

## **Appendix I: RRT Contacts**

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[www.rrt5.org/RRT/Roster.aspx](http://www.rrt5.org/RRT/Roster.aspx)

## Appendix I: RRT Contacts

### REGIONAL RESPONSE TEAM 5

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## **Appendix II: Acronyms and Definitions**

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Available online at [www.rrt5.org/RCPACPMain/RCPACPAppendices/AcronymsDefinitions.aspx](http://www.rrt5.org/RCPACPMain/RCPACPAppendices/AcronymsDefinitions.aspx)

## Appendix II: Acronyms and Definitions

### 1.1 Definitions

**Area Committee** As provided for by Sections 311(a)(18) and (j)(4) of the Clean Water Act (CWA), means the entity appointed by the President consisting of members from qualified personnel of Federal, State, and local agencies with responsibilities that include preparing an Area Contingency Plan for the area designated by the President. The Area Committee may include ex-officio (i.e., non-voting) members (e.g., industry and local interest groups).

**Area Contingency Plan (ACP)** As provided for by Sections 311(a)(19) and (j)(4) of CWA, means the plan prepared by an Area Committee that is developed to be implemented in conjunction with the NCP and RCP, in part to address removal of a worst case discharge and to mitigate or prevent a substantial threat of such a discharge from a vessel, offshore facility, or onshore facility operating in or near an Area designated by the President.

**Coastal waters** As defined in the NCP, for the purposes of classifying the size of discharges, the waters of the coastal zone except for the Great Lakes and specified ports and harbors on inland rivers. Precise boundaries are identified in U.S. Coast Guard/U.S. Environmental Protection Agency agreements, Federal Regional Contingency Plans and Area Contingency Plans.

**Coastal zone** As defined in the NCP, all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the NCP, and the land surface or land substrata, ground waters, and ambient air proximal to those waters. The term coastal zone delineates an area of Federal responsibility for response action. Precise boundaries are determined by U.S. EPA/USCG agreements and identified in Federal Regional Contingency Plans. No ports or harbors are designated in Region 5.

**Discharge** As defined by Section 311(a)(2) of CWA, includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under Section 402 of the CWA, discharges resulting from circumstances identified and reviewed and made a part of the public record with respect to a permit issued or modified under Section 402 of the CWA, and subject to a condition in such permit, or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under Section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of the NCP, discharge also means substantial threat of discharge.

**Drinking water supply** As defined by Section 101(7) of CERCLA, means any raw or finished water source that is or may be used by a public water system (as defined in the Safe Drinking Water Act, 42 U.S.C. et seq.) or as drinking water by one or more individuals.

**Economically sensitive areas** Those areas of explicit economic importance to the public that due to their proximity to potential spill sources may require special protection and include, but are not limited to: public water supplies, publicly managed use areas, and Tribal use areas.

Emergency Planning and Community Right-to-Know Act (EPCRA) Title III Section 300. of SARA; created a system of State and local planning agencies for chemical emergencies and provided a way for communities to gain information about potential chemical hazards. EPCRA's mandates cover three main topics emergency planning, emergency notification requirements, and requirements for reporting hazardous chemical inventories.

**Environmentally sensitive areas** Areas identified as a priority for protection and special attention during cleanup in the event of a pollution incident. Designations of types of areas considered to be sensitive can be found in 1) the U.S. Fish and Wildlife Annex (Appendix IX) and 2) the Guidance for Facility and Vessel Response Plans Fish and Wildlife and Sensitive Environments, published by Department of Commerce/National Oceanic and Atmospheric Administration. In addition to this definition, Area Committees may include any additional areas determined to be "sensitive." These areas are mapped in Region 5 and are available on paper and CD-ROM as a companion to this Plan.  
4202.(a)(4)(B)(ii)

**Hazardous substance** As defined by section 101(14) of CERCLA, any substance designated pursuant to section 311(b)(2)(A) of the CWA; any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA; any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including any waste the regulation of which under the Solid Waste Disposal Act [42 U.S. C. 6901 et seq.] has been suspended by Act of Congress); any toxic pollutant listed under section 307(a) of the CWA; any hazardous air pollutant listed under section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture with respect to which the U.S. EPA Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act (TSCA). This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and does not include natural gas, natural gas liquids, liquified natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and synthetic gas).

**Inland waters** As defined in the NCP, for the purposes of classifying the size of discharges, means those waters of the United States in the inland zone, waters of the Great Lakes, and specified ports and harbors on inland rivers.

**Inland zone** As defined in the NCP, means the environment inland of the coastal zone excluding the Great Lakes and specified ports and harbors on inland rivers. The term inland zone delineates an area of Federal responsibility for response action. Precise boundaries are determined by U.S. EPA/USCG agreements and identified in Federal regional contingency plans.

**Local Emergency Planning Committee (LEPC)** A group of local representatives appointed by the State Emergency Response Commission (SERC) to prepare a comprehensive emergency plan for the local emergency planning district, as required by the Emergency Planning and Community Right-to-know Act (EPCRA), Title III Section 301(c) of SARA.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** As required by section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9605, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA),



Pub. L. 99-499, collectively called (CERCLA), and by section 311(d) of the Clean Water Act (CWA), 33 U.S.C. 1321(d), as amended by the Oil Pollution Act of 1990 (OPA), Pub. L. 101-380, the NCP provides nationwide organizational structure and procedures for responding to discharges of oil and releases of hazardous substances, pollutants and contaminants. In Executive Order (E.O.) 12777 (56 FR 54757, October 1991), the President delegated to the Environmental Protection Agency (EPA) the responsibility for the amendment of the NCP in coordination with members of the National Response Team (NRT) as well as the Federal Emergency Management Agency (FEMA) and the Nuclear Regulatory Commission to avoid inconsistent or duplicative requirements in the emergency planning responsibilities of those agencies.

**National Pollution Fund Center (NPFC)** As defined by Section 7 of Executive Order 12777, the NPFC is the entity established by the Secretary of the Department of Transportation whose function is the administration of the Oil Spill Liability Trust Fund (OSLTF). This includes access to the OSLTF by Federal Agencies, States, and designated trustees for removal actions and initiation of natural resource damage assessments, as well as claims for removal costs and damages.

**Natural Resource Trustees** Officials representing State, Tribal, Federal, and foreign governments who are authorized to act pursuant to section 107(f) of CERCLA, section 311(f)(5) of the CWA, or section 10006 of the OPA when there is injury or threat to natural resources, including their supporting ecosystems, as a result of a release of a hazardous substance or a discharge of oil. Natural resources means land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources.

**Navigable waters** As defined by 40 CFR 110.1, the term navigable waters includes (a) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; (b) Interstate waters, including interstate wetlands; (c) All other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) That are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; (3) That are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as navigable waters under this Section; (e) Tributaries of waters identified in (a) through (d) of this definition, including adjacent wetlands; and (f) Wetlands adjacent to waters identified in (a) through (e) of this definition: Provided, that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States. Water of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal Agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with U.S. EPA.

**Oil** As defined by Section 311(a)(1) of CWA, means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil, as defined by Section 1001 of OPA means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged oil, but does not

include petroleum, including crude oil or any fraction thereof, which is specifically listed or designated as a hazardous substance under paragraphs (A) through (F) of Section 101 (14) of CERCLA (42 U.S.C. 9601) and which is subject to the provisions of that Act.

**Oil Spill Liability Trust Fund (OSLTF)** As defined by the NCP, means the fund established under Section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. Section 9509).

**On-Scene Coordinator (OSC)** As defined by the NCP, means the Federal official predesignated by U.S. EPA or USCG to coordinate and direct responses, or the government official designated by the lead agency to coordinate and direct removal actions under the NCP. In certain site-specific situations, DOD or DOE may also act as OSC.

**Region 5 Regional Contingency Plan/Area Contingency Plan (RCP/ACP)** Developed to fulfill the requirements of the NCP for both RCPs and ACPs, as well as relevant portions of the Federal Response Plan (FRP), particularly Emergency Support Function #10 for Hazardous Materials (ESF #10)

**Regional Oil and Hazardous Substances Pollution Contingency Plan (RCP)** As provided for by Section 300.210 (b) of the NCP, and under the auspices of the Regional Response Team (RRT), the RCP is the mechanism for planning and coordinating regional preparedness and response actions for discharges of oil and releases of hazardous substances.

**Regional Response Team (RRT)** As defined in the NCP, the regional response organization (consisting of a representative from each State in the region and representatives from 15 Federal Agencies) which acts as a regional body responsible for regional planning and coordination of preparedness and response actions involving oil and hazardous materials. The RRT coordinates assistance and advice to the OSC in the event of a major or substantial spill.

**State Emergency Response Commission (SERC)** As provided in SARA Section 301.(a), an individual or group of officials appointed by the State governor to implement the provisions of EPCRA (see above). The SERC coordinates and supervises the work of the Local Emergency Planning Committees and reviews local emergency plans annually.

**Tribal Emergency Response Commission (TERC)** As defined in the NCP, a group of officials appointed by Native American governing bodies to implement the provisions of EPCRA in the same manner as the SERCs. The TERC may designate local emergency planning districts and appoint LEPCs or act as an LEPC as needed, including reviewing and/or developing local emergency response plans.

**Used oil** Any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities.

**Waste oil** For the purposes of this Plan, waste oil is any oil that has been refined from crude oil, or any synthetic oil, that has been physically or chemically contaminated as a result of a spill.

**Wetlands** Those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes,

swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds (40 CFR 112.2[y]).

**Worst case discharge** A worst case discharge involves ANY discharge or threat of a discharge in quantities sufficient to impact public health, welfare or the environment, where the parties responsible for the threat or discharge are unwilling or unable to perform the required response actions. For the purposes of this Plan, a worst case discharge is considered to be a spill originating at a 1M gallon above-ground storage tank.

## 1.2 Acronyms and Abbreviations

ACP	Area Contingency Plan
AOR	Area of Response
APHIS	Animal Plant and Health Inspection Service
API	American Petroleum Institute
ASCS	Agricultural Stabilization and Conservation Service
AST	Atlantic Strike Team
ATSDR	Agency for Toxic Substances and Disease Registry
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BOA	Basic Ordering Agreement
CANUSCENT	Regional Annex to Canada-United States Joint Inland Pollution Contingency Plan
CANUSLAK	Regional Annex to Canada-United States Joint Inland Pollution Contingency Plan
CANUSPLAIN	Regional Annex to Canada-United States Joint Inland Pollution Contingency Plan
CANUTEC	Canadian Transportation Emergency Center
CDC	Centers for Disease Control
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. Section 9601 et seq., also known as Superfund
CHEMTREC	Chemical Transportation Emergency Center
COTP	Captain of the Port (USCG)
CRREL	Cold Region Research Engineering Laboratory
CWA	Clean Water Act, as amended by OPA, 33 U.S.C. Section 1251 et seq.
DEM	Department of Emergency Management
DNR	Department of Natural
Resources DOA	Department of Agriculture
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOJ	Department of Justice
DOL	Department of Labor
DOS	Department of State
DOT	Department of Transportation

DRG	District Response Group (USCG)
DWRO	Director of Western Rivers Operations
EMD	Emergency Management Division
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986 (Title III of SARA)
EPIC	Environmental Photographic Interpretation Center
ERB	Emergency Response Branch
ERCS	Emergency Response Cleanup Services
ERD	Emergency Response Division
ERS	Emergency Response Section
ERT	Environmental Response Team
ERU	Emergency Response Unit
ESF	Emergency Support Function
ESI	Environmental Sensitivity Index
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FNS	Food and Nutrition Service
FPN	Federal Project Number
FRERP	Federal Radiological Emergency Response Plan
FRMAP	Federal Radiological Monitoring and Assessment Plan
FRP	Facility Response Plan
FRP/ESF	Federal Response Plan/Emergency Support Function
FS	Feasibility Study
FSIS	Food Safety and Inspection Service
FWPCA	Federal Water Pollution Control Act
GLACIER	Great Lakes Area Computerized Inventory for Emergency Response
GLC	Great Lakes Commission
GLERL	Great Lakes Environmental Research Laboratory
GLIFWC	Great Lakes Indian Fish and Wildlife Commission
GSA	General Services Administration
HAZMAT	hazardous material(s)
HHS	Department of Health and Human Services
HMIX	Hazardous Materials Information Exchange
IAG	Interagency Agreement
IAPC	Inland Area Planning Committee
IC	Incident Commander
ICP	Incident Command Plan
ICS	Incident Command System
IDEM	Indiana Department of Environmental Management
IDPH	Indiana Department of Public Health
IEMA	Illinois Emergency Management Agency
IEPA	Illinois Environmental Protection Agency
IJC	International Joint Commission

INDOT	Indiana Department of Transportation
ISDH	Indiana State Department of Health
ISP	Indiana State Police
LAT	Lead Administrative Trustee
LEPC	Local Emergency Planning Committee
MASS	Modeling and Simulation Studies
MDA	Michigan Department of Agriculture
MDEQ	Michigan Department of Environmental Quality
MDPH	Michigan Department of Public Health
MERC	Michigan Emergency Response Commission
MLC	Marine Logistics Command
MMS	Mines and Minerals Service
MOU	Memorandum of Understanding
MPCA	Minnesota Pollution Control Agency
MSDS	Material Safety Data Sheet
MSO	Marine Safety Office
MSP	Michigan State Police
NCP	National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300
NFA	National Fire Academy
NIH	National Institutes of Health
NIIMS	National Interagency Incident Management System
NIOSH	National Institute for Occupational Safety and Health
NMFS	National Marine Fisheries Service
NPFC	National Pollution Fund Center
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRC	National Response Center or Nuclear Regulatory Commission
NRDA	Natural Resources Damage Assessment
NRT	National Response Team
NSF	National Strike Force
NSFCC	National Strike Force Coordination Center
NWS	National Weather Service
OEPA	Ohio Environmental Protection Agency
OEPC	Office of Environmental Policy and Compliance
OISC	Office of the Indiana State Chemist
OPA	Oil Pollution Act of 1990, 33 U.S.C. Section 2701
OPS	Office of Pipeline Safety
ORIA	Office of Radiation and Indoor Air
ORSANCO	Ohio River Valley Water Sanitation Commission
OSC	On-Scene Coordinator
OSFM	Office of the State Fire Marshall
OSHA	Occupational Safety and Health Administration

OSHWM	Office of Solid and Hazardous Waste Management
OSLTF	Oil Spill Liability Trust Fund
OSRO	Oil Spill Removal Organization
OSSM	On-Scene Spill Model
OSWER	Office of Solid Waste and Emergency Response
PHS	Public Health Service
PIAT	Public Information Assistance Team
POLREP	Pollution Report Message
PREP	National Preparedness for Response Exercises Program
PRFA	Pollution Removal Funding Authorization
PRP	Potentially Responsible Party
PUCO	Public Utilities Commission of Ohio
RCP	Regional Contingency Plan
RCRA	Resource Conservation and Recovery Act
REMM	Riverine Emergency Management Model
RERT	Radiological Emergency Response Team
RP	Responsible Party
RPM	Remedial Project Manager
RQ	Reportable Quantity
RRC	Regional Response Center
RROC	Regional RCRA Off-Site Coordinator
RRT	Regional Response Team
RRT5	Region 5 Regional Response Team
RSPA	Research and Special Programs Administration
SARA	Superfund Amendments and Reauthorization Act of 1986
SEHO	Safety and Health Officer
SEMA	State Emergency Management Agency
SEOC	State Emergency Operations Center
SERC	State Emergency Response Commission
SHPO	State Historic Preservation Officer
SLSDC	St. Lawrence Seaway Development Corporation
SONS	Spill of National Significance
SSC	Scientific Support Coordinator
START	Superfund Technical Assessment Team
SUPSALV	Supervisor of Salvage
TERC	Tribal Emergency Response Commission
TSCA	Toxic Substances Control Act
UCS	Unified Command System
UMR	Upper Mississippi River
UMRBA	Upper Mississippi River Basin Association
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USDA	United States Department of Agriculture

U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDNR	Wisconsin Department of Natural Resources

## **Appendix III: Worst Case Discharges in Region 5**

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Available online at [www.rrt5.org/RCPACPMain/RCPACPAppendices/WorstCaseDischarges.aspx](http://www.rrt5.org/RCPACPMain/RCPACPAppendices/WorstCaseDischarges.aspx)



## Appendix III: Worst Case Discharges in Region 5

Operator	Facility	County	State
Bunge North America Inc.	Bunge North America, Inc. 203 34th St. Cairo, IL 62914	Alexander	IL
Mair Oil Co.	Mair Oil Princeton Facility 300 W Long St. Princeton, IL 61356	Bureau	IL
	Manlius Oil Co., Inc 8972 2175N Ave. Manlius, IL 61338		
	Municipal Electric Utility 1 N Main St. Princeton, IL 61356		
Marathon Petroleum Co., LLC	Champaign IL Terminal 511 S Staley Rd. Champaign, IL 61821	Champaign	IL
Emulsicoat, Inc.	Emulsicoat, Inc. 705 E. University Ave. Urbana, IL 61802	Champaign	IL
	Flora Yard Co. Rd. 1500E Flora, IL 62839		
	Acme Steel Co. 11236 S Torrence Ave. Chicago, IL 60617		
Aircraft Services International Group	Aircraft Services International Group PO Box 66131, O'Hare Chicago, IL 60666	Cook	IL
Valero Energy Corp.	Alsip Distribution Center 3600 W 131st St. Alsip, IL 60803	Cook	IL
	Ameropan Oil Corp. 3301 S California Ave. Chicago, IL 60608-5113		
	Argonne National Laboratory 9700/9800 S Cass Ave. Argonne, IL 60439-4801		
Ashland Chemical Co.	Ashland Chemical Co. 8500 S Willow Springs Willow Springs, IL 60480	Cook	IL

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Operator	Facility	County	State
Bell Fuels Inc.	Bell Fuels 4116 W Peterson Ave. Chicago, IL 60646-6017	Cook	IL
	Bell Oil Terminal 3741 S Pulaski Rd. Chicago, IL 60623		
	BP - Chicago Terminal 4811 S Harlem Ave Forest View, IL 60402-4282		
BP Products North America, Inc.	BP North America O'Hare Terminal 2201 S Elmhurst Rd DesPlaines, IL 60018-1830	Cook	IL
Calumet Specialty Products Par	Calumet Lubricants Co., LP 14000 Mackinaw Ave. Burnham, IL 60633	Cook	IL
	Cargill Technical Oils 12201 S Torrence Ave. Chicago, IL 60617		
	Cicero Lubricants Manufacturing Plant  3737 S Cicero Ave. Cicero, IL 60804-4577		
CITGO Petroleum Corp.	CITGO - Des Plaines Terminal 2304 Terminal Dr. Mount Prospect, IL 60056	Cook	IL
CITGO Petroleum Corp.	CITGO - Mt. Prospect Terminal 2316 Terminal Dr. Arlington Heights, IL 60005	Cook	IL
	Clean Harbors Recycling Services 1445 W 42nd St. Chicago, IL 60609		
	Corn Products - Argo Plant 6400 S Archer Rd. Bedford Park, IL 60501		
West Shore Pipe Line Co.	Des Plaines Station (West Shore) 3400 S Badger Rd. Arlington Heights, IL 60005	Cook	IL

