, Douglas Park, Lighthouse Park			
Shoreline Type:		Sand Shores, Exposed Bluffs, Riprap (Boulder) Str Wetlands	uctures, Unrankec	Harbor Structure	s (concrete, steel bulkheads, etc.), Extensive
Sensitive Habita	at:	White Sand Beaches, Rare Coastal Vegetation			
Wildlife:		Forage Fish, Salmonids, Other Gamefish, Shorebir	ds, Raptors, Wate	rfowl. Wading Bird	ds
Federally Threa Endangered Sp	tened / ecies:	Piping Plover(E), Red Knot (T), Pitcher's Thistle (T)	, Indiana Bat (E),	Northern Long-ea	red Bat (T), Easter Massasauga (T)
Socio-Economi	c Resources:	Recreational Beaches, Manistee North Pier Head			
		SPILL RE	SPONSE		
Predicted Beha	vior:	-Sea Conditions: Worst in October and November time. In October, S through SW winds are most ofte of 10 feet or more are encountered 3 to 5 percent of encountered. During the spring, high seas are infre percent in the N. Summer seas climb above 10 fee 20 percent in June and July. By August, the fall bui -Winds: Coastal winds are more localized and vari- when northerlies, easterlies, and southerlies are an preponderance of winds out of the S, particularly wi likelihood of encountering winds of 28 knots or mor likely cause of strong winds in spring and summer a percent of the time and less than 2 percent most of morning hours, swinging to the S and NW by aftern Speeds of 28 knots or more increase to 4 to 6 percent Morning directions are variable, with E, S, and W wi The strong winds continue throughout the winter ar	, when, lakewide, en responsible, wh f the time from No quent, but 5- to 10 t less than 1 perce dup begins. able. Along the Mi hong the most con th the approach o e falls from a 4- to are thunderstorm of the time. Summe oon, with an incre ent. By December inds among the m ad are associated	wave heights of 5 hile by November November through November through November through No-foot seas develo ent of the time, wh chigan shore, sprint mon. By afternood f summer. Summer of 10-percent chance gusts. By summer r winds along the ase in speed. By o these speeds can nost common. Afte with winter storms	to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than ing winds are variable, particularly in the morning, on, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The ce in March to less than 3 percent by May. The most , windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the October, there is a noticeable increase in windspeeds. In be encountered up to 11 percent of the time. ernoon winds are most often out of the S through W. s, which bring a variety of winds from SW through NE.

			- While thunde	rstorms can occur	at any time,	they are	most likel	y from N	Aay through	September	r. In spring	g, when there	is often a	clash	
			between cold	and warm air, thung	derstorms a	nd squall	lines can	be viole	nt. On occa	asion they m	nay trigger	tornadoes o	r even wat	erspouts.	
			This area lies	at the INE edge of the	ne nation's i	maximum			r tornadoes). V (ovtromo v) and avar	v month	
			- remperature	. Every month has	seen tempe	atures b	elow 40°F	(4.4°C)) except Ju	y (extreme i	minimum	IS 41°F (5°C)) and ever	y month	
			-Precipitation	: Snow falls on abo	out 93 davs	each vea	r and aver	ages ab). out 104 inc	hes (2642 r	nm) each	vear. Januar	v average	s nearly 34	4
			inches (864 m	m) per vear while D	December a	verades r	nearlv 27 i	nches (6	586 mm) ea	ach vear. On	ne-foot (30) 5 mm) snow	falls in a 2	4- hour pe	riod
			have occurred	in each month Dec	cember, Jar	uary, Fel	oruary and	I April. A	bout 24 da	vs each vea	ar has a si	nowfall total c	reater tha	n 1.5 inch	es
	(38 mm) and snow has fallen in every month except June, July, and August. Fog is present on average 140 days each year and is rather														
	evenly distributed throughout the year with a slight maximum during the late summer and early autumn.														
Response Co	+sponse Considerations: -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a soverage during a soverage vibile decay begins a weak at two later														
	coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later.														