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Operator	Facility	County	State
Egan Marine Corp.	Egan Marine Corp. 15200 Canal Bank Rd. Lemont, IL 60439	Cook	IL
	ExxonMobil Cicero Lube Plant 3801 S Cicero Ave. Chicago, IL 60804		
	ExxonMobil Des Plaines Terminal 2312 Terminal Dr. Arlington Heights, IL 60005		
Ford Motor Company	Ford - Chicago Assembly Plant 12600 S Torrence Ave. Chicago, IL 60633	Cook	IL
Fuchs Lubricants Co.	Fuchs Lubricants Co. 17050 Lathrop Ave. Harvey, IL 60426	Cook	IL
	Great Lakes Terminal 8800 W 71st St Bedford Park, IL 60501-1953		
	Hexion - Argo Terminal 8600 & 8800 W 71st St. Bedford Park, IL 60501		
Hexion Performance Chemicals	Hexion - Argo Terminal 8600 & 8800 W 71st St. Bedford Park, IL 60501	Cook	IL
International-Matex Tank Terminal	IMTT - Lemont Terminal 13589 Main St. Lemont, IL 60439-9376	Cook	IL
	Kinder Morgan Argo Terminal 8500 W 68th St. Summit Argo, IL 60501		
	Kinder Morgan Chicago Terminal 12200 S Stony Island Ave. Chicago, IL 60633		
Koppers Industries, Inc.	Koppers Industries, Inc. 3900 S Laramie Ave. Cicero, IL 60650	Cook	IL

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Operator	Facility	County	State
Korall Corp.	Korall Marine Facility 305 W New Ave. Lemont, IL 60439	Cook	IL
	Magellan Chicago Terminal 10601 Franklin Ave. Franklin Park, IL 60131		
	Magie Brothers 9101 Fullerton Ave Franklin Park, IL 60131		
Midwest Generation, LLC	Midwest Generation - Bloom Facility 305 E Sauk Trail Chicago Heights, IL 60411	Cook	IL
Midwest Generation, EME LLC	Midwest Generation - Crawford Station 3501 S Pulaski Rd. Chicago, IL 60623	Cook	IL
	Midwest Generation - Fisk Facility 1111 W Cermak Rd. Chicago, IL 60608		
	Mt. Prospect Terminal 3231 Busse Rd. Arlington Heights, IL 60005		
Nestle Food Co.	Nestle Chocolate & Confections 3401 Mt Prospect Rd. Franklin Park, IL 60131	Cook	IL
Nustar Terminals Services	Nustar Terminals Services 3210 W 131st St. Blue Island, IL 60406	Cook	IL
	Olympic Oil, Ltd. 5000 W 41st St. Cicero, IL 60804		
	Ortek 7601 W 47th St. McCook, IL 60525		
Osco, Inc.	Osco, Inc. 13351 Main St. Lemont, IL 60439	Cook	IL

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Operator	Facility	County	State
Safety-Kleen Corp.	Safety-Kleen Corp. 633 E 138th St Dolton, IL 60419-1058	Cook	IL
	Shell Oil US Des Plaines Plant 1605 W Algonquin Rd. Arlington Heights, IL 60005		
	TEPPCO Blue Island Terminal 3645 W 131st St. Alsip, IL 60658		
Ashland, Inc.	The Valvoline Co. 8450/8500 S Willow Springs Rd. Willow Springs, IL 60480	Cook	IL
Owens Corning Fiberglas Tech	Trumbull Asphalt Summit Plant 7800 W 59th St. Summit, IL 60501	Cook	IL
	Union Pacific Proviso Yard 5050 W Lake St. Melrose Park, IL 60164		
	Union Pacific Railroad Co. 147th & Indiana Ave. Dolton, IL 60419		
United Parcel Service	United Parcel Service 1400 S Jefferson St. Chicago, IL 60607	Cook	IL
Vantage Oleochemicals	Vantage Oleochemicals 4650 S Racine Ave. Chicago, IL 60609	Cook	IL
	Westway Terminal Co., Inc. 13550 S Indiana Ave. Riverdale, IL 60627		
	Marathon Petroleum Co., LLC 100 Marathon Ave. Robinson, IL 62454		
Tripower Resources	Tripower Resources N 750th St. & E 500th Ave. Hardinville, IL 62427	Crawford	IL

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Operator	Facility	County	State
Countrymark Cooperative, LLC	Albion Station Co. Rd. 500N (CR 9) Albion, IL 62806	Edwards	IL
	Marathon St. Elmo Facility 200 E 4th St. St. Elmo, IL 62458		
	The Solae Company 124 S Rt. 47 Gibson City, IL 60936		
Aux Sable Liquid Products	Channahon NGL Facility 6155 E US Rt. 6 Morris, IL 60450	Grundy	IL
Midwest Generation, LLC	Midwest Generation - Collins Station 4200 Pine Bluff Rd. Morris, IL 60450	Grundy	IL
	Baker Brothers IL, Inc. 103 N Howard St. Ava, IL 62907-0219		
	Fermi National Accelerator Laboratory  PO Box 500, Kirk Rd. & Pine St. Batavia, IL 60510		
Buckeye Partners, LP	Buckeye Terminals, LLC 275 N 2750 W Rd Kankakee, IL 60901	Kankakee	IL
Cognis Corp.	Kankakee Manufacturing Plant 2525 S Kensington Rd. Kankakee, IL 60901	Kankakee	IL
	Caterpillar Aurora Plant 325 Rt. 31 S Aurora, IL 60538		
	BNSF Galesburg Facility 2215 S Henderson St. Galesburg, IL 61401		
Abbott Laboratories	Abbott Laboratories - North Chicago Facility  1401 N Sheridan Rd. North Chicago, IL 60064-6312	Lake	IL

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Operator	Facility	County	State
Calpine Operating Services Co.	Zion Energy Center 5701 9th St. Zion, IL 60099	Lake	IL
	Feece Oil Ottawa Facility 622 E Stevenson St. Ottawa, IL 61350		
	Utica Terminal, Inc. 715 N 27th Rd. Utica, IL 61373		
Archer Daniels Midland	ADM Decatur East Plant 4666 Faries Pkwy Decatur, IL 62526	Macon	IL
Archer Daniels Midland	ADM Decatur West Plant 3883 Faries Pkwy Decatur, IL 62526	Macon	IL
	Buckeye Pipeline Harristown Facility  600 N Lincoln Memorial Pkwy Harristown, IL 62537		
	Buckeye Terminals, LLC 266 E Shafer St Forsyth, IL 62535		
Norfolk Southern Railway Co.	Norfolk Southern Railway Co. 1735 E Condit St. Decatur, IL 62521	Macon	IL
Apex Oil, Inc.	Apex Oil Co. Asphalt Terminal 2801 Rock Rd. Granite City, IL 62040	Madison	IL
	BP - Wood River Terminal 1000 BP Ln. (301 Evans Ave.) Hartford (Wood River), IL 62095		
	ConocoPhillips Wood River Refinery  900 S Central Ave. Roxana, IL 62084		
Mers, Inc.	Economy Boat Store 200 S Amoco Cutoff Wood River, IL 62095	Madison	IL

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Operator	Facility	County	State
Explorer Pipeline Co.	Explorer Wood River Station 1355 Robins Rd. East Alton, IL 62024	Madison	IL
	Hartford Illinois Terminal 1402 S Delmar Ave. Hartford, IL 62048		
	Hartford Lubes Plant 2150 S Delmar Ave. Hartford, IL 62048		
HWRT Oil Co.	HWRT - Hartford Terminal 900 N Delmar Hartford, IL 62048	Madison	IL
Koch Pipeline Co., LP	Koch Pipeline Co. - Hartford Station 480 Robbins Rd. Hartford, IL 62048	Madison	IL
	Marathon Pipe Line Co. - Hartford 415 E 7th St. Hartford, IL 62048		
	Marathon Pipe Line Co. - Wood River  S 6th St. Wood River, IL 62048		
The Premcor Refining Group, Inc.	Premcor Refining Group, Inc. 201 E Hawthorne St. Hartford, IL 62048	Madison	IL
US Steel Corp.	US Steel - Granite City Works 1951 State St. Granite City, IL 62040	Madison	IL
	Velocity Services 1450 Edwardsville Rd. Granite City, IL 62040		
	Venice Power Plant 701 Main St. Venice, IL 62090		
Plains Marketing, LP	Patoka Truck Station 400 South A St. Vernon, IL 62892	Marion	IL



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Operator	Facility	County	State
Dynergy Midwest Generation	Dynergy Midwest Havana Station 15260 N State Rt. 78 Havana, IL 62644	Mason	IL
	Chemtool, Inc. 8200 Ridgefield Rd. Crystal Lake, IL 60014		
	Conserv FS - Woodstock Facility 1110 McConnell Rd Woodstock, IL 60098		
Curran Contracting Co.	Curran - Crystal Lake Plant 1450 S Virginia Rd. Crystal Lake, IL 60014	McHenry	IL
Cargill, Inc.	Cargill - Bloomington Facility 115 S Euclid St. Bloomington, IL 61701	McLean	IL
	Heyworth Terminal 16490 E 100 North Rd. Heyworth, IL 61745		
	Menard Terminal 18349 IL Hwy 29 Petersburg, IL 62675		
Ameren Energy	Ameren - Meredosia Power Station 800 S Washington St. Meredosia, IL 62665	Morgan	IL
BP	BP - Rochelle Terminal 100 E Standard Oil Rd. Rochelle, IL 61068	Ogle	IL
	ADM Peoria Plant 1 Edmund St. Peoria, IL 61602-1737		
	Arc Terminals Chillicothe Facility 20206 N Rt. 29 Chillicothe, IL 61523		
Buckeye Terminals, LLC	Buckeye Terminals, LLC 14410 N Old Galena Rd. Chillicothe, IL 61523	Peoria	IL

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Operator	Facility	County	State
Evonik Goldschmidt Corp.	DeGussa/Goldschmidt Chemical 8300 W Rt. 24 Mapleton, IL 61547	Peoria	IL
	Lenz Oil Service 3001 SW Washington St. Peoria, IL 61602		
	Seneca Petroleum Co., Inc. - Peoria 2000 Crowell St. Peoria, IL 61653		
Specialty Materials Division 3M	3M 22614 Hwy 84 N Cordova, IL 61242	Rock Island	IL
Gold Star FS, Inc.	Gold Star FS - Reynolds Service Center 17320 70th St. W Reynolds, IL 61279	Rock Island	IL
	IBP, Inc. 28424 38th Ave. N Joslin, IL 61201		
	Lilly Industries, Inc. 5400 23rd St. Moline, IL 61265		
Illinois and Midland RR, Inc.	I&M RR Springfield Facility 19th St. & N Grand Ave. Springfield, IL 62705	Sangamon	IL
City Water Light and Power	Stevenson Drive Facility 3100 Stevenson Dr. Springfield, IL 62703	Sangamon	IL
	Afton Chemical Corp. 501 Monsanto Ave. Sauget, IL 62201		
	ConocoPhillips Pipe Line Co. - E St. Louis  3300 Mississippi Ave. Cahokia, IL 62206-1048		
St. Clair Service Co.	St. Clair Service Co. 1036 Green Mount Rd. Belleville, IL 62222	St. Clair	IL

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Operator	Facility	County	State
U.S. Air Force, Environmental M	U.S. Air Force Scott AFB 701 Hangar Rd., Bldg. 56 Scott Air Force Base, IL 62225	St. Clair	IL
	Caterpillar East Peoria Plant 901 W Washington St. East Peoria, IL 61630		
	Bunge Milling, Inc. 321 E North St. Danville, IL 61832		
Countrymark Cooperative, LLC	Geff Station US Hwy 45 Geff, IL 62812	Wayne	IL
Countrymark Cooperative, LLC	Johnsonville Station 2mi. SE of Johnsonville Cisne, IL 62823	Wayne	IL
	Calvin Station Co. Rd. 2050E Calvin, IL 62827		
	Enfield Station Co. Rd. 1200N Enfield, IL 62835		
HWRT Oil Co.	HWRT - Norris City Terminal 317 Co. Rd. 750N Norris City, IL 62869	White	IL
BP Pipeline North America	BP Pipeline Co. 15600 W Bruns Rd. Manhattan, IL 60442-9537	Will	IL
	Buckeye - Peotone Station County Line Rd. Peotone, IL 60468		
	Canal Barge Co. Liquid Terminal 23213 S Young Rd Channahon, IL 60410		
Chicap Pipeline Co.	Chicap Pipeline Mokena 18401 S Wolf Rd. Mokena, IL 60448	Will	IL

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Operator	Facility	County	State
CITGO Petroleum Corp.	CITGO - Lemont Refinery 135th St & W New Ave. Lemont, IL 60439	Will	IL
	ExxonMobil Joliet Refinery 25915 SE Frontage Rd. Channahon, IL 60410		
	ExxonMobil Lockport Terminal 12909 High Rd. Lockport, IL 60441		
International-Matex Tank Terminals	IMTT - Joliet Terminal 24420 W Durkee Rd. Channahon, IL 60410	Will	IL
Oiltanking Americas	Joliet Marine Terminal 27100 S Frontage Rd. Channahon, IL 60410	Will	IL
	Korall Corp. - Lemont Marine Terminal  12300 New Ave. Lemont, IL 60439		
	Lockport Terminal 301 W Second St Lockport, IL 60441-2900		
Loders Croklaan	Loders Croklaan 24708 W Durkee Rd. Channahon, IL 60410	Will	IL
Midwest Generation, EME LLC	Midwest Generation - Joliet #6 and #9 1601 Patterson Rd. Joliet, IL 60436-9322	Will	IL
	Midwest Generation - Will County Station  529 E 135th St. Romeoville, IL 60446-1538		
	Seneca Petroleum Co., Inc. - Lemont  12460 S New Ave. Lemont, IL 60439-3669		
Stepan Co.	Stepan Co. 22500 W Millsdale Rd. Elwood, IL 60421	Will	IL

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Operator	Facility	County	State
Marathon Petroleum Co., LLC	Marathon - Rockford Terminal 7312 Cunningham Rd. Rockford, IL 61102	Winnebago	IL
	UPS Jet Fuel Terminal 881 Airport Dr. Rockford, IL 61109		
	Bunge North America 1200 N 2nd St Decatur, IN 46733		
Michael J. Gladieux	Gladieux Refinery 4133 New Haven Ave Fort Wayne, IN 46803	Allen	IN
Tomk Carlson	Valbruna Slater Steel Corp 2400 Taylor St Fort Wayne, IN 46802	Allen	IN
	LEBANON, INDIANA 801 EDWARDS DRIVE LEBANON, IN 46052		
	CLARKSVILLE, IN LIGHT PRODUCTS  214 CENTER ST CLARKSVILLE, IN 47129		
Tammi Watts (VP of Manufacturing)	Idemitsu Lubricants America 701 Port Rd Jeffersonville, IN 47130	Clark	IN
TANCO CLARK MARITIME LLC	JEFFERSONVILLE, IN 5144 UTICA PIKE JEFFERSONVILLE, IN 47130	Clark	IN
	FRANKFORT INDIANA 2191 WEST COUNTY ROAD 0 N/S FRANKFORT, IN 46041		
	FRANKFORT YARD 1601 W OHIO ST FRANKFORT, IN 46041		
Brian Scragg	Indiana Michigan Power - Tanners Creek  800 AEP Dr Lawrenceburg, IN 47025	Dearborn	IN

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Operator	Facility	County	State
INDIANA MICHIGAN POWER	TANNERS CREEK 312 I & M ST LAWRENCEBURG, IN 47025	Dearborn	IN
	Marathon Petroleum Waterloo 2670 US #6 Waterloo, IN 46793		
	Marathon Petroleum Muncie 2100 East State Road 28 Muncie, IN 47303		
BUCKEYE TERMINALS LLC	MUNCIE TERMINAL 2000 E STATE ROAD 28 MUNCIE, IN 47302	Delaware	IN
NOFOLK SOUTHERN RAILWA	ELKHART YARD 2600 WEST LUSHER AVENUE ELKHART, IN 46515	Elkhart	IN
	NEW ALBANY TERMINAL 20 JACKSON ST NEW ALBANY, IN 47150		
	PRINCETON TERMINAL 3217 S 950 E OAKLAND CITY, IN 47660		
COUNTRYMARK COOPOERATIVE, LLP	SWITZ CITY, INDIANA 8249 W. STATE ROAD 54 SWITZ CITY, IN 47465	Greene	IN
COUNTRYMARK COOPOERA	JOLIETVILLE TERMINAL 17710 MULE BARN ROAD WESTFIELD, IN 46074	Hamilton	IN
	MT. VERNON FACILITY 7201 PORT ROAD MOUNT VERNON, IN 47620		
	AVON/BIGFOUR YARD 491 SOUTH COUNTY ROAD 800 EAST  AVON, IN 46123		
BUCKEYE TERMINALS LLC	CLERMONT TERMINAL 10470 EAST COUNTY ROAD 300N CLERMONT, IN 46234	Hendricks	IN

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Operator	Facility	County	State
NUSTAR TERMINALS OPERATING	INDIANAPOLIS TERMINAL 3350 N RACEWAY RD INDIANAPOLIS, IN 46234	Hendricks	IN
	Marathon Petroleum Clermont 10833 E County Road 300 N Indianapolis, IN 46234		
	KOKOMO TRANSMISSION PLANT 2401 S. REED RD. KOKOMO, IN 46904		
SUNOCO PARTNERS MARKETING & TERMINALS LP	FORT WAYNE TERMINAL 4691 N MERIDIAN ST HUNTINGTON, IN 46750	Huntington	IN
Steven A. Uebelhoer, President	Gladioux Trading & Marketing 4757 N US Hwy 24 East Huntington, IN 46750	Huntington	IN
	HUNTINGTON TERMINAL 4393 NORTH MERIDIAN ROAD HUNTINGTON, IN 46750		
	Marathon Petroleum Huntington 4648 N. Meridian Rd Huntington, IN 46750		
HWRT TERMINAL - SEYMOUR, LLC	SEYMOUR TERMINAL 9780 HIGHWAY 31 NORTH SEYMOUR, IN 47274	Jackson	IN
MARATHON PETROLEUM LLC	NORTH VERNON, IN ASPHALT TERMI 1995 FIFTH STREET NORTH VERNON, IN 47265	Jennings	IN
	7344 SOUTH STATE ROAD 15 CLAYPOOL, IN 46510		
	Blue Knight Energy Partners, LLC 2820 E Durbin Rd Warsaw, IN 46580		
SKORC OIL RECOVERY COMPANY	601 RILEY RD EAST CHICAGO, IN 46312	Lake	IN

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Operator	Facility	County	State
Buckeye Terminals LLC	Buckeye Terminals LLC 400 E Columbus Dr East Chicago, IN 46312	Lake	IN
	Citgo Petroleum Corp 2500 E. Chicago Ave East Chicago, IN 46312		
	Enbridge Energy, LP - Griffith 1500 W main St Griffith, IN 46319		
Enbridge Energy, LP	Enbridge Energy, LP - Hartsdale 131 W Division St Scherverville, IN 46375	Lake	IN
Explorer Pipeline Co	Explorer Pipeline Co - Hammond 3737 Michigan St Hammond, IN 46323	Lake	IN
	GARY WORKS ONE NORTH BROADWAY GARY, IN 46402		
	HAMMOND (EAST CHICAGO) TERMINA  2400 MICHIGAN STREET HAMMOND, IN 46320		
THE PREMCOR PIPELINE COMPANY	HAMMOND TERMINAL 1020 141ST STREET HAMMOND, IN 46320	Lake	IN
EXXONMOBIL OIL CORPORAT	HAMMOND TERMINAL 1527 141ST STREET HAMMOND, IN 46320	Lake	IN
	Indiana Harbor Belt Railroad 2721 161st St Hammond, IN 46323		
	INDIANA HARBOR EAST 3210 WATLING ST EAST CHICAGO, IN 46312		
ARCELORMITAL STEEL, INC	INDIANA HARBOR WEST 3001 DICKEY ROAD EAST CHICAGO, IN 46312	Lake	IN



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Operator	Facility	County	State
Marathon Petroleum Company L	Marathon Petroleum Hammond 4206 Columbia Ave Hammond, IN 46327	Lake	IN
	US Pipeline and Logistics 1611 129th St Whiting, IN 46394		
	WHITING BUSINESS UNIT 2815 INDIANAPOLIS BOULEVARD WHITING, IN 46394		
Wolf Lake Industrial Ctrs Hammond Depot	Wolf Lake Industrial Ctrs Hammond Depot  3200 Sheffield Ave Hammond, IN 46327	Lake	IN
HERITAGE - CRYSTAL CLEAN LLC	3970 WEST 10TH STREET INDIANAPOLIS, IN 46222	Marion	IN
	BP Terminal 2500 N Tibbs Ave Indianapolis, IN 46222		
	Buckeye Partners LP 5405 W 96th St Indianapolis, IN 46268		
Buckeye Terminals LLC	Buckeye Terminals LLC 10700 E CR 300 N Indianapolis, IN 46234	Marion	IN
INDIANAPOLIS POWER AND L	HARDING STREET STATION 3700 SOUTH HARDING STREET INDIANAPOLIS, IN 46217	Marion	IN
	INDIANAPOLIS 1102 W 18TH ST INDIANAPOLIS, IN 46202		
	INDIANAPOLIS 4902 W 86TH ST INDIANAPOLIS, IN 46268		
ECOLOGICAL SYSTEMS INC.	INDIANAPOLIS 4910 WEST 86TH STREET INDIANAPOLIS, IN 46268	Marion	IN

Operator	Facility	County	State
SKYTANKING FUEL FACILITY	INDIANPOLIS, IN TERMINAL 2050 S. HOFFMAN INDIANAPOLIS, IN 46241	Marion	IN
	INDIANPOLIS 6648 SOUTH PERIMETER ROAD INDIANAPOLIS, IN 46241		
	Marathon Petroleum Indianapolis (A)  255 N. Belmont St Indianapolis, IN 46222		
Marathon Petroleum Company LP	Marathon Petroleum Indianapolis 4955 Robison Indianapolis, IN 46268	Marion	IN
Marathon Petroleum Company LP	Marathon Petroleum Speedway 1304 Olin Ave Speedway, IN 46222	Marion	IN
	RACEWAY TERMINAL 3230 NORTH RACEWAY ROAD INDIANAPOLIS, IN 46234		
	Rolls-Royce Corp 2355 S Tibbs Rd Indianapolis, IN 46241		
COUNTRYMARK COOPERATIVE LLP	PERU TERMINAL 1765 W. LOGANSPORT ROAD PERU, IN 46970	Miami	IN
GRISSOM AIR RESERVE BASE	US AIR FORCE RESERVE-434 AIR R BUILDING 641, 7401 WARTHOG STREET  GRISSOM AIR FORCE BASE, IN 46971	Miami	IN
	LINDEN, IN-SEE MAILING ADDRESS  203W 1100N LINDEN, IN 47955		
	FORT WAYNE BULK OIL STORAGE  4149 GOSHEN ROAD FORT WAYNE, IN 46818		
Indianapolis Power & Light	Indianapolis Power & Light - Petersburg  6925 N. State Road 57 Petersburg, IN 47567	Pike	IN

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Operator	Facility	County	State
ARCELORMITTAL	BURNS HARBOR DIVISION 250 WEST US HIGHWAY 12 CHESTERTON, IN 46304	Porter	IN
	FRICK SERVICES, INC LIQUID TERMINAL  570 EAST BOUNDARY RD PORTAGE, IN 46368		
	PORT OF INDIANA 400 BOUNDARY ROAD PORTAGE, IN 46368		
Doug Vanmeter	Consolidated Grain and Barge Company  2781 Bluff Rd Mount Vernon, IN 47620	Posey	IN
Marathon Petroleum Company L	Marathon Petroleum Mt. Vernon (A) Old State Rd #69 South Mt. Vernon, IN 47620	Posey	IN
	Marathon Petroleum Mt. Vernon 129 Barter St Mt. Vernon, IN 47620		
	MT VERNON REFINERY 1200 REFINERY RD MOUNT VERNON, IN 47620		
MARATHON PETROLEUM LLC	MT. VERNON TERMINAL 1200 OLD HIGHWAY 69 SOUTH MOUNT VERNON, IN 47620	Posey	IN
ABENGOA BIOENERGY OF IN	MT. VERNON, IN 8999 WEST FRANKLIN ROAD MOUNT VERNON, IN 47620	Posey	IN
	Indiana Michigan Power Rockport Plant  2791 N US 231 Rockport, IN 47635		
	Buckeye Terminaling LLC 20630 Ireland Rd South Bend, IN 46641		
BUCKEYE TERMINAL LLC- SEE MAILING ADDRESS	SOUTH BEND TERMINAL 12694 ADAMS ROAD GRANGER, IN 46530	St. Joseph	IN

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Operator	Facility	County	State
CARGILL, INC.	SOYBEAN PROCESSING PLANT 1502 WABASH AVE LAFAYETTE, IN 47902	Tippecanoe	IN
	HUNTINGTON, INDIANA 4413 NORTH MERIDIAN ROAD HUNTINGTON, IN 46750		
	EVANSVILLE TERMINAL 2630 BROADWAY EVANSVILLE, IN 47712		
Marathon Petroleum Company LP	Marathon Petroleum Evansville 2500 Broadway Evansville, IN 47712	Vanderburgh	IN
SIGECO-SEE MAILING ADDRESS	OHIO RIVER STATION 2600 BROADWAY AVE. EVANSVILLE, IN 47741	Vanderburgh	IN
	Laketon Refining Corporation 2784 Lukens Lake Rd Laketon, IN 46943		
	COVINGTON, IN 11778 SOUTH 600 WEST COVINGTON, IN 47932		
Alcoa Inc	Alcoa Warrick Operations 4000 SR 66 Newburgh, IN 47629	Warrick	IN
ALCOA-SEE MAILING ADDRESS	WARRICK OPERATIONS STATE ROUTE 66/P.O. BOX 10 NEWBURGH, IN 47629	Warrick	IN
	1441 S. ADAMS STREET BLUFFTON, IN 46714		
	48th Street Peaking Station 491 E 48th Street Holland, MI 49423		
BKEP Materials, LLC	Bay City Terminal 309 WOODSIDE AVENUE Essexville, MI 48732	Bay	MI

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Operator	Facility	County	State
Marathon Petroleum Company LP	Bay City, MI (Marquette) 1806 Marquette St. Bay City, MI 48706	Bay	MI
	Bay City, Michigan 401 Tiernan Road Bay City, MI 48706		
	Karn-Weadock Complex 2555 N Weadock Hwy Essexville, MI 48732		
Consumers Energy	Karn-Weadock Complex 2742 N Weadock Hwy Essexville, MI 48732	Bay	MI
Mike Goretcki	Northwest Energy 382 S Huron Rd Linwood, MI 48634	Bay	MI
	Niles Terminal 2233 South 3rd St Niles, MI 49120		
	Niles Terminal 2303 South 3rd Street Niles, MI 49120		
Buckeye Terminals Inc.	Niles West Terminal 2150 South Third Street Niles, MI 49120	Berrien	MI
Marathon Petroleum Company LP	Niles, MI - South 2216 S. Third Street Niles, MI 49120	Berrien	MI
	Pri Mar Broad Street 1207 Broad St St Joseph, MI 49085		
	Shell Oil Products US Niles 325 1/2 Fulkerson Road Niles, MI 49120		
Marathon Ashland Pipeline LLC	TTM Niles North 2216 S 3rd St Niles, MI 49120	Berrien	MI

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Operator	Facility	County	State
Buckeye Terminals LLC	Marshall Terminal 12451 US 27 South Marshall, MI 49068	Calhoun	MI
	Cheboygan River Terminal 311 Coast Guard Dr Cheboygan, MI 49721		
	Lansing, MI 6300 W. Grand River Ave. Lansing, MI 48906		
Bob Carlson	Construction Resources Mgt 202 Delta Ave Gladstone, MI 49837	Delta	MI
Escabana Paper Company	Escabana, Michigan 7100 County 426 M.5 Road Escanaba, MI 49829	Delta	MI
	Lansing Asphalt Terminal Co 3900 S. CREYTS ROAD Lansing, MI 48917		
	Buckeye - Flint Terminal 5340 N Dort Hwy Flint, MI 48505		
Buckeye Terminals LLC	Flint Terminal G-5340 North Dort Highway Flint, MI 48505	Genesee	MI
Marathon Petroleum Company L	Flint, MI 6065 N. Dort Highway Mt. Morris, MI 48458	Genesee	MI
	Lockhart Chemical Company 4302 James P. Cole Boulevard Flint, MI 48505		
	C & M Oil Co 605 E Lead St Bessemer, MI 49911		
Neil Morrison/Matt Dorman	Harbour Air 1150 Airport Access Rd Traverse City, MI 49686	Grand Traverse	MI

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Operator	Facility	County	State
Terry Asphalt Materials, Inc.	Alma, Mi Terminal 1950 WILLIAMS STREET Alma, MI 48801	Gratiot	MI
	Mott Island Administration Complex Mott Island Isle Royale, MI 49931		
	Rock Harbor Marina Snug Harbor Isle Royale, MI 49931		
Isle Royale National Park	Windigo Marina Windigo - Washington Harbor Isle Royale, MI 49931	Houghton	MI
Tim Sielaff	Co-op Elevator 7837 Pigeon Rd Pigeon, MI 48755	Huron	MI
	Enbridge Pipelines (Toledo) Inc 2555 Grimes Dr Stockbridge, MI 49285		
	Wolverine Pipeline Co 2499 Grimes Rd Stockbridge, MI 49285		
Carbon Green Bioenergy	Carbon Green Bioenergy 7795 SADDLEBAG LAKE ROAD Lake Odessa, MI 48849	Ionia	MI
CITGO Petroleum Corporation	Jackson Terminal 2001 Morrill Rd Jackson, MI 49201	Jackson	MI
	Jackson Terminal 2103 Morrill Road Jackson, MI 49201		
	Jackson, MI 2090 Morrill Road Jackson, MI 49201		
Buckeye Terminal LLC	Napoleon Temrminal 6777 Brooklyn Rd Napoleon, MI 49261	Jackson	MI

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Operator	Facility	County	State
Access Business Group LLC	Amway 7575 E Fulton St Ada, MI 49355	Kent	MI
	Selfridge Ang Base 40741 Schoolhouse Rd Mount Clemens, MI 48045		
	American Materials LLC 1735 STATE STREET Manistee, MI 49660		
Empire Iron Mining Partnership	Tilden Mine 101 Empire Mine Rd Ishpeming, MI 49849	Marquette	MI
Dow Chemical	Ludington Plant S Madison St Ludington, MI 49431	Mason	MI
	Dundee Michigan 5800 NORTH ANN ARBOR ROAD Dundee, MI 48131		
	Fermi 2 Power Plant 6400 N Dixie Hwy Newport, MI 48166		
Michigan Paving & Materials Co	Liquid Asphalt Production Plnt 3125 East Front St.,PO BOX 1904 Monroe, MI 48161	Monroe	MI
Marathon Pipeline LLC	Marathon Pipeline LLC - Samaria 2185 Samaria Rd Temperance, MI 48182	Monroe	MI
	Samaria Station 2185 SAMARIA ROAD SAMARIA, MI 48116		
	Marathon Light Products Terminal 3005 Holton Rd North Muskegon, MI 49445		
Marathon Petroleum Company LP	North Muskegon, MI 3005 Holton Road North Muskegon, MI 49445	Muskegon	MI



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Operator	Facility	County	State
Delta Fuels Of Michigan	Novi Facility 40600 Grand River Ave Novi, MI 48375	Oakland	MI
	Ferrysburg Terminal 17806 N Shore Rd Ferrysburg, MI 49409		
	Ferrysburg Terminal 524 Third St Ferrysburg, MI 49409		
Quality Oil	Holland Terminal 630 Ottawa Ave Holland, MI 49423	Ottawa	MI
Noble Petro Inc.	Rogers City Marine Fueling 1035 Calcite Road Rogers City, MI 49779	Presque Isle	MI
	Saginaw Metal Casting Operation 1629 N Washington Ave Saginaw, MI 48601		
	Albrecht Sand & Gravel Co 3665 W Sanilac Snover, MI 48472		
Sunoco Partners Marketing & Terminals LP	Owosso Terminal 4004 W Main St Owosso, MI 48867	Shiawassee	MI
Sun Co Inc	Sun Co Inc (R & M Div) 4004 W M-21 Owosso, MI 48867	Shiawassee	MI
	Great Lakes Transmission 4505 King Rd China, MI 48054		
	Greenwood Energy Center 7000 Kilgore Avoca, MI 48006		
Detroit Edison Company	Marysville Power Plant 301 Gratiot Ave Marysville, MI 48040	St. Clair	MI

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Operator	Facility	County	State
Detroit Edison Company	St Clair Power Plant 4901 Pointe Dr East China, MI 48054	St. Clair	MI
	Sun Pipeline Co? 250 Murphy Dr St Clair, MI 48079		
	Richardson Oil Co 750 S Paw Paw St Lawrence, MI 49064		
Wolverine Pipeline LLC	Freedom Plant 4075 S Fletcher Rd Manchester, MI 48158	Washtenaw	MI
University of Michigan	North Campus Research Complex 2800 Plymouth Rd Ann Arbor, MI 48105	Washtenaw	MI
	Dearborn Terminal 8503 South Inkster Road Taylor, MI 48180		
	Dearborn, MI 6011 Wyoming Road Dearborn, MI 48126		
Servisair Fuel Services, Inc	Delta Airlines Tank Farm (Formerly Northwest Airport) West Service Rd, Building 722 Romulus, MI 48242	Wayne	MI
Equilon Enterprises	Detroit Metro Plant T8432 Wick Road Romulus, MI 48174	Wayne	MI
	Detroit Metro Terminal 28340 Wick Rd Romulus, MI 48174		
	Detroit Plant 12500 Stocker Rd Detroit, MI 48217		
Buckeye Terminals LLC	Detroit Products Terminal 700 S Deacon St Detroit, MI 48217	Wayne	MI

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Operator	Facility	County	State
Marathon Ashland Pipeline LLC	Detroit Refinery 1300 S Fort St Detroit, MI 48217	Wayne	MI
	Detroit 9100 Freeland Avenue Detroit, MI 48228		
	Great Lakes Steel Division No. 1 Quality Drive Ecorse, MI 48229		
Melvindale Tank Farm	Melvindale Tank Farm 1450 Schaefer Melvindale, MI 48122	Wayne	MI
Mistersky Tank And Dock Fac.	Mistersky Tank And Dock Fac. 5431 W Jefferson Ave Detroit, MI 48209	Wayne	MI
	River Rouge Lubricants Plant 245 Marion Ave River Rouge, MI 48218		
	River Rouge Petroleum Terminal 800 Marion Avenue River Rouge, MI 48218		
Buckeye Terminal, LLC	River Rouge Terminal 205 Marion Ave River Rouge, MI 48218	Wayne	MI
Sunoco Partners Marketing & Te	River Rouge Terminal 500 S Dix Ave Detroit, MI 48217	Wayne	MI
	River Rouge 225 Marion River Rouge, MI 48218		
	Romulus Terminal 29120 Wick Rd Romulus, MI 48174		
Marathon Petroleum Company LP	Romulus, MI 28001 Citren Dr. Romulus, MI 48174	Wayne	MI

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Operator	Facility	County	State
Sterling Services, Ltd.	Sterling Services, Ltd. 1530 Commer Avenue Hamtramck, MI 48212	Wayne	MI
	Taylor Terminal East 24501 Ecorse Rd Taylor, MI 48180		
	Taylor Terminal 24801 Ecorse Rd Taylor, MI 48180		
Detroit Edison	Trenton Channel Plant 4695 W Jefferson Trenton, MI 48183	Wayne	MI
UOC Terminal Co	UOC Terminal Co 201 GREAT LEAKES AVENUE River Rouge, MI 48218	Wayne	MI
	Waterfront Petroleum Terminal Co 1071 Miller Rd Dearborn, MI 48120		
	Woodhaven Terminal 20755 West Rd Trenton, MI 48183		
Archer Daniels Midland Co.	ADM - Mankato Facility 225 Lind St. Mankato, MN 56001	Blue Earth	MN
Cenex Harvest States Co-op	Cenex Harvest States Co-op 2020 S Riverfront Dr. Mankato, MN 56001	Blue Earth	MN
	Magellan Pipeline Co. - Mankato Terminal  55199 State Hwy 68 Mankato, MN 56001		
	Wilmarth and Key City Generating Plant  1040 Summit Ave. Mankato, MN 56001		
Conoco Phillips Pipeline Co.	Wrenshall Products Terminal 10 N Broadway Wrenshall, MN 55797	Carlton	MN

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Operator	Facility	County	State
Bongards Creameries	Bongards Creameries 13200 Co. Rd. 51 Bongards, MN 55368	Carver	MN
	Kaneb Pipe Line - Moorhead Terminal  1101 SE Main Ave. Moorhead, MN 56560		
	CHS, Inc. IGH Lube Plant 11600 Courthouse Blvd Inver Grove Heights, MN 55077		
Continental Nitrogen & Resources Corp.	Continental Nitrogen & Resources Corp.  12955 Courthouse Blvd. Rosemount, MN 55068	Dakota	MN
Koch Industries, Inc.	Flint Hills Resources Pine Bend Facility 12555 Clark Rd. Rosemount, MN 55068	Dakota	MN
	Xcel Inver Hills Generating Plant 3185 S 117th St. Inver Grove Heights, MN 55077		
	Magellan Pipeline Co. - Alexandria Terminal  709 3rd Ave. W Alexandria, MN 56308		
BP	BP Spring Valley Terminal E Hwy 16 Spring Valley, MN 55975	Fillmore	MN
Archer Daniels Midland Co.	Archer Daniels Midland Co. 118 Main St. Red Wing, MN 55066	Goodhue	MN
	Land O'Lakes, Inc. - Dairy Production  206 2nd St. NE Pine Island, MN 55963		
	BNSF Northtown Yard 80 44th Ave. NE Minneapolis, MN 55421		
Cargill, Inc.	Cargill, Inc.  Minneapolis, MN 55440	Hennepin	MN