	-Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by														
	entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to lessen the need for dredging in the barbor entrance. In addition, several barbors along this shore have been provided with stilling basing														
	lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of														
	formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.														
	storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors. Recommended Spill Response Strategy Table														
	Recommended Spill Response Strategy Table														
Site ID	Latitude	Longitude	Response	Implementation	Min Boom	Staging	Boat	Land	Priority	Date Last	<u>State</u>	County	<u>Sector</u>	Address	
	(Decimal	(Decimal	Strategy		Length	Area	Access	Access		Verified					
	Degrees	Degrees													
Manistee	44.251824	86.34703	Exclusion	Prevent damage	1000'	Yes	Yes	Yes	Medium	19-Oct-	MI	Manistee	SLM	North	
Harbor, South				to harbor by						2016				Pierhead	
Breakwater				deploying boom										Lighthous	5
				the channel.											
					L	OGIST	ICS		L			1			
					Logist	ics Supp	ort Table								
Name	Туре	Latit	ıde (Decimal	Longitude (Decimal	Address		County	0	wner /	Access	Descriptio	on	State	Secto	r
5	A	Degr	ees)	Degrees)	1.1.01	<u> </u>		PC	DC	Limitations		<u> </u>			
First Street Boat	and Stagin	cn 44.24	/	86.34	1st St and Road Man	Beach	Manistee	M	anistee	None	Hard Surf	ace for trailered	MI	SLM	
Edditeri	Area	6			Noud, Mai	instee					200 Traile	rs and Vehicles			
					С	OMME	NTS								
					GR	P/GRS	MAP								



GRS:	Manistee Harbo	or, North Pier			GRS #	D18
Protection Prior	rity Sites / Ranking:		Priority: Medium (B)			
			LOCATION IN	FORMATION		
State: Michigan				County: Manistee		
			CONTACT IN	IFORMATION		
City of Manistee	Fire Department: 23	1-723-1549				
East Lansing Ec	ological Service Field	I Office: 517-351-2555 nd Center: 414-747-7	182			
USCG Detached	Duty Grand Haven:	616-850-2582	102			
Michigan Depart EPA Spill Hotline	ment of Environment	al Quality Environmen	tal Emergencies Hotline: 800-2	292-4706		
			RESOURCES AT RIS	K CHARACTER	RISTICS	
Managed Areas	:	5 th Avenue Beach, I	Douglas Park, Lighthouse Park			
Shoreline Type:		Sand Shores, Expo Wetlands	sed Bluffs, Riprap (Boulder) St	ructures, Unranked	Harbor Structures	s (concrete, steel bulkheads, etc.), Extensive
Sensitive Habita	at:	White Sand Beache	s, Rare Coastal Vegetation			
Wildlife:		Forage Fish, Salmo	nids, Other Gamefish, Shorebi	rds, Raptors, Wate	rfowl. Wading Birc	ls
Federally Threa Endangered Sp	tened / ecies:	Piping Plover(E), Re	ed Knot (T), Pitcher's Thistle (T), Indiana Bat (E), I	Northern Long-ea	red Bat (T), Eastern Massasauga (T)
Socio-Economi	c Resources:	Recreational Beach	es, Manistee North Pier Head			
		_	SPILL RE	ESPONSE		
Predicted Beha	vior:	-Sea Conditions: V time. In October, S of 10 feet or more a encountered. During percent in the N. Su 20 percent in June a -Winds: Coastal win when northerlies, ea preponderance of w likelihood of encour likely cause of strom percent of the time a morning hours, swir Speeds of 28 knots Morning directions a The strong winds co	Vorst in October and November through SW winds are most off re encountered 3 to 5 percent g the spring, high seas are infre immer seas climb above 10 fee and July. By August, the fall but nds are more localized and var asterlies, and southerlies are an inds out of the S, particularly w itering winds of 28 knots or mo g winds in spring and summer and less than 2 percent most of anging to the S and NW by aftern or more increase to 4 to 6 perc are variable, with E, S, and W w	r, when, lakewide, when responsible, when from No equent, but 5- to 10 et less than 1 perce ildup begins. iable. Along the Mid mong the most com vith the approach of re falls from a 4- to are thunderstorm g f the time. Summer noon, with an increa- cent. By December, winds among the m nd are associated v	wave heights of 5 ile by November N vember through N -foot seas develop nt of the time, whi chigan shore, spri mon. By afternoo f summer. Summer, 10-percent chance gusts. By summer, winds along the s ase in speed. By C , these speeds can ost common. Afte with winter storms	to 10 feet are encountered about 35 percent of the N through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than and winds are variable, particularly in the morning, n, aided by a lake-breeze effect, there are a ter also brings a slackening of windspeeds. The ter in March to less than 3 percent by May. The most windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the Dctober, there is a noticeable increase in windspeeds. In be encountered up to 11 percent of the time. rnoon winds are most often out of the S through W. , which bring a variety of winds from SW through NE.