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Operator	Facility	County	State
Barton Sand & Gravel	Gary B. Sauer 10633 89th Ave. N Osseo, MN 55311	Hennepin	MN
	MSP Airport Fuel Farm / Signature Flight Support 5398 Northwest Dr. St. Paul, MN 55111		
	NWA Bldg B Maintenance Base MSP Int'l Airport, 5101 NW Dr Minneapolis, MN 55111		
Owens Corning Corp.	Owens Corning Corp. 1901 49th Ave. N Minneapolis, MN 55430	Hennepin	MN
Reichhold Chemicals, Inc.	Reichhold Chemicals, Inc. 525 25th St. SE Minneapolis, MN 55414	Hennepin	MN
	U.S. Steel Keewatin Tactonite One Mine Rd. Keewatin, MN 55753		
	A G Processing Dawson Facility 800 Diagonal St. Dawson, MN 56232		
Koch Fuels, Inc.	Koch Fuels, Inc. - Marine Fueling/CLOSED  Cyprus Northshore Silver Bay, MN 55614	Lake	MN
Great Lakes Fleet, Inc. / Como	Two Harbors Fueling Facility DM & IR Ore Dock Two Harbors Bay, MN 55616	Lake	MN
	Koch Materials Marshall Facility 901 N 7th St. Marshall, MN 56258		
	Magellan Pipeline Co. - Marshall Terminal  1601 W College Dr. Marshall, MN 56258		
Interstate Power & Light Co.	Fox Lake Power Station 844 125th St. Sherburn, MN 56171	Martin	MN

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Operator	Facility	County	State
Great River Energy	Great River Energy Lakefield Jct. Station 2159 20th Ave. Trimont, MN 56176	Martin	MN
	3M Hutchinson 915 Adams St. SE Hutchinson, MN 55350		
	Magellan Pipeline Co. - Rochester Terminal  13311 Hwy 42 SE Eyota, MN 55934		
Murphy Oil USA, Inc.	Murphy Oil Crookston Facility 2525 Hwy 75 S Crookston, MN 56716	Polk	MN
3M	3M Center I-94 & Mcknight Rd. Maplewood, MN 55144	Ramsey	MN
	3M St. Paul Main Plant 900 Bush Ave. St. Paul, MN 55106		
	Barton Enterprises, Inc. 1359 Red Rock Rd. St. Paul, MN 55119		
Ford Motor Co.	Ford Motor Co. 966 S Mississippi River Blvd. St. Paul, MN 55116	Ramsey	MN
Hawkins Chemical, Inc.	Hawkins Chemical, Inc. - Terminal 1 1125 Childs Rd. St. Paul, MN 55106	Ramsey	MN
	Kaneb Pipe Line - Roseville Terminal  2288 Co. Rd. C Roseville, MN 55113		
	Koch Materials St. Paul Facility 2209 Childs Rd. St. Paul, MN 55106		
Koch Refining Co.	Koch Refining Co. St. Paul Terminal/CLOSED 778 Otto Ave. St. Paul, MN 55102	Ramsey	MN

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Operator	Facility	County	State
Magellan Pipeline Co.	Magellan Pipeline Co. Roseville Terminal 2451 W Co. Rd. C St. Paul, MN 55113	Ramsey	MN
	The Uno-Ven Co. 747 Shepard Rd. St. Paul, MN 55102		
	Westway Terminal Wharf 1 2175 Childs Rd. St. Paul, MN 55106		
Westway Terminal Co.	Westway Terminal Wharf 2 2225 Childs Rd. St. Paul, MN 55106	Ramsey	MN
Koch Materials Co.	Koch Pavement Solutions 12101 Yosemite Ave. S Savage, MN 55378	Scott	MN
	Xcel Blue Lake Peaking Plant 1200 70th St. Shakopee, MN 55379		
	Duluth Marine Terminal 1400 Port Terminal Dr. Duluth, MN 55802		
Murphy Oil USA, Inc.	Duluth Petroleum Products Terminal  5746 Old Hwy 61 Esko, MN 55733	St. Louis	MN
Hibbing Taconite Co.	Hibbing Taconite Co. Co. Rd. 5 N Hibbing, MN 55746	St. Louis	MN
	Laskin Energy Center 5699 Colby Lake Rd. Hoyt Lakes, MN 55750		
	Minntac Co. Rd. 102 Mountain Iron, MN 55768		
United Taconite, LLC	United Taconite, LLC - Fairlane Plant  2020 Hwy 16 Forbes, MN 55738	St. Louis	MN



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Operator	Facility	County	State
Kaneb Pipe Line Operating Part	Kaneb Pipe Line - Sauk Center Terminal 1833 Beltline Rd. Sauk Centre, MN 56378	Stearns	MN
	Marathon Ashland Cottage Grove Facility  85th St. & Granada Ave. S Cottage Grove, MN 55016		
	Marathon Ashland St. Paul Park Facility  300 Third St. St. Paul Park, MN 55071		
Koch Pipeline Co., L.P	Minnesota Pipe Line Co. 6483 85th St. S Cottage Grove, MN 55016	Washington	MN
Erickson Petroleum Corp.	Newport Terminal Corp. 50 21st St. Newport, MN 55055	Washington	MN
	Nor-Lakes Services Midwest, Inc. 13615 Fenway Blvd., Court N Hugo, MN 55038		
	Neumann Gas and Oil Co., Inc. 1150 E Broadway Winona, MN 55987		
Dayton Power & Light Co., Inc.	Killen Station 14869 U.S. Highway 52 Manchester, OH 45144	Adams	OH
Husky Energy	Husky Lima Refinery 1150 South Metcalf St Lima, OH 45804	Allen	OH
	Lima North Terminal 817 West Vine St Lima, OH 45804		
	Lima OH Light Products Terminal 2990 South Dixie Highway Lima, OH 45804		
Buckeye Terminals, LLC	Lima South Terminal 1500 West Buckeye Rd Lima, OH 45804	Allen	OH

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Operator	Facility	County	State
First Energy Generation Corp.	Ashtabula Plant 2133 Lake Road East Ashtabula, OH 44004	Ashtabula	OH
	Ashtabula Yard 401 East 58th St Ashtabula, OH 44004		
	St. Marys Ohio 1115 South Wayne St St. Marys, OH 45885		
Terry Asphalt Materials, Inc.	Hamilton, Ohio Terminal 8600 Berk Blvd Hamilton, OH 45015	Butler	OH
Ergon Trucking, Inc.	Magnolia 11117 Bachelor Rd NW Magnolia, OH 44643	Carroll	OH
	W.C. Beckjord Facility 757 US 52 New Richmond, OH 45157		
	Wm. Zimmer Station 1781 US Route 52 Moscow, OH 45153		
Clinton County Port Authority	Wilmington Air Park 1113 Airport Road Wilmington, OH 45177	Clinton	OH
East Liverpool River Rail Termin	East Liverpool River-Rail Terminal Co 395 River Rd East Liverpool, OH 43920	Columbiana	OH
	East Liverpool, Oh Terminal 425 River Rd East Liverpool, OH 43920		
	Lisbon 214 S Jefferson St Lisbon, OH 43920		
Marathon Ashland Petroleum LLC	Wellsville, OH Asphalt Term. 21St St & Nevada St Wellsville, OH 43968	Columbiana	OH

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Operator	Facility	County	State
American Electric Power	Conesville Station 47201 County Rd 273 Conesville, OH 43811	Coshocton	OH
	Columbus East Terminal 3499 W. Broad St Columbus, OH 43204		
	Aircraft Service Intl. Group 5921 Cargo Rd. Cleveland, OH 44135		
Marathon Ashland Petroleum LLC	Brecksville, OH Light Products 10439 Brecksville Rd Brecksville, OH 44141	Cuyahoga	OH
Marathon Ashland Petroleum LL	Cleveland Asphalt Terminal 2000 Central Furnace Ct Cleveland, OH 44115	Cuyahoga	OH
	Cleveland Terminal 2201 W Third St Cleveland, OH 44113		
	Cleveland Terminal 250 Mahoning Ave Cleveland, OH 44113		
Sunoco Logistics Partners, LP	Cleveland Terminal 3200 Independence Cleveland, OH 44105	Cuyahoga	OH
Arcelormittal Cleveland Inc.	Cleveland 3060 Eggers Ave Cleveland, OH 44105	Cuyahoga	OH
	Collinwood Yard 622 East 152nd St Cleveland, OH 44110		
	Commercial Ullman Lubricants Co. 2846 E 37th St Cleveland, OH 44115		
Buckeye Terminals, LLC	Cuyahoga Terminal 4800 East 49Th Street Cleveland, OH 44125	Cuyahoga	OH

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Operator	Facility	County	State
Shelly Company	Middleport Terminal 101 Mahoning Ave Cleveland, OH 44113	Cuyahoga	OH
	Bellevue 605 Goodrich Rd. Bellevue, OH 44811		
	Bloomington Ethanol Plant 3979 State Route 238 NE Bloomington, OH 43106		
Ohio Air Natl. Guard	121st Refueling Wing 7330 Minuteman Way Columbus, OH 43217	Franklin	OH
Norfolk Southern Railway Co.	Buckeye Yard 4882 Trabue Rd Columbus, OH 43228	Franklin	OH
	Columbus East Terminal 3651 Fisher Rd Columbus, OH 43228		
	Columbus Ohio Plant 3737 Fisher Rd Columbus, OH 43228		
Buckeye Terminals, LLC	Columbus South Terminal 303 North Wilson Rd Columbus, OH 43204	Franklin	OH
Marathon Ashland Petroleum LL	Columbus Terminal (East) 3855 Fisher Rd Columbus, OH 43228	Franklin	OH
	Columbus Terminal (West) 4125 Fisher Rd Columbus, OH 43228		
	Columbus Terminal 6433 Cosgray Rd Dublin, OH 43016		
Sunoco Logistics Partners, LP	Columbus West Terminal 3866 Fisher Rd Columbus, OH 43228	Franklin	OH

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Operator	Facility	County	State
American Electric Power Co.	General James M. Gavin Power Plant 7397 State Route 7 Chesire, OH 45670	Gallia	OH
	Middleport Terminal 1400 St. Rt. 7 North Gallipolis, OH 45631		
	88th Air Base Wing 5135 Pearson Rd Wright, OH 45433		
The J.M. Smucker Company	Cincinnati Crisco Plant 5204 Spring Grove Ave Cincinnati, OH 45217	Hamilton	OH
BASF Corporation	Cincinnati Plant 4900 Este Ave Cincinnati, OH 45232	Hamilton	OH
	Cincinnati Terminal 3500 Southside Ave Cincinnati, OH 45204		
	Cincinnati Terminal 4015 River Road Cincinnati, OH 45204		
Buckeye Terminals, LLC	Cincinnati Terminal 5150 River Rd Cincinnati, OH 45233	Hamilton	OH
Kinder Morgan Liquids Terminal	Cincinnati Terminal 5297 River Rd Cincinnati, OH 45233	Hamilton	OH
	Cincinnati Terminal 930 Tennessee Ave Cincinnati, OH 45229		
	Cincinnati One Neumann Way Cincinnati, OH 45215		
E. I. Dupont and Denemours and Com	E. I. Dupont and Denemours and Company  11215 Brower Rd North Bend, OH 45052	Hamilton	OH

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Operator	Facility	County	State
Duke Energy Corporation	Miami Fort Station 11021 Brower Rd North Bend, OH 45052	Hamilton	OH
	North Bend Asphalt Terminal 11001 Brower Rd North Bend, OH 45052		
	North Bend Plant 10100 Brower Rd North Bend, OH 45052		
The Proctor & Gamble Co	North Terminal 100 June Street Cincinnati, OH 45217	Hamilton	OH
Kinder Morgan Liquid Terminals	Queen City Terminal 3806 Kellogg Ave Cincinnati, OH 45226	Hamilton	OH
	South Terminal 3117 Southside Ave Cincinnati, OH 45204		
	Valvoline, Inc. 3901 River Rd Cincinnati, OH 45204		
Marathon Pipe Line Co.	Findlay Terminal 709 Glessner Ave Findlay, OH 45840	Hancock	OH
Archer Daniels Midland Co	Fostoria, Ohio 608 Findlay Rd Fostoria, OH 44830	Hancock	OH
	Bellevue Station Route 4 Bellevue, OH 44811		
	Bellevue Yard 24424 Prairie Rd Bellevue, OH 44811		
Ohio Power Company	Cardinal Operating Plant 306 County Road 7E Brilliant, OH 43913	Jefferson	OH

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Operator	Facility	County	State
Shelly & Sands	S & S Terminal 1720 Old Service Route 7 Rayland, OH 43702	Jefferson	OH
	Steubenville Terminal 436 Kingsdale Rd Steubenville, OH 43952		
	Eastlake Plant 10 Erie Road Eastlake, OH 44095		
The Lubrizol Corporation	Painesville Plant 29400 Lakeland Blvd Wickliffe, OH 44092	Lake	OH
Action Petroleum	Action Terminals 2914 S Third St Ironton, OH 45638	Lawrence	OH
	South Point Ethanol U.S. Routh 52 And Solida Road South Point, OH 45680		
	Heath Facility 800 Irving Wick Dr Newark, OH 43056		
Marathon Pipe Line Co.	Heath Station 840 Heath Road Heath, OH 43056	Licking	OH
Buckeye Terminals, LLC	Lorain Terminal 12545 South Avon Belden Road Grafton, OH 44044	Lorain	OH
	West Lorain Plant 7101 West Erie Ave Lorain, OH 44053		
	Front Street Acme Station 2563 Front Street Toledo, OH 43605		
Asphalt Materials, Inc	Oregon Plant 940 N Wynn Rd. Oregon, OH 43616	Lucas	OH

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Operator	Facility	County	State
Marathon Ashland Petroleum LL	Oregon, OH Light Products Terminal 4131 Seaman Rd Oregon, OH 43616	Lucas	OH
	Toledo Marine & Hocking Valley 1900-2100 Front Street Toledo, OH 43605		
	Toledo No. 2 Tank Farm 2200 Pickle Rd Oregon, OH 43616		
GM Corporation	Toledo Plant 1455 W Alexis Rd Toledo, OH 43697	Lucas	OH
Toledo Refining Co	Toledo Refinery 1819 Woodville Rd Oregon, OH 43616	Lucas	OH
	Toledo Refinery 4001 Cedar Point Road Oregon, OH 43616		
	Toledo Terminal 1840 Otter Creek Road Oregon, OH 43616		
Westway Terminals	Toledo Terminal 235 Sinclair St Toledo, OH 43605	Lucas	OH
Arc Terminals Holdings LLC	Toledo Terminal 2844 Summit St Toledo, OH 43611	Lucas	OH
	Toledo Terminal 352 George Hardy Dr Toledo, OH 43605		
	Toledo 1820 Front St Toledo, OH 43605		
Buckeye Terminals, LLC	West Toledo Terminal 2450 Hill Avenue Toledo, OH 43607	Lucas	OH



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Operator	Facility	County	State
Sunoco Logistics Partners, LP	Toledo Terminal 1601 Woodville Rd Toledo, OH 43605	Mahoning	OH
	Youngstown Light Prod. Terminal 1140 Bears Den Rd Youngstown, OH 44511		
	Youngstown Terminal 6331 Southern Blvd Youngstown, OH 44512		
Asphalt Materials, Inc.	Marion 184 Marion-Williamsport Road West Marion, OH 43302	Marion	OH
Cargill, Inc.	Cargill Incorporated 2400 Industrial Dr Sidney, OH 45365	Miami	OH
	Cincinnati 4900 Este Ave Cincinnati, OH 45232		
	Dayton Terminal (West) 1708 Farr Dr Dayton, OH 45404		
Citgo Petroleum Corporation	Dayton Terminal 1800 Farr Dr Dayton, OH 45404	Montgomery	OH
BP Products North America, Inc	Dayton Terminal 621 Brandt St Dayton, OH 45404	Montgomery	OH
	Dayton Terminal 801 Brandt Pike Dayton, OH 45404		
	Menlo Worldwide Forwarding One Emery Plaza Vandalia, OH 45377		
Department of Energy	Portsmouth Gaseous Diffusion Plant  3930 U.S. Route 23 Piketon, OH 45661	Pike	OH

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Operator	Facility	County	State
Gutman Realty Corporation	Bulk Storage Terminal Aurora, OH 1519 South Chillicothe Rd Aurora, OH 44202	Portage	OH
	Bulk Storage Terminal Aurora, OH 1521 South Chillicothe Rd Aurora, OH 44202		
	Mansfield Terminal #15 215 Oak St Mansfield, OH 44905		
Norfolk Southern Railway Co.	Portsmouth Yard 2435 8th St Portsmouth, OH 45662	Scioto	OH
Buckeye Terminals, LLC	Sciotoville Terminal 106 Harding Avenue Portsmouth, OH 45662	Scioto	OH
	Wheelersburg Terminal 3607 Hayport Rd Wheelersburg, OH 45694		
	Tiffin Terminal 197 Wall Street Tiffin, OH 44883		
Marathon Ashland Petroleum LLC	Canton Refinery 2408 Gambinus Avenue SW Canton, OH 44706	Stark	OH
Sunoco Logistics Partners, LP	Akron Terminal 999 Home Ave Akron, OH 44310	Summit	OH
	Tallmadge Terminal 1595 Southeast Ave Tallmadge, OH 44278		
	Warren Terminal 1001 Youngstown Warren Road Niles, OH 44446		
Buckeye Terminals, LLC	Canton Terminal 807 Hartford Avenue SE Canton, OH 44707	Tuscarawas	OH

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Operator	Facility	County	State
Enterprise Refined Products	Lebanon Terminal 2700 Hart Road Lebanon, OH 45036	Warren	OH
	Lebanon, OH Light Products Terminal  999 West Ohio 122 Lebanon, OH 45036		
	Bells Run Terminal 34670 State Route 7 Newport, OH 45768		
Kraton Polymers US, LLC	Belpre Manufacturing Facility 2419 State Route 618 Belpre, OH 45714	Washington	OH
Degussa Engineered Carbons, I	Belpre Plant 11135 State Route 7 Belpre, OH 45714	Washington	OH
	Marietta Ohio, Plant 2 505 River Lane Marietta, OH 45750		
	Marietta, OH Light Prod. Terminal 655 River Lane Marietta, OH 45750		
Ergon Trucking, Inc.	Marietta, Oh 35020 Ohio 7 Marietta, OH 45750	Washington	OH
Asphalt Materials, Inc.	Marietta, Ohio Plant 3 13925 State Route 7 Marietta, OH 45750	Washington	OH
	Muskingum River Plant 1501 Sparling Rd Waterford, OH 45786		
	Bryan Terminal 15982 State Route 127 Bryan, OH 43506		
CSX Transportation Stanley Yard	Stanley Yard 28531 E Broadway Walbridge, OH 43465	Wood	OH