			- \ be	While thund	erstorms can occu	r at any time,	, they are	most likel lines can	y from	May through	September.	In spring	g, when there	e is ofter	n a clas	sh outs
				nie area lies	and warm an, thu	the nation's	mavimum	frequenc	v bolt f	or tornadoes	Sion they may	y inggei	tomadoes c		valeisp	ouis.
			т	emneratur	e. Every month ha	s seen tempe	ratures h		(Δ Δ°C	C) excent July	/ (extreme mi	nimum i	s 41°F (5°C)) and ev	erv mo	onth
			ex	cept July a	nd August has rec	orded tempe	ratures be	low freezi	na (0°0				3411 (00)		very me	
			-P	recipitatio	n: Snow falls on at	out 93 days	each year	and aver	ages a	about 104 inc	hes (2642 mr	n) each	year. Janua	ry avera	ges nea	arly 34
			in	ches (864 r	nm) per year while	December a	verages n	early 27 i	nches ((686 mm) ea	ch year. One-	-foot (30	5 mm) snow	falls in a	a 24- ho	our period
			ha	ave occurre	d in each month De	ecember, Jar	nuary, Feb	ruary and	I April.	About 24 day	ys each year	has a sr	nowfall total	greater t	han 1.5	5 inches
			(3	8 mm) and	snow has fallen in	every month	except Ju	ine, July,	and Au	ugust. Fog is	present on av	verage 1	40 days eac	ch year a	and is ra	ather
			ev	enly distrib/	uted throughout the	e year with a	slight max	ximum du	ring the	e late summe	er and early a	utumn.				
Response Co	nsideration	IS:	-lo	ce : A mild v	vinter on Lake Mich	nigan means	about 10-p	percent co	overage	e compared t	to an average	e 40-pero	cent coverag	e and a	n 80-pe	ercent
			CC	overage dur	ing a severe winter	r. Maximum i	ce covera	ge occurs	by mic	d-March, on t	he average, v	while de	cay begins a	a week c	or two la	ater.
			-N	lost of the l	harbors on the E si	de of Lake M	ichigan ar	e within th	ne mou	ths of small	rivers or in sn	nall lake	s connected	to Lake	Michig	an by an
			er	ntrance cha	nnel. Parallel piers	have been c	onstructed	d at the m	ouths o	of these harb	ors to aid in c	carrying	the bar into	deeper v	water a	nd to
			le	ssen the ne	ed for dredging in	the harbor er	ntrance. In	addition,	severa	al harbors ald	ong this shore	have b	een provideo	d with sti	illing ba	isins
			fo	rmed by br	eakwaters that con	verge to an e	entrance o	pening in	deep v	water beyond	the parallel p	piers. Th	ese basins o	dissipate	the for	rce of
	storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.															
Recommended Spill Response Strategy Table																
Site ID	Latitude (Decimal Degrees)	Longitud (Decimal Degrees)	e	Response Strategy	Implementation	Min Boom Staging Length Area		Boat Access	Land Access	Priority s	Date Last Verified	<u>State</u>	County	<u>Sector</u>	Ado	dress
Manistee Harbor, South Breakwater (D17)	44.251824	86.34703	}	Exclusion	Prevent damage to harbor by deploying boom across entrance at	1000'	Yes	Yes	Yes	Medium	19-Oct- 2016	мі	Manistee	SLM	Noi Pie Ligł	rth rhead hthouse
					the channel.											
						L	.OGISTI	CS								
						Logist	ics Suppo	ort Table								
Name	Туре		Latitud (Decim Degree	de nal es)	Longitude (Decimal Degrees)	Address		County	0	wner / POC	Access Limitations	De	scription		State	Sector
First Street Ram	p Boat Ra Staging	amp and ; Area	44.247	722	86.33988	First Street Manistee, MI		Manistee	Manistee City of Manistee 231- 723-4051		Huge parking area next to boat launch. Over 250 parking spots		A hard-surface ramp with sufficient water depth and lake or impoundment size to accommodate all trailerable watercraft (minimum of 2.5 - 3 feet deep at a distance of 20 feet from shore).		MI	SLM
						С	OMMEN	ITS								
- The	North Pie	r Head i	sap	opular pla	ace to take pho	tographs. (Often tim	nes, larg	er gro	oups of peo	ople will ga	ther.				