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Operator	Facility	County	State
Troy Energy, LLC	Troy Energy, LLC 22379 Pemberville Rd Luckey, OH 43443	Wood	OH
	CITGO - Green Bay Terminal 1391 Bylsby Ave. Green Bay, WI 54303		
	Fox River Tank Farm 1301 State St. Green Bay, WI 54325		
Marathon Petroleum LP	Green Bay Terminal Corporation 1031 Hurlbut St. Green Bay, WI 54303	Brown	WI
Noble Petro Inc.	Noble Petro Inc. North Site 2020 N Quincy St. Green Bay, WI 54302	Brown	WI
	Noble Petro Inc. South Site 1910 N Quincy St. Green Bay, WI 54302		
	U.S. Oil - Fox River Terminal 1124 N Broadway Green Bay, WI 54303		
U.S. Venture Inc. [Owner: Buckeye Terminals LLC]	U.S. Oil - Green Bay Buckeye Terminal  410 Prairie Ave. Green Bay, WI 54303	Brown	WI
U.S. Venture Inc.	U.S. Oil - Green Bay Products Terminal 1075 Hurlbut Ct. Green Bay, WI 54303	Brown	WI
	Ace Ethanol, LLC 815 W Maple St. Stanley, WI 54768		
	CHS - Chippewa Falls Petroleum Terminal  3827 N Prairie View Rd. Chippewa Falls, WI 54729		
U.S. Venture Inc.	U.S. Oil - Chippewa Falls Terminal 3689 N Prairie View Rd. Chippewa Falls, WI 54729	Chippewa	WI

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Operator	Facility	County	State
Xcel Energy	Wheaton Power Plant 3008 80th St. Eau Claire, WI 54701	Chippewa	WI
	Didion Ethanol Plant N7088 Hwy. 146 Cambria, WI 53923		
	United Wisconsin Grain Processors Plant  W1231 Tessman Dr. Friesland, WI 53935		
Arc Terminals Holdings, LLC	Center Terminal Co. - Madison 4009 Triangle St. McFarland, WI 53558	Dane	WI
CHS Inc.	CHS - McFarland Petroleum Terminal 4103 Triangle St. McFarland, WI 53558	Dane	WI
	CITGO - Madison Terminal 4606 Terminal Dr. McFarland, WI 53558		
	Flint Hills Resources Pine Bend LLC - McFarland Terminal 4405 Terminal Dr. McFarland, WI 53558		
Hydrite Chemical Co.	Hydrite Chemical Co. - Cottage Grove  114 N Main St. Cottage Grove, WI 53527	Dane	WI
Calpine	Rockgen Energy Center 2346 Clearview Rd. Cambridge, WI 53523	Dane	WI
	Safety-Kleen Systems - Madison South  3715 Lexington Ave. Madison, WI 53714		
	Sanimax Energy Inc. 605 Bassett St. De Forest, WI 53532		
U.S. Venture Inc. [Owner: Terminal Oil Group]	TOG Madison Terminal 3910 Terminal Dr. Madison, WI 53704	Dane	WI

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Operator	Facility	County	State
U.S. Venture Inc.	U.S. Oil - Madison North Terminal 4306 Terminal Dr. Mcfarland, WI 53558	Dane	WI
	U.S. Oil - Madison South Terminal 4402 Terminal Dr. Mcfarland, WI 53558		
	U.S. Oil - McFarland Buckeye Terminal  4516 Siggelkow Dr. Mcfarland, WI 53558		
Amsoil Inc.	Amsoil Center 1101 Susquehanna Ave. Superior, WI 54880	Douglas	WI
OSI Environmental Inc.	OSI Environmental Inc. - Superior 211 John Ave. Superior, WI 54836	Douglas	WI
	Superior Refinery 2407 Stinson Ave. Superior, WI 54880		
	Flint Hills Resources Pine Bend LLC - Waupun Terminal N4240 Hwy. 26 Waupun, WI 53963		
Wisconsin Power and Light Co. (Alliant Energy)	WPL South Fond du Lac CT N5356 River Rd. Fond du Lac, WI 54937	Fond du Lac	WI
We Energies	We Energies Concord Generating Station 8914 N Co. Rd. E Watertown, WI 53094	Jefferson	WI
	Marquis Energy - Wisconsin N9585 State Rd. 80 Necedah, WI 54646		
	We Energies Paris Generating Station  335 N 172nd Ave. Union Grove, WI 53182		
Hydrite Chemical Co.	Hydrite Chemical Co. - Lacrosse 701 Sumner St La Crosse, WI 54603	La Crosse	WI

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Operator	Facility	County	State
Mathy Construction	Mathy Construction 507 Milwaukee St. La Crosse, WI 54603	La Crosse	WI
	Midwest Industrial Asphalt 615 Sumner St La Crosse, WI 54601		
	French Island Plant 200 S Bainbridge St. Lacrosse, WI 54601		
Rock Oil Refining, Inc.	Rock Oil Refining, Inc. C4522 WI-97 Stratford, WI 54484	Marathon	WI
Wisconsin Public Service Corp.	West Marinette Peaking Plant W1830 Cleveland Ave. Marinette, WI 54153	Marinette	WI
	Benz Oil Milwaukee Plant 2724 W Hampton Ave. Milwaukee, WI 53209		
	Buckeye Terminals, LLC - Milwaukee Plant  9101 N 107th St. Milwaukee, WI 53224		
CITGO Petroleum Corp.	CITGO - Milwaukee Terminal 9235 N 107th St. Milwaukee, WI 53224	Milwaukee	WI
Flint Hills Resources Pine Bend,	Flint Hills Resources Pine Bend LLC - Milwaukee 9343 N 107th St. Milwaukee, WI 53224	Milwaukee	WI
	IFT Terminal Milwaukee Inc. 1626 S Harbor Dr. Milwaukee, WI 53207		
	Marathon Petroleum Co. LP - Milwaukee Terminal 9125 N 107th St. Milwaukee, WI 53224		
U.S. Venture Inc.	U.S. Oil - Milwaukee Central Terminal  9451 N 107th St. Milwaukee, WI 53224	Milwaukee	WI

Region 5 Regional Contingency Plan / Area Contingency Plan

Operator	Facility	County	State
U.S. Venture Inc.	U.S. Oil - Milwaukee North Terminal 9521 N 107th St. Milwaukee, WI 53224	Milwaukee	WI
	U.S. Oil - Milwaukee South Terminal  9135 N 107th St. Milwaukee, WI 53224		
	Fox Energy Co., LLC N2310 E Frontage Rd. Kaukauna, WI 54130		
Flint Hills Resources Pine Bend, LLC	Flint Hills Resources Pine Bend LLC - Junction City Terminal 2267 Co. Rd. HH Junction City, WI 54443	Portage	WI
Flint Hills Resources Pine Bend,	Flint Hills Resources Pine Bend LLC - Stevens Point 741 Mason St Stevens Point, WI 54481	Portage	WI
	United Ethanol 1250 Chicago St. Milton, WI 53563		
	Construction Resources Tank Farm Hwy. F & Bluemound Rd. Waukesha, WI 53187		



## **Appendix IV: Shoreline Cleanup Matrices**

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Available online at [www.rrt5.org/RCPACPMain/RCPACPApPendices/ShorelineCleanupMatrices.aspx](http://www.rrt5.org/RCPACPMain/RCPACPApPendices/ShorelineCleanupMatrices.aspx)

RRT 5 Shoreline Cleanup Guidelines for VERY LIGHT OIL (e.g., gasoline) \*\* DRAFT \*\* 2/4/93 \*\*

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	A	A	A	A	A	A	A	A	A	A
2) Manual Removal	A	A	A	A	A	Aa	Aa	A		
3) Passive Collection (Sorbents)	A		A			A	A	A	A	A
4) Debris Removal/Heavy Equipment										
5) Trenching (recovery wells)										
6) Sediment Removal										
7) Cold Water Flooding (deluge)						Ab	Ab		Ab	Ab
8) Cold Water Washing										
a) Low Pressure (<50psi)						Cb,f	Ab,f		Ab,f	Ab,f
b) High Pressure (<100psi)										
9) Warm Water Washing (ambient to 90F)										
10) Hot Water Pressure Washing (>90F)										
11) Slurry Sand Blasting										
12) Vacuum						Ab	Ab		Ab	Ab
13) Shore Removal/Replacement				C	C				Cc	
14) Cutting Vegetation (depends upon time of year)										
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>										
15) Chemical Treatment										
a) Oil Stabilization										
b) Protection of Beaches										
c) Cleaning of Beaches										
16) Burning (depends upon time of year)										C
17) Nutrient Enhancement										
18) Bacterial Addition										
19) Sediment Reworking				C	C					

Key to Identifiers
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
a = Manual removal of oiled debris or small persistent pockets.
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
c = Shoreline removal/replacement with clay if substrate is saturated with oil.
f = Proximity to water intakes should be considered when pressure washing shoreline.

RRT 5 Shoreline Cleanup Guidelines for LIGHT OIL (e.g., diesel) \*\* DRAFT \*\* 2/4/93 \*\*

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	A	A	A	C	C	C	A	A	A	C
2) Manual Removal	A	A	A	C	C	C	C	A	A	Cd
3) Passive Collection (Sorbents)	A		A	A	A	A	A	A	A	A
4) Debris Removal/Heavy Equipment	A		A	A	A	A	A	A	A	A
5) Trenching (recovery wells)				Ce	Ce					
6) Sediment Removal										
7) Cold Water Flooding (deluge)				Cb	Cb	Ab	Ab		Ab	Ab
8) Cold Water Washing										
a) Low Pressure (<50psi)	Ab,f	Ab,f	Ab,f				Ab,f	Ab,f	Ab,f	
b) High Pressure (<100psi)	Ab,f		Ab,f					Ab,f		
9) Warm Water Washing (ambient to 90F)	Cb,f,g	Cb,f,g	Cb,f,g					Cb,f,g	Cb,f,g	
10) Hot Water Pressure Washing (>90F)										
11) Slurry Sand Blasting										
12) Vacuum	Ab		Ab	Cb	Cb	Ab	Ab	Ab	Ab	Ab
13) Shore Removal/Replacement				C	C					
14) Cutting Vegetation (depends upon time of year)								C	C	C

**ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL**

15) Chemical Treatment										
a) Oil Stabilization				C	C	C				
b) Protection of Beaches				C	C	C				
c) Cleaning of Beaches				C	C	C				
16) Burning (depends upon time of year)										C
17) Nutrient Enhancement				C	C	C	C			
18) Bacterial Addition				C	C	C	C			
19) Sediment Reworking				C	C	C				

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.

e = Trenching only if heavy impact exists and no other viable collection method is available.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

RRT 5 Shoreline Cleanup Guidelines for MEDIUM OIL (e.g., #4 or medium crude) \*\* DRAFT \*\* 2/4/93 \*\*

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	Ch	Ch	Ch				Ch			Ch,i
2) Manual Removal	A	A	A	A	A	A	A	A	A	Cd
3) Passive Collection (Sorbents)	A		A	A	A	A	A	A	A	A
4) Debris Removal/Heavy Equipment			A	A	A	A	A	A	A	
5) Trenching (recovery wells)				Ce	Ce					
6) Sediment Removal		C		A	A					
7) Cold Water Flooding (deluge)				Cb	Cb	Ab	Ab		Ab	Ab
8) Cold Water Washing										
a) Low Pressure (<50psi)	Ab,f	Ab,f	Ab,f			Cb,f	Ab,f	Ab,f	Cb,f	Cb,f
b) High Pressure (<100psi)	Ab,f		Ab,f			Cb,f	Ab,f	Cb,f	Cb,f	
9) Warm Water Washing (ambient to 90F)	Ab,f,g	Cb,f,g	Ab,f,g				Cb,f,g	Cb,f,g	Cb,f,g	
10) Hot Water Pressure Washing (>90F)	Cb,f,g,j		Cb,f,g				Cg,j			
11) Slurry Sand Blasting	Cj						C			
12) Vacuum	Ab		Ab	Cb	Cb	Ab	Ab	Ab	Ab	Ab
13) Shore Removal/Replacement				A	A	C	C			
14) Cutting Vegetation (depends upon time of year)								C	C	C

**ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL**

15) Chemical Treatment										
a) Oil Stabilization				C	C			C	C	C
b) Protection of Beaches				C	C					
c) Cleaning of Beaches				C	C					
16) Burning (depends upon time of year)		C						C	C	C
17) Nutrient Enhancement				C	C	C	C			
18) Bacterial Addition				C	C	C	C			
19) Sediment Reworking		C		C	C	C	C			

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

i = No action only if the wetland fringes are impacted or access would result in unacceptable damage.

**RRT 5 Shoreline Cleanup Guidelines for HEAVY OIL (e.g., bunker c) \*\* DRAFT \*\* 2/4/93 \*\***

Shoreline Type Codes	
1 - vertical rocky shores, seawalls, piers	6 - gravel beaches
2 - eroding scarps & sediments	7 - riprap
3 - shelving bedrock ledges	8 - sheltered bedrock & bluffs
4 - sand beaches	9 - sheltered low-lying banks
5 - mixed sand & gravel beaches	10 - fringing & extensive wetlands

Countermeasure	Shoreline Types									
	1	2	3	4	5	6	7	8	9	10
1) No Action	Ch	Ch	Ch				Ch			Ch,i
2) Manual Removal	C	A	A	A	A	A	A	A	A	Cd
3) Passive Collection (Sorbents)	Ck	Ck	Ak	Ak	Ak	Ak	Ak	Ak	Ak	Ak
4) Debris Removal/Heavy Equipment			A	A	A	A	A	A	A	
5) Trenching (recovery wells)				Ce	Ce					
6) Sediment Removal		C		A	A					
7) Cold Water Flooding (deluge)				C	C	C	C		C	C
8) Cold Water Washing										
a) Low Pressure (<50psi)		Ab,f	Ab,f				Cb,f	Ab,f	Cb,f	Cb,f
b) High Pressure (<100psi)		Cb,f,g	Ab,f				Cb,f	Cb,f		
9) Warm Water Washing (ambient to 90F)	Ab,f,g	Ab,f,g	Ab,f,g				Cb,f,g	Cb,f,g	Cb,f,g	
10) Hot Water Pressure Washing (>90F)	Ab,f,g,j		Cb,f,g				Cb,f,g,j			
11) Slurry Sand Blasting	Cj						Cj			
12) Vacuum	Ab	Ab	Ab	Cb	Cb	Cb	Cb	Ab	Cb	Cb
13) Shore Removal/Replacement				A	A	A				
14) Cutting Vegetation (depends upon time of year)								C	C	C

**ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL**

15) Chemical Treatment										
a) Oil Stabilization										
b) Protection of Beaches				C	C					
c) Cleaning of Beaches										
16) Burning (depends upon time of year)		C							C	C
17) Nutrient Enhancement				C	C	C	C			
18) Bacterial Addition				C	C	C	C			
19) Sediment Reworking		C		C	C	C	C			

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

i = No action only if the wetland fringes are impacted or access would result in unacceptable damage.

j = Hot water pressure wash or slurry sand blast for aesthetic reasons.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 1

**VERTICAL ROCKY SHORELINE, SEAWALLS, PIERS**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	A	A	A	C
3) Passive Collection (Sorbents)	A	A	A	Ck
4) Debris Removal/Heavy Equipment		A		
5) Trenching (recovery wells)				Ce
6) Sediment Removal		C		A
7) Cold Water Flooding (deluge)				C
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	
b) High Pressure (<100psi)		Ab,f	Ab,f	
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Ab,f,g	Ab,f,g
10) Hot Water Pressure Washing (>90F)			Cb,f,g,j	Ab,f,g,j
11) Slurry Sand Blasting			Cj	Cj
12) Vacuum		Ab	Ab	Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)				
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)				
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

j = Hot water pressure wash or slurry sand blast for aesthetic reasons.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 2

**ERODING SCARPS & SEDIMENTS**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	A	A	A	A
3) Passive Collection (Sorbents)				Ck
4) Debris Removal/Heavy Equipment				
5) Trenching (recovery wells)				
6) Sediment Removal			C	C
7) Cold Water Flooding (deluge)				
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	Ab,f
b) High Pressure (<100psi)				Cb,f
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Cb,f,g	Ab,f,g
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum				Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)				
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)			C	C
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking			C	C

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

**Shoreline Type 3**  
**SHELVING BEDROCK LEDGES**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	A	A	A	C
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)				
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	Ab,f
b) High Pressure (<100psi)		Ab,f	Ab,f	Ab,f
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Ab,f,g	Ab,f,g
10) Hot Water Pressure Washing (>90F)			Cb,f,g	Cb,f,g
11) Slurry Sand Blasting				
12) Vacuum		Ab	Ab	Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)				
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)				
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

<b>Key to Identifiers</b>
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
f = Proximity to water intakes should be considered when pressure washing shoreline.
g = Consider biological community and porosity of substrate when using pressure or elevated temperature.
h = No action only if residual sheening is present.
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.



**Shoreline Type 4**  
**SANDY BEACHES**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C		
2) Manual Removal	A	C	A	A
3) Passive Collection (Sorbents)		A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)		Ce	Ce	Ce
6) Sediment Removal			A	A
7) Cold Water Flooding (deluge)		Cb	Cb	C
8) Cold Water Washing				
a) Low Pressure (<50psi)				
b) High Pressure (<100psi)				
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum		Cb	Cb	Cb
13) Shore Removal/Replacement	C	C	A	A
14) Cutting Vegetation (depends upon time of year)				
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization		C	C	
b) Protection of Beaches		C	C	C
c) Cleaning of Beaches		C	C	
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking	C	C	C	C

<b>Key to Identifiers</b>
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
e = Trenching only if heavy impact exists and no other viable collection method is available
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

**Shoreline Type 5  
MIXED SAND & GRAVEL BEACHES**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C		
2) Manual Removal	A	C	A	A
3) Passive Collection (Sorbents)		A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)		Ce	Ce	Ce
6) Sediment Removal			A	A
7) Cold Water Flooding (deluge)		Cb	Cb	C
8) Cold Water Washing				
a) Low Pressure (<50psi)				
b) High Pressure (<100psi)				
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum		Cb	Cb	Cb
13) Shore Removal/Replacement	C	C	A	A
14) Cutting Vegetation (depends upon time of year)				
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization		C	C	
b) Protection of Beaches		C	C	C
c) Cleaning of Beaches		C	C	
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking	C	C	C	C

<b>Key to Identifiers</b>
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
e = Trenching only if heavy impact exists and no other viable collection method is available
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

**Shoreline Type 6**  
**GRAVEL BEACHES**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C		
2) Manual Removal	Aa	C	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Cb,f		Cb,f	
b) High Pressure (<100psi)			Cb,f	
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement			C	A
14) Cutting Vegetation (depends upon time of year)				
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization		C		
b) Protection of Beaches		C		
c) Cleaning of Beaches		C		
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking		C	C	C

<b>Key to Identifiers</b>
A = Acceptable
C = Conditional - Use after other less intrusive methods or following particularly heavy impact
Blank space = Not Advisable or Not Applicable
a = Manual removal of oiled debris or small persistent pockets.
b = Passive collection and vacuum should be coordinated with flooding or washing methods.
f = Proximity to water intakes should be considered when pressure washing shoreline.
k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 7

RIPRAP

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A	Ch	Ch
2) Manual Removal	Aa	C	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Ab,f	Ab,f	Ab,f	Cb,f
b) High Pressure (<100psi)			Ab,f	Cb,f
9) Warm Water Washing (ambient to 90F)			Cb,f,g	Cb,f,g
10) Hot Water Pressure Washing (>90F)			Cg,j	Cb,f,g,j
11) Slurry Sand Blasting			C	Cj
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement			C	
14) Cutting Vegetation (depends upon time of year)				
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization				
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)				
17) Nutrient Enhancement		C	C	C
18) Bacterial Addition		C	C	C
19) Sediment Reworking			C	C

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

a = Manual removal of oiled debris or small persistent pockets.

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

h = No action only if residual sheening is present.

j = Hot water pressure wash or slurry sand blast for aesthetic reasons.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 8

**SHELTERED BEDROCK & BLUFFS**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A		
2) Manual Removal	A	A	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)				
8) Cold Water Washing				
a) Low Pressure (<50psi)		Ab,f	Ab,f	Ab,f
b) High Pressure (<100psi)		Ab,f	Cb,f	Cb.f
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Cb,f,g	Cb,f,g
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum		Ab	Ab	Ab
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)		C	C	C
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization			C	
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)			C	
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 9

**SHELTERED LOW LYING BANKS**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	A		
2) Manual Removal		A	A	A
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A	A	A
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Ab,f	Ab,f	Cb,f	Cb,f
b) High Pressure (<100psi)			Cb,f	
9) Warm Water Washing (ambient to 90F)		Cb,f,g	Cb,f,g	Cb,f,g
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement	Cc			
14) Cutting Vegetation (depends upon time of year)		C	C	C
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization			C	
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)			C	C
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

**Key to Identifiers**

A = Acceptable

C = Conditional - Use after other less intrusive methods or following particularly heavy impact

Blank space = Not Advisable or Not Applicable

b = Passive collection and vacuum should be coordinated with flooding or washing methods.

c = Shoreline removal/replacement with clay if substrate is saturate with oil.

f = Proximity to water intakes should be considered when pressure washing shoreline.

g = Consider biological community and porosity of substrate when using pressure or elevated temperature.

k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

Shoreline Type 10

**FRINGING & EXTENSIVE WETLANDS**

Countermeasure	Oil Type			
	Very Lt	Light	Medium	Heavy
1) No Action	A	C	Ch,i	Ch,i
2) Manual Removal		Cd	Cd	Cd
3) Passive Collection (Sorbents)	A	A	A	Ak
4) Debris Removal/Heavy Equipment		A		
5) Trenching (recovery wells)				
6) Sediment Removal				
7) Cold Water Flooding (deluge)	Ab	Ab	Ab	C
8) Cold Water Washing				
a) Low Pressure (<50psi)	Ab,f		Cb,f	Cb,f
b) High Pressure (<100psi)				
9) Warm Water Washing (ambient to 90F)				
10) Hot Water Pressure Washing (>90F)				
11) Slurry Sand Blasting				
12) Vacuum	Ab	Ab	Ab	Cb
13) Shore Removal/Replacement				
14) Cutting Vegetation (depends upon time of year)		C	C	C
<b>ALL METHODS BELOW REQUIRE RRT and/or STATE APPROVAL</b>				
15) Chemical Treatment				
a) Oil Stabilization			C	
b) Protection of Beaches				
c) Cleaning of Beaches				
16) Burning (depends upon time of year)	C	C	C	C
17) Nutrient Enhancement				
18) Bacterial Addition				
19) Sediment Reworking				

**Key to Identifiers**

- A = Acceptable
- C = Conditional - Use after other less intrusive methods or following particularly heavy impact
- Blank space = Not Advisable or Not Applicable
- b = Passive collection and vacuum should be coordinated with flooding or washing methods.
- d = Low intensity removal of mobile debris only, e.g., vegetation or driftwood.
- f = Proximity to water intakes should be considered when pressure washing shoreline.
- h = No action only if residual sheening is present.
- i = No action only if the wetland fringes are impacted or access would result in unacceptable damage.
- k = Passive collection only if viscosity is low enough to result in sorbent effectiveness.

## **Appendix V: Chemical Use Guidelines**

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Available online at [www.rrt5.org/RCPACPMain/RCPACPAppearices/ChemicalUseGuidelines.aspx](http://www.rrt5.org/RCPACPMain/RCPACPAppearices/ChemicalUseGuidelines.aspx)



## **APPENDIX V: CHEMICAL USE GUIDELINES**

## CHEMICAL USE CHECKLIST

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### Chemical Use Preapproval

Federal Region 5 Regional Response Team

Oil Spill Solidifier Preapproval- Contained within socks, booms, pillow Under the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300) the Regional Response Team (RRT) may authorize the use of oil spill control agents that are on the National Product Schedule. Pursuant to various presentations on the products, and the additional written materials that the Science and Technology Sub-Committee of the RRT has reviewed, the Region V RRT will allow the use of the following products under limited approval and specific conditions explained below:

- ALSOCUP
- Aqua N-CAP Polymer
- CIAgent
- WASTE-SET #3200
- WASTE-SET #3400

The Region 5 RRT has approved the use, in Region 5, of socks, booms, pads, pillows or other device which completely surrounds and contains one of the solidifier products listed above subject to the following conditions:

1. Application of the solidifier product must be done in a manner that does not allow the solidifier product to be released from the sock, boom, pad, or pillow; and
2. The sock, boom, pad, or pillow is not left in the environment for more than one week after contact with oil; and
3. The sock, boom, or pillow must be recovered from the water within one week of contact with oil or depletion of solidifying capacity and properly disposed of.
4. This preapproval does not include preapproved use in tribal or Department of Interior managed lands.

Conditions of approval for solidifier products:

- [NCP Subpart J - Main Page](#)
- [NCP Product Schedule](#)
- [NCP Technical Notebook](#)

### Chemical Countermeasures Fact Sheet

The Chemical Countermeasures Fact Sheet describes the appropriate use of oil treatment products, which products may be used and under what circumstances approval is required.

## Chemical Use Guidelines

- Compile Data

## Spill Data — Responsibility: OSC

- Circumstances
- Time/date of incident
- Location
- Type of oil product
- Volume of oil release
- Total potential of release
- Type of release (instantaneous, continuous, etc.)

## Characteristics of Spilled Oil(s) — Responsibility: OSC

- Specific gravity
- Viscosity

## Weather and Water Conditions / Forecasts — Responsibility: SSC

- Air temperature
- Water conditions
- Water temperature
- Water depth

## Oil Trajectory Information — Responsibility: SSC

- 48-hour surface oil trajectory forecast
  - Surface area of slick
  - Expected conditions of landfall
- 48-hour dispersed or chemically treated oil trajectory forecast
  - Oil movement in water column
  - Surface oil movement and expected landfall
  - Concentration of the dispersant/oil mixture in the water column

## Chemical Characteristics and Application Equipment — Responsibility: OSC

**Table 0.1: Chemical Characteristics**

	Product 1	Product 2	Product 3
Chemical Name			
Trade Name			
Manufacturer			
When Available			

Location			
Characteristics			
Toxicity			
Effectiveness			
Reactions			
Applicability			
Flash point			
Amount Available			
Type of Containers			
Application Methods			
Benefits (reduce vapor; increase viscosity; etc.)			

**Table 2 Transportation & Equipment**

	<b>Company 1</b>	<b>Company 2</b>	<b>Company 3</b>
Name			
Location			
Equipment available			
Transportation of equipment			

## Comparison of Effectiveness of Conventional

### Methods vs. Use of Chemicals — Responsibility: US EPA, USCG, OSC, SSC, State(s)

- Containment at the source
- Burning
- Shoreline protection strategies
- Shoreline cleanup strategies
- Time necessary to execute response

### Habitats and Resources at Risk — Responsibility: OSC, SSC

- Shoreline habitat type and area of impact
- Resources
  - Endangered/threatened species
  - Critical habitat for the above species
  - Waterfowl use
  - Shellfish
  - Finfish
  - Commercial use
  - Public use areas

- Other resources of significance

### **Other Users of the Water: Nearby and Downstream — Responsibility: SSC**

- Water supply, potable
- Water supply, industrial

### **Recommendations — Responsibility: US EPA, USCG, OSC, SSC, State(s)**

#### **Possible Options**

- Do not use chemicals
- Use chemicals on a trial basis
- Disperse or chemically treat to maximum extent possible with accepted methods on available equipment

#### **Other Recommendations/Rationale**

TBD

### **Evaluation of Decisions — Responsibility: US EPA, USCG, OSC, SSC, State(s)**

**Will the application remove a significant amount of the slick from the surface of the water?**

**Can the extent or location of the shoreline impacts be altered in a positive manner?**

TBD

**Can the damage to endangered/threatened species, mammals, and waterfowl be lessened?**

TBD

**Will the damage to habitats and resources resulting from the chemical use be less than those resulting without the use?**

TBD

**If recreational, economic, and aesthetic considerations are a higher priority than natural resource considerations, what is the most effective means of their protection?**

TBD

**Monitoring of Chemical Use — Responsibility: OSC, State(s)**

**Records**

- Chemical brand
- Equipment and methods used in application
- Dilution of chemical prior to application, if any
- Rate of application
- Times and area of application
- Wind and wave conditions during application

**Effectiveness - Visual and Photographic Documentation**

- Oil before and after chemical application
- Resurfacing of dispersed or chemically treated oil
- Sampling of the water beneath the oil slick and the oil/chemical combination to determine the level of the petroleum hydrocarbons in the water

**Environmental Impacts – Visual and Photographic Surveys**

- The extent of shoreline impact by chemically treated and untreated oil
- Mortality or abnormal behavior of fish, birds, or mammals
- Comparison of shoreline areas impacted by oil and oil/chemical mixtures
- Analysis of oil concentrations in sediments under chemically treated oil
- Investigation of water column organisms for signs of adverse impact due to chemically treated oil
- Collection and analysis of birds affected by chemicals or oil/chemical mixture

**Public Health**

- Sampling water supplies for petroleum and chemical constituents

## **Appendix VI: In Situ Burning of Oil**

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Available online at [www.rrt5.org/RCPACPMain/RCPACPApendices/InSituBurning.aspx](http://www.rrt5.org/RCPACPMain/RCPACPApendices/InSituBurning.aspx)

# RRT5 In-Situ Burning Annex

## RRT5 In-Situ Burning Annex

### PURPOSE

This annex contains the background information and guidance necessary to aid the Federal On-Scene Coordinator (FOSC) in their consideration of whether to allow the technique of in situ burning (ISB) as an oil spill countermeasure.

### REFERENCES AND ADDITIONAL LINKS

- [National Contingency Plan \(NCP\)](#)
- [Regional Contingency Plans \(RCPs\)](#)
- [Region 5 Sub Area Plans](#)
- [Great Lakes Area Contingency Plan \(GLACP\) \(via Homeport\)](#)
- [Geographic Response Plans \(GRPs\) \(via Homeport\)](#)
- [RRT 5 Habitat Fact Sheets](#)
- [RRT 5 Incident Specific RRT Checklist \(IS-RRT\)](#)
- [NOAA Office of Response and Restoration - ISB](#)
  - [Special Monitoring of Applied Response Technologies \(SMART\)](#)
  - [Sample Site Safety Plan for ISB](#)
- [Options for Minimizing Environmental Impacts of Freshwater Spill Response](#)
- [Selection Guide for Oil Spill Response Countermeasures](#)
- [Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments](#)

### RESPONSIBILITIES

For this annex Lead Federal Agencies (LFAs) provide leadership, expertise and authorities to respond to oil discharges.

LFAs:

The US EPA and Coast Guard are the FOSC for any oil discharges in Region V that require emergency removal actions with the exception of incidents that:

- Occur from vessels or facilities owned, operated, or controlled by the Department of Defense (DOD) or Department of Energy (DOE)
- Are *non-emergency* removal actions of oil discharges from vessels or facilities owned, operated, or controlled by federal agencies *other than* the DOD or DOE



# RRT5 In-Situ Burning Annex

## SCOPE

The RRT has adopted this annex applicable to spill responses under the direct oversight of a FOSC. This annex authorizes the FOSC to use ISB as a response countermeasure to an oil discharge when he or she determines it is appropriate after key members of the RRT have been consulted and concur. This annex is subject to individual state laws and in the case of the use of burning agents during ISB by the NCP (40 CFR 300.910).

In order to minimize environmental impacts and facilitate effective cleanup of an oil spill, responders have a limited number of techniques available to them. These include mechanical methods, the use of certain alternative countermeasures, and ISB. Under certain specific conditions, ISB may offer a logistically simple, rapid, inexpensive, and relatively safe means for reducing impacts of an oil spill. Moreover, because a large portion of burned oil is converted to gaseous combustion products, the need for collection, storage, transport, and disposal of recovered material can be substantially reduced. ISB may be able to remove a large amount of spilled oil before the spreading and drifting of spilled oil fouls shorelines and threatens wildlife. In certain circumstances, such as oil spilled in ice conditions, burning may be the single viable response technique.

## REQUIREMENTS

The requirements of this annex apply only to responses under the direct oversight of an FOSC, but its general application is strongly encouraged. The RRT acts as the regional coordinating body for response actions.

- 1) The appropriate state's approval is always required. In Region 5, the use of ISB as a response tool will be subject to State law and policy. When burning agents are used this is a requirement of the NCP. **(See attachments for appropriate state(s) approval processes).**
- 2) In accordance with (IAW) the NCP, US EPA must concur with the FOSCs recommendation to authorize the use of ISB. When burning agents are used this is a requirement of the NCP.
- 3) As a natural resource trustee, the Department of Interior (DOI) should be consulted with the decision to conduct ISB during a spill response overseen by a FOSC. The responsibility of concurrence is given to DOI as a federal natural resource trustee and because of its authorities, and potential assistance to the FOSC, regarding the Endangered Species Act (ESA) and potential representation of federally recognized tribal governments.
- 4) As a natural resource trustee, the Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA) should be consulted when considering ISB. Notification should be from the RRT Co-Chairs via the DOC RRT member. NOAA Scientific Support Coordinator (SSC) should be contacted to assist in the decision-making process and may provide resources at risk.

## **RRT5 In-Situ Burning Annex**

- 5) Tribal agency official(s) must be consulted on any decision to use ISB when a burn would reasonably be expected to impact those designated areas of tribal interests.
- 6) Approval must also be in concert with Canadian federal government officials, adjoining states and/or provinces, and local officials with approving jurisdictions, where deemed appropriate or necessary.

### **RESPONSE ACTIVITIES**

#### **FOSC Priorities**

- Responder safety
- Public safety and hazard mitigation
- Public notification
- Environmental cleanup/restoration
- Proper transportation, storage and disposal of contaminated debris & waste

#### **Considerations**

ISB, for the purposes of this annex, is defined as the use of an ignition source to initiate the combustion of spilled oil that will burn due to its intrinsic properties and does not include the adding of a burning agent to sustain the burn.

The use of ISB in this annex is not for disposal purposes; rather, it is a response technique to be employed when an oil spill is virtually uncontrolled with the potential to spread and contaminate additional areas. It should also be considered as a cleanup technique for oiled habitats such as wetlands, where it is used in conjunction with other cleanup methods.

#### **FOSC Tools**

The following documents contain useful, detailed information to assist the FOSC in the use of ISB as an oil spill countermeasure.

- [Region 5 Sub Area Plans](#)
- [GRPs \(via Homeport\)](#)
- [Special Monitoring of Applied Response Technologies \(SMART\)](#)
- [RRT 5 IS-RRT Checklist](#)
- [RRT 5 Habitat Fact Sheets](#)
- [Options for Minimizing Environmental Impacts of Freshwater Spill Response](#)
- [Selection Guide for Oil Spill Response Countermeasures](#)
- [Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments](#)
- [RRT5 Website Planning and Response Tools](#)

# RRT5 In-Situ Burning Annex

## NOTIFICATION

- Request IS-RRT
  - Conduct emergency consultations with trustee agencies as applicable
- Ensure notification to appropriate stakeholders
- Coordinate public notifications

## ASSETS AND RESOURCES

The following are able to support response to hazardous substance incidents, and should be considered as potential response resources:

- [USCG Ninth District Response Advisory Team \(DRAT\)](#)
- [USCG Atlantic Strike Team \(AST\)](#)
- [US EPA Environmental Response Team \(ERT\)](#)
- [US EPA Airborne Spectral Photometric Environmental Collection Technology \(ASPECT\)](#)
- [National Interagency Fire Center \(NIFC\)](#)
- [Interagency Modeling and Atmospheric Assessment Center \(IMAAC\)](#)
- For local subject matter experts see references

## ENCLOSURES

1. State permits and/or approval process
  - a. Illinois EPA OER Request to Burn
2. [IS-RRT Checklist](#)

### IEPA OER REQUEST TO BURN

IEMA Incident #: H-20\_ \_ \_ \_ \_ (Must have an incident number)

Person requesting BURN PERMIT: \_\_\_\_\_

Person represents (company): \_\_\_\_\_

Date of request: \_\_\_\_\_ Time: \_\_\_\_\_

Amount to be burned: \_\_\_\_\_

Reason: \_\_\_\_\_

\_\_\_\_\_

Location: \_\_\_\_\_

\_\_\_\_\_

Check if same as reported spill location:

Land owner permission:  YES  NO

Mines & Minerals permission:  YES  NO

Complete during daylight:  YES  NO

Personnel on scene until burn is complete:  YES  NO

Notified local fire protection district:  YES  NO

Distance to nearest Public Road: \_\_\_\_\_ Direction: \_\_\_\_\_

Distance to nearest residential home(s): \_\_\_\_\_ Ditrection: \_\_\_\_\_

Wind direction: \_\_\_\_\_ Speed: \_\_\_\_\_ mph

Any special conditions: \_\_\_\_\_

\_\_\_\_\_

GRANTED

DENIED

\_\_\_\_\_  
Person Authorizing Burn Permit



### Incident-Specific RRT Checklist

Incident Specific RRTs are formed from standing team members when the RRT is activated for a response. Participation by member agencies will relate to the technical nature of the incident and its geographic location. Activities are determined by the operational requirements of the response to a specific incident. The appropriate level of activation shall be determined by the designated RRT chair for the incident. This completed checklist should be attached to the incident case file.