GRS:	USS Silversides	3			GRS #	D19					
Protection Prior	ity Sites / Ranking:		Priority: Medium (B)			•					
			LOCATION	NFORMATION							
State: Michigan				County: Manistee							
			CONTACT I	NFORMATION							
City of Muskegor	n: 231-724-6724										
NOAA Great Lak	es Environmental Re	esearch Laboratory La	ike Michigan Field Station: 23 [.]	1-755-3831							
East Lansing Eco	biogical Service Field	I UTTICE: 517-351-255: nd Center: 414-747-7) 182								
USCG Detached	Duty Grand Haven:	616-850-2582	102								
Michigan Depart	ment of Environment	al Quality Environmer	ntal Emergencies Hotline: 800-	-292-4706							
EPA Spill Hotline	: 312-353-2318										
			RESOURCES AT RIS	SK CHARACTER	RISTICS						
Managed Areas	:	Pere Marquette Pa	rk, Muskegon State Park								
Shoreline Type:		Sand Shores, Expo Wetlands	sed Bluffs, Riprap (Boulder) S	tructures, Unranked	Harbor Structures	s (concrete, steel bulkheads, etc.), Extensive					
Sensitive Habita	it:	White Sand Beach	es, Rare Coastal Vegetation								
Wildlife:		Forage Fish, Salmo	onids, Other Gamefish, Shorek	birds, Raptors, Wate	rfowl						
Federally Threa Endangered Sp	tened / ecies:	Piping Plover(E), R Massasauga (T)	ed Knot (T), Pitcher's Thistle (T), Karner Blue Butt	erfly (E), Indiana E	Bat (E), Northern Long-eared Bat (T), Eastern					
Socio-Economi	c Resources:	Recreational Beach 43.18229, -86.3274	nes, Lake Express Ferry, Boat 11), (43.18067, -86.32569)	Ramps and Marinas	s along Muskegon	Lake, Drinking Water Intakes (43.20732, -86.34749),					
			SPILL R	ESPONSE							
Predicted Beha	vior:	-Sea Conditions: N time. In October, S of 10 feet or more a encountered. Durin percent in the N. Si 20 percent in June -Winds: Coastal wi when northerlies, e preponderance of w likelihood of encour likely cause of stron percent of the time morning hours, swi Speeds of 28 knots Morning directions	Norst in October and Novemb through SW winds are most of are encountered 3 to 5 percent g the spring, high seas are inf ummer seas climb above 10 fe and July. By August, the fall b nds are more localized and va asterlies, and southerlies are a vinds out of the S, particularly netering winds of 28 knots or m ng winds in spring and summe and less than 2 percent most nging to the S and NW by after or more increase to 4 to 6 pe are variable, with E, S, and W	er, when, lakewide, ' ften responsible, wh t of the time from No requent, but 5- to 10 eet less than 1 perce uildup begins. ariable. Along the Mid among the most corr with the approach of ore falls from a 4- to r are thunderstorm g of the time. Summer rnoon, with an increa- rcent. By December, winds among the m	wave heights of 5 ile by November V vember through M -foot seas develop int of the time, whi chigan shore, sprin mon. By afternoo f summer. Summer 10-percent chanc gusts. By summer, winds along the s ase in speed. By C , these speeds car ost common. After	to 10 feet are encountered about 35 percent of the <i>N</i> through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been to 15 to 30 percent of the time in the S and 20 to 40 le those in the 5- to 10-foot category drop to less than and winds are variable, particularly in the morning, n, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The te in March to less than 3 percent by May. The most windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the Dctober, there is a noticeable increase in windspeeds. In be encountered up to 11 percent of the time. rnoon winds are most often out of the S through W.					