- Required members on call (Normally, co-chairs and coordinators, affected member and state agencies):

- Date/ Time:

- Prepared by:

- Summary of incident (A brief synopsis of the who/what/where/when/why/how of the incident):

- Current organization and actions taken:

R E G I O N A L   R E S P O N S E   T E A M   5

**FOSC**

Actions/ Approval requested by FOSC to RRT:

**RRT**

Decision/Action/ Recommendation on request from FOSC:

Rationale:

ESA Initial Consultation:

**Applicable**

Completed with:

USFWS

Point of Contact:

NOAA

Point of Contact:

State(s)

Point(s) of Contact:

R E G I O N A L   R E S P O N S E   T E A M   5

Additional Notes

**SIGNATURES**

Member/ Agency:

Concur:

Non-Concur:

R E G I O N A L   R E S P O N S E   T E A M   5

## **Appendix VII: Fish and Wildlife Annex**

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Available online at [www.rrt5.org/RCPACPMain/RCPACPAppendices/FishWildlifeAnnex.aspx](http://www.rrt5.org/RCPACPMain/RCPACPAppendices/FishWildlifeAnnex.aspx)



**APPENDIX VIII: FISH AND WILDLIFE ANNEX TO THE U.S. EPA  
REGION 5 REGIONAL/AREA CONTINGENCY PLAN**

Prepared by U.S. Fish and Wildlife Service Region III  
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Melanie Young, Rock Island, Illinois Field Office  
November 1996; Revised June 2008

**Contents**

*Part I provides guidance for spill response planning and Part II provides guidance for spill response activities.*

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- 2. Biological Opinion

## **INTRODUCTION**

*Part I of this Annex provides guidance for spill response planning and Part II provides guidance for spill response activities.*

## **Objectives of the Fish and Wildlife and Sensitive Environments Plan**

Agencies with fish and wildlife responsibilities need to be informed of the course of events during a spill and first responders need to be aware of environmentally sensitive areas in the vicinity of the spill. The purpose of this Fish and Wildlife Annex is to provide information that will allow spill responders to quickly recognize threats to fish, wildlife, and their habitats, (i.e. sensitive environments) and to minimize the effects of both the spill and response activities on these natural resources.

## **Overview of Fish and Wildlife Response Issues**

The On-Scene-Coordinator (OSC) should promptly notify natural resource trustees of spills. The OSC should also coordinate response activities with the appropriate natural resource trustees, including the selection of a removal action. When the OSC becomes aware that a release may affect any endangered or threatened species, or their habitats, the OSC shall consult with the appropriate natural resource trustee. For Federally listed endangered or threatened species the appropriate trustee is the Department of the Interior (DOI), acting through the U.S. Fish and Wildlife Service (USFWS). The appropriate USFWS contact for each State is included in this Annex.

The designated State official normally assumes responsibility for notifying the State trustee of natural resources affected/potentially affected by the incident. However, the OSC should not hesitate to contact the State wildlife agency independently for technical assistance. Appropriate State fish and wildlife agency contacts are listed in this Annex.

For inland waters, the fish and wildlife resources for which the Federal government is primarily responsible include migratory birds and Federally listed endangered and threatened species. Migratory birds include most species of wild birds except certain introduced species and nonmigratory game birds. Federal agencies also are responsible for wildlife on Federally owned land. The States have primary responsibility for all other species of wildlife and fish, as well as some shared responsibility for migratory birds and Federally listed endangered and threatened species. Federally listed endangered and threatened species are listed by county in this Annex.

Lands (Federal, State, and locally owned) that should be presumed to contain high quality fish and wildlife habitat include parks, designated wildlife areas and refuges, and forests. Most surface waters and wetlands should also be presumed to be high quality fish and wildlife habitat. Spills which impact large areas of surface water will likely threaten protected species of wildlife. Lands designated as critical habitat under provisions of the Endangered Species Act of 1973 (ESA) are specific land parcels and are identified in this Annex.

The seasonal timing of a spill may affect the degree of damage to fish and wildlife resources. For example, spills to some surface waters will pose a greater threat to waterfowl during the spring and fall migration periods. In the spring, oiled waterfowl (and other wildlife) may also return to their nests and contaminate eggs or chicks, thus multiplying the impact. A very minute amount of oil on an egg can be enough to kill the developing embryo. Waterfowl and other wildlife that

become oiled can transport oil residues to distant locations and impact wildlife concentration areas several miles away.

An oil spill affecting wildlife can involve agencies such as the USFWS and State wildlife agencies, private wildlife rehabilitators such as Tri-State Bird Rescue or International Bird Rescue Research Center (IBRRC), and volunteers. Wildlife rehabilitation activities may last well beyond completion of the cleanup. For those States which have developed a trained and organized network of volunteer wildlife rehabilitators (<http://www.tc.umn.edu/~devo0028/contact.htm>), information on how to mobilize the network is presented in this Annex. A general list of appropriate wildlife agency contacts, and other wildlife contacts, is also included.

The Occupational Safety and Health Administration (OSHA) requires that those responding to spills be properly trained and that the hazards of the spilled material be known. This can result in wildlife not being rehabilitated if the spilled materials are unknown or if they present an unacceptable health risk to rehabilitators. There will also be delays in wildlife rehabilitation if volunteers have not been trained. USFWS resources available for spill response are generally very limited. The assistance of State wildlife agencies and professional and volunteer wildlife rehabilitators will be critical to the success of any wildlife cleaning and rehabilitation operation.

## **PART I. PLANNING GUIDANCE FOR SPILL RESPONSE**

### **1.0 REGULATORY AND STATUTORY AUTHORITIES AND OBLIGATIONS**

#### **1.1 Federal Statutory Regulations**

Authority and guidance for wildlife response following oil spills is contained in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP 1968) which recognized the need to utilize Federal agency expertise during responses to oil spills and releases of hazardous substances.

##### **1.1.1 Department of the Interior, U.S. Fish & Wildlife Service**

The Department of the Interior (DOI) has trustee responsibility for migratory birds under the Migratory Bird Treaty Act (16-USC 703-722) and for threatened and endangered species under the Endangered Species Act (16 USC 1531-1544). The DOI and Department of Commerce share trustee responsibility for anadromous fish under the Anadromous Fish Conservation Act (16 USC 7571-757f).

As a manager of trust natural resources delegated under DOI, the U.S. Fish and Wildlife Service (USFWS) has the responsibility to conserve, enhance, and protect fish and wildlife and their habitat. The USFWS role during prespill planning, "removal" activities, and "preassessment" activities has been enhanced and formalized by the new responsibilities identified in the Oil Pollution Act of 1990 (OPA) and the mandated amendments to the Federal Water Pollution Control Act (FWPCA) ("Clean Water Act") which revised the NCP.

Specifically, USFWS personnel are responsible for protecting trust natural resources from the threat of injury or injury caused by a discharge of oil. Additionally, they are responsible for assisting in the identification of sensitive environments in advance of discharges, assisting the OSC during the response phase, assessing injuries, determining damages, and overseeing wildlife rehabilitation during actual discharges. (For more specific roles and responsibilities of the USFWS during a spill, please refer to Part II, Section 1.2.1.).

The following list briefly summarizes the primary authorities which direct the USFWS in carrying out its responsibilities related to oil spill response and contingency planning:

#### **1.1.1.1 Migratory Bird Treaty Act**

Prohibits the taking or possession of any migratory birds, except as permitted by certain regulations which are enforced by the USFWS. Prosecutions under this law apply to oil spill situations which result in migratory bird mortality. Rehabilitation of oiled migratory birds is also subject to permitting regulations under this Act.

#### **1.1.1.2 Endangered Species Act**

Provides for the conservation of threatened and endangered species of fish, wildlife, and plants. The USFWS has lead authority for the Secretary of the Interior within the geographic area covered by this Area Plan to prohibit unauthorized taking or possession of Federally listed endangered species (Also see Part I, Section 4).

#### **1.1.1.3 Bald and Golden Eagle Protection Act**

Provides for the protection of the bald eagle and the golden eagle by prohibiting the taking, possession and commerce of such birds. The USFWS has lead authority for the Secretary of the Interior within the geographic area covered by this Area Plan to prohibit unauthorized taking or possession of bald or golden eagles.

#### **1.1.1.4 National Wildlife Refuge System Administration Act**

Provides directives for the administration and management of all areas (lands and waters) in the National Wildlife Refuge System. The USFWS is responsible for ensuring that all uses of these areas are compatible with the major purposes for which such areas were established.

#### **1.1.1.5 Anadromous Fish Conservation Act**

Authorizes the Secretary of the Interior to enter into cooperative agreements with the States and other non-Federal interests for conservation, development, and enhancement of anadromous fish, including those in the Great Lakes.

Also authorizes the USFWS to conduct studies and make recommendations to U.S. EPA concerning measures for eliminating or reducing polluting substances detrimental to fish and wildlife in interstate or navigable waters, or their tributaries.

#### **1.1.1.6 Fish and Wildlife Coordination Act**

Requires consultation with the USFWS and State fish and wildlife Agencies in instances in which diversions or other modifications to water bodies are proposed, authorized, permitted, or licensed by a Federal agency under a Federal permit or license. It recognizes the vital contribution of fish and wildlife resources to the Nation and requires coordination and equal consideration of fish and wildlife conservation with other water resources development objectives.

#### **1.1.1.7 Oil Pollution Act of 1990**

Requires the USFWS to assist in the development of Area Contingency Plans, including fish and wildlife response plans; assist in preparation of damage assessment regulations; and, if necessary, conduct natural resource damage assessments.

#### **1.1.1.8 Comprehensive Environmental Response Compensation and Liability Act (Superfund)**

Requires the USFWS to protect and restore trust resources injured by uncontrolled releases of hazardous materials. Authorizes the USFWS to conduct assessments to establish injury and the dollar equivalent of that injury for collection of damages from parties responsible for releasing hazardous materials.

### **1.1.2 Department of the Interior, National Park Service**

**1.1.2.1 National Park Service Organic Act (16 U.S.C. 1 et seq.)** Establishes the National Park Service within the Department of the Interior and directs the NPS to “... *promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified... to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*”

**1.1.2.2 General Authorities Act of 1970 (16 U.S.C. 1a-1 and 1a-8)** Combines all areas administered by the NPS in one National Park System and amends the Organic Act to specify that the National Park System shall include any area of land and water now or hereafter administered by the Secretary of the Interior through the NPS for park, monument, historic, parkway, recreational, or other purpose.

**1.1.2.3 The National Park Resources Protection Act of 1996 (16 USC 19jj)** Any person who causes the loss of, or injures a park system resource is liable to the United States for response costs and damages.

**1.1.2.4 Wilderness Act (Public Law 88-577) Section 4(c)** States that “...within any wilderness area designated by this Act and, except as necessary to meet *minimum requirements* for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no



temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

**1.1.2.5 National Historic Preservation Act** In 1997, the National Response Team completed a Programmatic Agreement on Protection of Historic Properties during Emergency Response under the National Response Plan. This agreement provides an approved procedure to meet the consultation requirements of the regulations for implementing Section 106 of the National Historic Preservation Act.

### **1.1.3 Department of the Interior, Bureau of Indian Affairs**

[To be provided]

### **1.1.4 Department of Commerce, National Oceanic and Atmospheric Administration**

[To be provided]

### **1.1.5 Department of Agriculture, Forest Service**

[To be provided]

## **1.2 State Regulations**

[To be provided]

## **2.0 NOTIFICATION OF NATURAL RESOURCE TRUSTEES**

(NCP sec. 300.300(b)(c)(d), NCP sec. 300.210(c)(4)(ii)(G))

When an oil spill occurs, any person in charge of a vessel or facility, or any other person, shall immediately notify the National Response Center (NRC) of the discharge at 1-800-424-8802. (Alternatively, if direct notification to the NRC is not possible, notification may be made to the U.S. Coast Guard or the U.S. EPA predesignated OSC, or the nearest Coast Guard Unit.) The State or Federal OSC, when notified by the NRC, should then notify the Office of Environmental Compliance (OEPC) and the State natural resource agencies. In addition, contacts may be made with the local USFWS Ecological Services Field Office. Primary contacts for the USFWS and State Natural Resource Agencies are listed in Part II, Section 3. Only one contact per agency is necessary; the persons initially contacted will notify other personnel within their respective agencies, such as law enforcement staff and refuge managers. The USFWS will provide responders with information concerning the presence of trust natural resources, as well as technical assistance concerning the effects of oil on these resources. The USFWS may help coordinate wildlife recovery and rehabilitation efforts in conjunction with the State fish and wildlife agencies.

## **3.0 MECHANISMS FOR TIMELY IDENTIFICATION OF PROTECTION PRIORITIES**

(NCP 300.210(c)(4)(ii)(B))

### **3.1 During a Spill**

A threat to fish, wildlife, or important habitat may be reported by any Federal, State, Local agency, or individual with pertinent information. During a spill, the timely identification of protection priorities for fish, wildlife, and their habitats shall be accomplished through coordination between the representatives of the USFWS, the State agency with responsibility for fish and wildlife resources, and the OSC or his representative. This coordination shall be initiated by the party that first becomes aware of a threat to high priority natural resources.

Some natural resources that, at any given time or location, may warrant a high level of protection include the following categories of lands and species:

- (a) Federally listed endangered and threatened species, designated critical habitat, and other habitats known to be utilized by these species;
- (b) migratory birds including waterfowl, raptors, songbirds, and most other bird species and their habitats;
- (c) State listed endangered and threatened species and their habitats;
- (d) designated areas of high quality fish and wildlife habitat such as Federal and State wildlife refuges and wildlife management areas, State and Federal fish hatcheries, natural area preserves, parks, and forests;
- (e) surface waters in general including rivers and streams, ponds and lakes, and wetlands;
- (f) other species of fish and wildlife (game and non-game) and their associated habitats.

Information about the location of these environmentally sensitive areas will be developed by the Area Committee as part of the spill planning process. Knowledge of these areas may need to be refined or augmented during an actual spill. Sources of information about environmentally sensitive areas may include commercially available Local maps and State atlases, National Wetland Inventory maps, U.S. Geological Survey quadrangle maps, maps developed by the Area Committee, maps and information developed as part of facilities plans, maps and information developed by various government agencies, and computer GIS information. Detailed computerized GIS maps of sensitive areas that could be accessible from the field using laptop computers would be beneficial to response personnel.

### **3.2 Prior to Application of Chemical or Other Countermeasures**

(NCP 300.210 (c)(4)(ii)(C) and (D))

The OSC must obtain the concurrence of the Department of the Interior (DOI) before use of chemical countermeasures that could be destructive to fish, wildlife, or their habitats (chemical dispersants, emulsifiers, cleaning agents, agents to accelerate burning, etc.). The OSC must obtain concurrence from DOI before an in-situ burn countermeasure may be implemented. Containment and removal should be the first priority countermeasures.

Prior to response activities in wetlands and other sensitive environments, especially operations involving heavy machinery, the OSC should coordinate with the USFWS and State fish and wildlife agency. Identification of areas sensitive to physical modification or perturbation will have been identified to the extent possible by the Area Committee. In general, these will include the same areas identified as sensitive environments. The location of disposal and staging areas may require refinement during a spill, and this planning should be coordinated with the USFWS and State fish and wildlife agency.

## **4.0 THREATENED AND ENDANGERED SPECIES**

### **4.1 Federally Threatened and Endangered Species Within U.S. EPA Region 5**

Threatened and endangered (T&E) species inhabit, or live near, almost every body of water in the Region. USFWS Field Offices provide an annually-updated list of Federal T&E species, by county.

Federal and State listed T&E species and their designated critical habitat(s) (Federal) are given high priority for fish and wildlife protection. The Federally protected species that reside within U.S. EPA Region 5, and their habitat descriptions, are listed at:

[http://www.fws.gov/midwest/Endangered/lists/cty\\_indx.html](http://www.fws.gov/midwest/Endangered/lists/cty_indx.html)

### **4.2 Endangered Species Act of 1973**

The ESA requires Federal agencies whose actions may affect a listed species or their critical habitat to consult with the USFWS regarding the proposed action. OPA and CERCLA require the U.S. EPA to develop contingency plans for inland areas for accidental discharges of oil and other hazardous materials. Implementing these mandates incurs responsibility under the ESA because (1) development and approval of potential response activities is a Federal action subject to the consultation requirements of section 7(a)(2) of the ESA; and (2) if it is determined that actual spill control methods to be used during OPA/CERCLA-mandated activities may adversely affect Federally listed species, then appropriate actions to minimize such effects must be incorporated into Area Plans.

#### **4.2.1 Section 2 - Purpose**

Fish, wildlife, and plant species have aesthetic, ecological, educational, historical, recreational, and scientific value to the U.S.; some species have become extinct or are threatened with extinction. Section 2 of the ESA describes the purposes of the Act as:

1. Providing a means to conserve the ecosystems upon which endangered and threatened species depend
2. Providing a program for the conservation of such species
3. Taking steps to achieve purposes of existing treaties and conventions affecting wildlife, fish, and plants

#### **4.2.2 Section 3 - Definitions**

Section 3 of the ESA provides definitions for the purposes of the Act. Following are definitions that may be pertinent to this Fish and Wildlife Annex:

Action describes all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the U.S.

Biological Opinion is a document stating the opinion of the USFWS, as to whether or not a Federal action is likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of its critical habitat.

Critical Habitat is habitat that has been determined to be critical to the conservation of the species. It has legal standing and is protected under the ESA just as the species is. This must be published in the Federal Register and is subject to public review.

Endangered Species means any species which is in danger of extinction throughout all or a significant portion of its range.

Essential Habitat is habitat needed by a species to survive or recover, however, it is not officially designated as "critical habitat". Essential habitat is not a synonym for critical habitat.

Fish or wildlife means any member of the animal kingdom, including without limitation any mammal, fish, bird, amphibian, reptile, mollusk, crustacean, arthropod or other invertebrate, and includes any body part, product, egg, or offspring thereof, or the dead body or parts thereof.

Plant is described as any member of the plant kingdom, including seeds, roots, and other parts.

Proposed species is any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4 of the ESA.

Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct".

Harass is further defined as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering.

Harm is further defined as an act which actually kills or injures wildlife. Such acts may include significant habitat modification or degradation when it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding or sheltering.

Threatened Species is any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

#### **4.2.3 Section 7 - Interagency Cooperation**

Section 7(a)(1) requires Federal agencies to use their authorities to further the conservation of listed species. Section 7(a)(2) prohibits Federal agencies from undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or modify critical habitat. For additional guidance, see the July 2001 Memorandum of Agreement Regarding Oil Spill Planning and Response Activities Under the Federal Water Pollution Control Act's National Oil and Hazardous Substances Pollution Contingency Plan and the Endangered Species Act (<http://uscg.mil/d5/msafety/rrt/rcp/ADMIN/ESAindex.html>).

#### **4.2.4 Section 9 - Prohibited Acts**

This section of the ESA prohibits take (see definitions, Part 1 Section 2.2.2) of listed threatened or endangered species or alteration of critical habitat. An incidental take statement provided for in Section 7 constitutes an exemption from the Section 9 prohibition against take. It applies to the Federal action agency as well as to the permit applicant.

#### **4.2.5 Section 10 - Exceptions**

Section 10 of the ESA provides for exceptions to the Section 9 prohibitions. The USFWS can issue permits to take listed species for scientific purposes, or to enhance the propagation or survival of listed species. The USFWS can also issue permits to take listed species or modify habitat that is incidental to otherwise legal activities, such as that provided through the Section 7 process.

### **5.0 POTENTIAL ENVIRONMENTAL EFFECTS FROM RESPONSE ACTIVITIES**

(NCP sec. 300.210(c)(4)(ii)(C))

Removal actions or countermeasures may have adverse effects on fish and wildlife, their habitats, as well as other sensitive environments. In most situations it will be important that the advantages and disadvantages of various removal or countermeasure techniques be carefully evaluated to ensure the achievement of a net environmental benefit.