Harbor Towne Marina	Other	43.228737		86.328674	3429 Fulton Ave. Muskegon, MI 49441		Musl	kegon	Harbor Towne Marina	None		Marina	MI	SLM			
Name	Туре	Latitude (I	Decimal Degrees)	Longitude (Decimal Deg	grees)	Addre	SS		Cour	ity	Owner / POC	Access Limita	tions	Description	State	Sector
					Lo	ogistics Su	upport	Table									
						LOGI	STIC	S									
Site ID USS Silversides National Historic Landmark (D19)	Latitude (Decimal Degrees) 43.22975	Longitude (Decimal Degrees) 86.3322	Response Strategy Containment , Collection and exclusion	Implementation Deploy boom around vessel. Total capacity of petroleum product is approximately 600 gallons.	Min Boom Length	Staging Area Parking Lot for the facility or Station Muskegon can both be used for staging.		Boat Access yes	Land Acces yes	SS	Priority Medium	Date Las Verified 9-Nov-10	t	State MI	County Muskeg on	SLM	Address 1346 Bluff St. Muskegon, MI, 49441
evenly distributed throughout the year with a slight maximum during the late summer and early autumn. Response Considerations: -Ice: A mild winter on Lake Michigan means about 10-percent coverage compared to an average 40-percent coverage and an 80-percent coverage during a severe winter. Maximum ice coverage occurs by mid-March, on the average, while decay begins a week or two later. -Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors. Recommended Spill Response Strategy Table													-percent o later. higan by a r and to basins force of pors.				
			have occurred (38 mm) and	d in each month snow has fallen i	December December in every m	r, January, onth excep ith a slight	Februa Februa ot June maxim	ary and <i>i</i> e, July, a pum duri	April. A nd Au	About gust.	24 day Fog is p	s each year oresent on r and early	ar has a averag	a snowfa e 140 d	all total grea	ater than ear and i	1.5 inches s rather
			This area lies -Temperature except July a -Precipitation inches (264 p	at the NE edge e: Every month h nd August has re n: Snow falls on a	of the national seen to the corded tended tende	on's maxim emperature mperatures days each y	num fre es belo s below year ar	equency w 40°F (v freezing nd avera	belt fo (4.4°C g (0°C ges al	or torr () exc (). (). bout	nadoes. ept July 104 inch	(extreme nes (2642 i	minimu mm) ea	m is 41 ch year	°F (5°C)) ar . January a	nd every verages	month nearly 34
	between cold and warm air, thunderstorms and squall lines can be violent. On occasion they may trigger tornadoes or even waterspouts. This area lies at the NE edge of the nation's maximum frequency belt for tornadoes.														en there is adoes or ev	often a c 'en wate	lash rspouts.



GRS: Navigation Stru	ctures at Pentwater Harbor		GRS #	D20
Protection Priority Sites / Ranking:	Priority: Medium (B)			1
	LOCATION IN	IFORMATION		
State: Michigan		County: Manistee		
	CONTACT IN	FORMATION		
City of Pentwater: 231-869-2360				
East Lansing Ecological Service Field	d Office: 517-351-2555			
USCG Detached Duty Grand Haven:	and Center: 414-747-7182			
Michigan Department of Environment	tal Quality Environmental Emergencies Hotline: 800-29	92-4706		
EPA Spill Hotline: 312-353-2318				
	RESOURCES AT RISK	CHARACTER	RISTICS	
Managed Areas:	Mears State Park			
Shoreline Type:	Sand Shores, Exposed Bluffs, Riprap (Boulder) Stru Wetlands	ructures, Unranked	Harbor Structure	s (concrete, steel bulkheads, etc.), Extensive
Sensitive Habitat:	White Sand Beaches			
Wildlife:	Salmonids, Waterfowl			
Federally Threatened / Endangered Species:	Piping Plover(E), Red Knot (T), Pitcher's Thistle (T)), Karner Blue Butt	erfly (E), Indiana I	Bat (E), Northern Long-eared Bat (T)
Socio-Economic Resources:	Recreational Beaches, Drinking Water Intakes (43.7	78192, -86.44619)		
	SPILL RE	SPONSE		
Predicted Behavior:	-Sea Conditions: Worst in October and November time. In October, S through SW winds are most ofte of 10 feet or more are encountered 3 to 5 percent o encountered. During the spring, high seas are infre- percent in the N. Summer seas climb above 10 feet 20 percent in June and July. By August, the fall buil -Winds: Coastal winds are more localized and varia when northerlies, easterlies, and southerlies are an preponderance of winds out of the S, particularly wi likelihood of encountering winds of 28 knots or mor- likely cause of strong winds in spring and summer a percent of the time and less than 2 percent most of morning hours, swinging to the S and NW by aftern Speeds of 28 knots or more increase to 4 to 6 perc Morning directions are variable, with E, S, and W w The strong winds continue throughout the winter ar	r, when, lakewide, yen responsible, wh of the time from No equent, but 5- to 10 it less than 1 perce idup begins. Table. Along the Mid nong the most com ith the approach of re falls from a 4- to are thunderstorm g f the time. Summer noon, with an increa- tent. By December, winds among the m and are associated w	wave heights of 5 ile by November November November through November through November through November November through November through shore, springer Summer. Summer Summer Summer Summer Summer winds along the sase in speed. By Constant, speed Summer S	to 10 feet are encountered about 35 percent of the W through N winds often generate rough seas. Seas March. Extreme waves of 20 to 22 feet have been p 15 to 30 percent of the time in the S and 20 to 40 ile those in the 5- to 10-foot category drop to less than ing winds are variable, particularly in the morning, on, aided by a lake-breeze effect, there are a er also brings a slackening of windspeeds. The ce in March to less than 3 percent by May. The most , windspeeds of 28 knots or more occur less than 4 shore are usually out of the E through S during the October, there is a noticeable increase in windspeeds. n be encountered up to 11 percent of the time. rmoon winds are most often out of the S through W. s, which bring a variety of winds from SW through NE.

							COMME	ENTS								
Marina	ch				45445				/001				Ividiliid			
Snug Harbor	Boat Laun	43.77594	86.43267		616 South Hancock 49449	St. Pentwate	er, MI	Oceana	Snug Harbor (23 7001	31) 869-	Local Marina		Boat Launcl Marina	h and	MI	SLM
Name	Туре	Latitude (Decimal Degrees)	Longitude (Deci Degrees)	mal	Address			County	Owner / POC		Access Limit	ations	Description		State	Sector
						Logis	stics Sup	port Table)							
							LOGIS	TICS								
				exclusion booming to protect these areas and utilize natural collection points to skim the oil from the surface.												
Structures at Pentwater Harbor (D20)				leading structur settling crevices difficult	up to the navigation e leads way to oil into the fine within making it to clean. Apply		State Park	is not limited as the piers and revetments	Channel Lane and routes through s Mears		2016				Pentw near t the pi	vater Lake he end of er
Site ID Navigation	Latitude (Decima Degrees 43.7823	I (Decimal) Degrees) 7 86.44369	Exclusion	Response Strategy Implementation Exclusion The rip rap along the pier		Min Boom Length ~1500'	Staging Area Mears	Boat Access Boat access	s Via	Priority	Date Last Verified 25-Oct-	MI	County	SLM	Addre At the	e mouth of
					Recom	mended	Spill Res	ponse Stra	ategy lable						1	
			storm g	jenerate	d waves to preven	t them fro	m being o	conducted t	through the c	onfined c	hannels be	tween th	ne piers ar	nd into the	e harbo	rs.
	formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of															asins prce of
	entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins															and to
	-Most of the harbors on the E side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan b														gan by an	
Response	Conside	rations:	-lce: A	mild win	ter on Lake Michig	an mean	s about 1	0-percent c	overage com	pared to	an average	40-per	cent cover	age and	an 80-p	percent
			(38 mm evenly	n) and sr	low has fallen in e ed throughout the	very mont year with	th except a slight m	June, July, naximum du	and August. uring the late	Fog is pr	resent on av and early a	/erage 1 utumn.	40 days e	ach year	and is	rather
			-Precip inches have or	itation : (864 mm courred i	Snow falls on abo n) per year while D n each month Dec	ut 93 day ecember ember, Ja	s each ye averages anuary, F	ear and ave nearly 27 i ebruary and	rages about inches (686 r d April, Abou	104 inche nm) each t 24 davs	es (2642 mr year. One each year	n) each ·foot (30 has a sr	year. Janu 5 mm) sno nowfall tota	uary aver owfalls in al greater	ages no a 24- h than 1	early 34 nour period .5 inches
			-Tempe except	erature: July and	Every month has I August has recor	seen temp ded temp	peratures eratures l	below 40°ł below freez	F (4.4°C) exc :ing (0°C).	ept July (extreme mi	nimum i	is 41°F (5°	C)) and e	every m	ionth
			This are	ea lies a	t the NE edge of th	ne nation's	s maximu	m frequenc	cy belt for torr	nadoes.	, <u>,</u> .			<u></u>		
			betwee	n cold a	nd warm air, thunc	lerstorms	and squa	all lines can	be violent. C	n occasio	on they may	y trigger	tornadoes	s or even	waters	pouts.
			- While	thunder	storms can occur	at any tim	e thev ar	e most like	ly from May t	hrough S	September	In sprind	n when the	ere is ofte	en a cla	ish