The following is a brief description of adverse effects of various actions associated with oil spill cleanup:

<u>Countermeasure/Response</u>	<u>Potential Adverse Effects</u>
1) No removal	a) excess oil would remain in habitat indefinitely; b) residual oil may be naturally weathered, but may be toxic to biota and would cause habitat degradation
2) Protective/sorbent, boom deployment	a) excess oil would remain in habitat indefinitely; b) residual oil may be naturally weathered, but may be toxic to biota and would cause habitat degradation
c) Protective/sorbent, boom deployment + mechanical pumping/skimming	a) potential physical disturbance of habitat/biota; b) resuspension/dispersion of oiled sediments
d) In-situ burning	a) smoke plume air quality concerns; b) riparian habitat may be permanently or temporarily damaged
e) Mechanical pumping/skimming	a) potential physical disturbance of habitat/biota; b) resuspension/dispersion of oiled sediments

Based on the above, the following generally applicable prioritized countermeasure and removal actions may be recommended:

<u>Countermeasure/Response</u>	<u>Potential Adverse Effect(s) Minimized</u>
1) Booms	a) physical disturbance of sensitive areas/habitats b) disturbance, illegal taking of fish and wildlife c) limited wildlife contact with cleaning/ bioremediation agents
2) Mechanical pumping	a) physical disturbance of sensitive areas/habitats b) limited wildlife contact with cleaning/ bioremediation agents
3) Mechanical	a) limited wildlife contact with skimming agents cleaning/ bioremediation
4) In-situ burning	a) physical disturbance of sensitive areas/habitats b) limited wildlife contact with cleaning/bioremediation agents

Movement/transport of oiled debris to the following habitats may pose a substantial threat to fish and wildlife and sensitive environments:

1. Riverine backwaters
2. Wetlands
3. Fish/shellfish spawning/nursery areas
4. Waterfowl/migratory bird foraging/breeding areas

To completely reduce risk to sensitive resources, oiled debris should not be placed in such habitats.

## **6.0 COUNTERMEASURE EVALUATION AND METHODS TO MINIMIZE THE IMPACTS OF RESPONSE ACTIVITIES**

(NCP 300.210 (c)(4)(ii)(B-D))

Section 300.210 (c)(4)(ii)(B-D) of the NCP mandates that the Fish and Wildlife Annex provide a mechanism for expeditious evaluation and appropriate consultations on the effects to fish and wildlife, their habitat, and other sensitive environments from the application of various countermeasures.

Among other considerations, decisions regarding appropriate countermeasures should take into account the relative impact of various response methods on fish and wildlife and sensitive areas. Informed decisions can be made on the deployment of appropriate countermeasures through consulting with the appropriate natural resource agency for sensitive area information and by utilizing the spill response and sensitive area guidance in contingency plans. When deciding on an appropriate response method, the most important considerations are the efficient removal of the oil threat and the effective protection of essential habitats.

Federal law prohibits the use of a chemical to control oil on water, unless specifically authorized by a Federal OSC (FOSC). The FOSC may authorize use of any chemical product if its use is necessary to prevent or substantially reduce a hazard to human life. In situations where a human hazard is not present, the OSC must receive the concurrence of the RRT co-chair, the RRT representative(s) of the affected State(s) and the DOI before authorizing the use of a chemical product to control oil on water. The OSC and/or responsible party must also consult the appropriate Federal and State natural resource trustees and land management agencies in regard to the following concerns:

- (a) physical disturbance of wildlife, their habitat, and other sensitive areas;
- (b) illegal or inadvertent taking of live fish and wildlife or disturbance of carcasses by response personnel;
- (c) the use of cleaning or bioremediation agents in fish and wildlife habitat and environmentally sensitive areas;
- (d) the movement of oiled debris into fish and wildlife habitat and other sensitive environments.

Many of the issues dealing with appropriate response methods will be addressed in detail in Sub-Area Planning. Response sections of Sub-Area Plans may include:

- "Identification of specific areas of concern throughout the subarea, pre-planning for the materials most commonly spilled, and the locations where spills are most likely to occur;

- "Response methods for habitats and sensitive areas using the API/NOAA guidance, Options for Minimizing the Environmental Impacts of Freshwater Spill Response;
- "Pre-approval of appropriate removal actions, including the use of chemicals and dispersants, in accordance with 40 CFR 300.900-920, Subpart J - Use of Dispersants and Other Chemicals; and
- "Locations of access points, staging areas, and boom anchor points."

## **7.0 MONITORING PLANS TO EVALUATE THE EFFECTIVENESS OF REMOVAL ACTIONS OR COUNTERMEASURES**

(NCP 300.210 (c)(4)(ii)(E))

Formal quantitative monitoring by the USFWS will be done as required on a case-by-case basis. The USFWS may rely in large measure on the information developed by State agencies because formal quantitative monitoring on the part of the USFWS may not always be feasible on a routine basis.

Specific monitoring plans to evaluate the effectiveness of different countermeasures or removal actions on wildlife may be developed in the sub-area plans. The effectiveness of the removal action or countermeasure, with regard to wildlife, will be judged on the basis of the welfare of fish and wildlife remaining in the affected area after cleanup. When no new animals are becoming fouled with oil or otherwise being injured by the spill or countermeasures, the cleanup will have been successfully completed.

The assessment of aquatic biota will, in some instances, be left to the State environmental agency or State fish and wildlife agency. Evaluation of spill effects on fish and wildlife, during and after cleanup, will be the responsibility of both the USFWS and the State fish and wildlife agency.

## **8.0 PLANNING FOR THE ACQUISITION AND UTILIZATION OF NECESSARY FISH AND WILDLIFE RESPONSE CAPABILITIES**

(NCP sec. 300.210(c)(4)(ii)(F))

### **8.1 Overview**

The USFWS and State natural resource agency have the responsibility to oversee spill response activities being conducted relative to their effects on fish and wildlife resources. These oversight responsibilities are coordinated with the OSC. In some instances, the Federal and State agencies will participate in activities such as hazing, capture, relocation, and release of wildlife. Those natural resource agencies, however, typically do not conduct treatment of injured trust resources. The USFWS and State natural resource agency(ies) may recommend that the responsible party(ies) or OSC (in the case of an unknown or uncooperative responsible party) contract with an experienced Qualified Wildlife Rehabilitator (QWR). In all cases where a QWR is utilized, the USFWS and State natural resource agencies will maintain an oversight role. Oversight responsibilities include, but are not limited to, the notification of a QWR, the supervision of deterrence, collection, handling, proper veterinary care, provisions for adequate rehabilitation



facilities, assurance that proper cleaning procedures are being followed, wildlife release, review of appropriate permits, review of record keeping practices, and identifying appropriate disposition of carcasses to labs and evidence storage.

A successful rehabilitation effort depends on proper planning, management and equipment, experienced response personnel and trained volunteers. Effective rescue and rehabilitation of contaminated animals requires expert knowledge and experience in the areas of volunteer and staff training, human health hazard recognition, liability issues, disposal of wastewater, and media relations. Wildlife rehabilitation also requires specialized medical expertise and stockpiles of specially designed equipment.

Therefore, consultation and coordination with Federal, Tribal, and State natural resource agencies during both pre-spill planning and spill response is essential to adequately identify, understand and address natural resource concerns.

## **8.2 Permit Requirements**

(NCP sec. 300.210(c)(4)(ii)(G))

Federal and State permits are required to collect, transport, possess, rehabilitate, euthanize, release, or band migratory birds and threatened and endangered species.

### **8.2.1 Federal Permits**

If rescue and rehabilitation efforts are deemed to be necessary and worthwhile, the following Federal permits may apply:

#### **8.2.1.1 Migratory Bird**

*Banding or Marking:* 50 CFR 21.22. A permit is required before any migratory bird is captured for the purpose of banding or marking. Official bands are issued by the U.S. Geological Survey (USGS) Biological Resources Division (BRD) Bird Banding Laboratory (BBL) for this purpose. Any rehabilitation group that participates in the wildlife response and bands birds is required to possess this permit.

*Special Purpose:* On November 26, 2003, the USFWS established a new category of migratory bird permit, namely bird rehabilitation (50 CFR Parts 17, 21 and 22). Rehabilitation permits take the place of the old special use permits for rehabilitation by specifically authorizing migratory bird rehabilitation, including rehabilitation of migratory bird species listed as threatened or endangered under the Endangered Species Act. The new permits, applicable to approximately 2500 bird rehabilitators nationwide (veterinarians are exempt), set specific requirements to take, temporarily possess, or transport any migratory bird for rehabilitation purposes. However, any person who finds a sick, injured, or orphaned migratory bird may, without a permit, take possession of the bird in order to immediately transport it to a permitted rehabilitator.

Prior to entering the location of an oil or hazardous material spill, a permitted rehabilitator must obtain authorization from the FOSC and a designated representative of the USFWS. All activities within the spill location are subject to the authority of the FOSC. The USFWS is responsible for overseeing migratory bird rehabilitation by permitted organizations, such as Tri-State Bird Rescue and Research or International Bird Rescue. Facilities used in migratory bird rehabilitation should conform as closely as possible to facility specifications contained in the USFWS policy *Best Practices for Migratory Bird Care During Oil Spill Response* ([http://www.fws.gov/contaminants/OtherDocuments/best\\_practices.pdf](http://www.fws.gov/contaminants/OtherDocuments/best_practices.pdf)).

#### **8.2.1.2 Eagle Permits**

50 CFR 22. These permits are authorize the taking, possession, or transportation of bald eagles or golden eagles, or their parts, nests, or eggs for scientific or exhibition purposes. They may be required for the possession of such birds during rehabilitation. The USFWS must be notified within 48 hours of acquisition. Directions will be given at that time as to disposition and/or location of continued treatment.

#### **8.2.1.3 Endangered Species**

50 CFR 17.22. Permits are for scientific purposes, enhancement of propagation or survival, or for incidental take. The 30 day comment period for this type of permit may be waived by the USFWS Director during emergency conditions, where the life and health of a specimen is threatened and there is no alternative available. This permit is required by rehabilitators participating in wildlife responses that include endangered species.

#### **8.2.1.4 Authorities for Permits**

The specific Federal laws and regulations that require such permits are as follows:

- a) Migratory Bird Treaty Act of 1918, as amended (16 U.S.C.703 et seq.). This law stipulates that no person shall take, possess, import, export, transport, sell, purchase or barter, any migratory bird, or the parts, nests, or eggs of such bird except as permitted by Federal regulations in 50 CFR. A valid permit, issued by the provisions of 50 CFR Part 21 and 50 CFR Part 13 is required for the collection, salvage, and possession of any migratory bird. Enforcement authority and penalties for violations are provided.
- b) Bald Eagle and Golden Eagle Protection Act (Eagle Act) of 1940, as amended (16 U.S.C. 668 et seq.). Although the USFWS recently delisted the bald eagle as a federally designated threatened species, bald eagles continue to be protected under the Eagle Act and the Migratory Bird Treaty Act by prohibiting killing, selling or otherwise harming them, their nests or eggs. The Eagle Act also protects eagles from disturbance. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. Recommendations contained in the USFWS

National Bald Eagle Management Guidelines will help FOSCs avoid or minimize disturbance to eagles (<http://www.fws.gov/migratorybirds/baldeagle.htm>). In general, potentially disruptive activities should be kept as far away from nest trees as possible during the breeding season. During an oil or chemical spill, eagles should be monitored and kept out of oiled areas.

- c) Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This law makes it unlawful for any person to commit, attempt to commit, solicit another to commit, or cause to be committed, the import or export, taking, possessing, sale or offering for sale any endangered species except as permitted under the terms of a valid permit issued by the USFWS pursuant to 50 CFR 17. Enforcement authority and penalties for violations are provided.

All inquiries regarding Federal Migratory Bird permits and criteria for qualified wildlife rehabilitators are to be directed to the following:

Migratory Bird Permit Office  
U.S. Fish and Wildlife Service  
P.O. Box 45  
Bishop Henry Whipple Federal Building  
1 Federal Drive  
Fort Snelling, MN 55111-0045

(612) 725-3776

In a spill situation, response and rehabilitation permit needs for endangered species will be determined by the USFWS on an emergency case-by-case basis administered under 50 CFR 17.21, 22, 31, and 32.

### **8.2.2 State Permits**

State permits may be obtained through the applicable State agency office listed below:

ILLINOIS	Illinois Department of Natural Resources: 217/782-6384
INDIANA	Indiana Department of Natural Resources: 317/232-8160
MICHIGAN	Michigan Department of Natural Resources: 517/373-9329
MINNESOTA	Minnesota Department of Natural Resources: 612/296-3344
OHIO	Ohio Department of Natural Resources: 614/264-6046
WISCONSIN	Wisconsin Department of Natural Resources: 608/266-2193

### **8.3 Selection of a Qualified Wildlife Rehabilitator (QWR)**

An effective wildlife rehabilitation effort for oil contaminated wildlife requires direction by people with demonstrated field experience in oil spill response. Specific information on obtaining a Federal rehabilitation permit can be obtained through the U.S. Fish and Wildlife Service Region 3 Migratory Bird Office (see above for address and phone number).

### **8.3.1. Recognized Professional Rehabilitators**

Two organizations, Tri-State Bird Rescue and Research, Inc. and International Bird Rescue, have become recognized experts in oiled bird rehabilitation:

Tri-State Bird Rescue and Research, Inc.  
110 Possum Hollow Road  
Newark, Delaware 19711  
Telephone: 302-737-7241  
Fax: 302-737-9562  
24-hour 800-710-0695 or 0696

International Bird Rescue Research Center  
699 Potter Street  
Berkeley, California 94710  
Telephone: 510-841-9086  
Fax: 510-841-9089

Both organizations have extensive experience in bird rescue and rehabilitation and have worked with both government and industry. Other local bird rehabilitation organizations may also have comparable capabilities. Veterinarians, researchers, and biologists from the USFWS, other Federal agencies, State wildlife agencies, and universities may also be able to provide assistance and expertise during wildlife rehabilitation efforts.

### **8.3.2 Volunteers**

While most wildlife rehabilitators and veterinarians cannot make the commitment of time needed to develop the resources to respond to major oil spills, many rehabilitators, veterinarians, and staff and volunteers from environmental organizations may be able to make significant contributions to spill-related wildlife rehabilitation efforts. The QWR should be able to identify each person's or organization's strengths and incorporate them into the rehabilitation effort. The USFWS in U.S. EPA's Region 5 has sponsored a series of apprenticeship workshops for wildlife rehabilitators, veterinarians, and biologists. The workshop participants are in the initial stages of being trained to offer professional assistance (as volunteers or part-time staff) to a QWR during major oil spills.

In major wildlife rehabilitation efforts, there may be two or three shifts per day, with a shift utilizing over 50 volunteer workers. Volunteers must be appropriately trained, precisely scheduled for suitable tasks, and must be supervised at all times.

## **8.4 Health and Safety Concerns in Wildlife Rescue and Rehabilitation**

(NCP sec. 300.210(c)(4)(ii)(H))

Health and safety concerns in wildlife rescue and rehabilitation should be considered in all plans. Please refer to Part I, Section 9 for a more comprehensive narrative.

## **8.5 Identification of Facilities and Equipment Necessary for Deterring, Capturing, Cleaning, Rehabilitating, and Releasing Oiled Wildlife**

(NCP sec. 300.210(c)(4)(ii)(F))

### **8.5.1 Facility Requirements**

Facility needs usually focus on the majority of species affected by a petroleum discharge, which are generally birds. Facility requirements can vary significantly, depending on overall size of response, species and age of wildlife contaminated, the type of contaminant, the season/weather, the location of the spill, and the rehabilitation effort. The facility needed will vary according to the needs of the specific spill situation, and should be determined by a QWR experienced in oil spill response work.

Because facility requirements can vary significantly, a permanent facility is not always advisable, and may actually be an impediment in providing the appropriate facility design for the situation. A suitable facility must have a large open space on the ground floor that can easily be configured and reconfigured to accommodate the changing needs of this unique form of wildlife rehabilitation. All rehabilitation efforts should be accommodated under one roof. Experience has taught that multiple buildings or a tent situation are inefficient and unsuitable. A warehouse, armory, motor pool or convention hall that is accessible to a trained labor force, is within reasonable distance from hotel accommodations, and has adequate parking and exterior grounds could meet this requirement. If a facility is situated in a secure site, i.e., military installation or refinery, accommodations for a fluctuating volunteer work force need to be addressed. The facility may be located up to 3-4 hours from the spill site, provided that on-scene stabilization is administered prior to transport. An oil spill stabilization site can be located at the time of a spill.

It is recommended that a list be assembled of potential real estate within the identified high risk areas, and that the sites be physically reviewed by a representative of a wildlife response group with major spill response experience. Once acceptable facilities have been identified, all costs, availability, and contract information should be reviewed on a yearly basis.

The following list represents minimum facility needs for rehabilitating 100-150 oiled wildlife.

#### **8.5.1.1 Space Requirements**

- Front Desk/Admissions – 300 sq. ft.
- Operations Office – 300 sq. ft.
- Kitchen/Food Storage – 300 sq. ft.
- Husbandry Area (large central room) – 2800 sq. ft.
- Supplies/Storage – 500 sq. ft.
- Wildlife Cleaning Area 1 – 750 sq. ft.
- Medical Treatment/Exam – 300 sq. ft.

Pathology/Lab/Cold Storage – 150 sq. ft.  
Isolation Ward – 300 sq. ft.  
Volunteer/Worker Rest Area – 300 sq. ft.  
Bathrooms, Decontamination, Changing – 200 sq. ft.  
Outside Pool Areas @ one 10' x 15' x 2' pool for 15 birds, plus access and maintenance space  
– 3300 sq. ft.  
Nonhazardous and regulated (medical and oily) trash  
    Indoor 100 sq. ft.  
    Outside 400 sq. ft.  
    Outside area for oily wastewater 300 sq. ft.  
Loading Dock/Parking for 50 (opposite side of building from outside cages) – 5000 sq. ft.  
Total interior sq. ft. – 6300 sq. ft.  
Total exterior sq. ft. – 9000 sq. ft.  
Total sq. ft. – 15,200 sq. ft.

Note: If an existing wildlife rehabilitation center were to be used, it would require the above space in addition to the space allocated for any existing caseload. Animals impacted by an oil spill must be cared for separately from the in-house population.

#### **8.5.1.2 Hot/Cold Water Capacity**

When selecting a wildlife response facility, it is important that the water supply not be contaminated by the oil spill. For preplanning purposes, potential facility locations should be selected in areas of low oil spill probability. All oily waste water must be collected and disposed of in accordance with Federal and municipal regulations, however, the large quantities of rinse, pool, and general use water is permissible for discharge to most municipal systems. It is therefore inadvisable to select a location that relies on a septic system to handle waste because this large volume of water can exceed the design capacity of most septic systems. Ideally there should be external access to cold water supplies for filling pools.

Due to the nature of wildlife rehabilitation, large amounts of water are used in many locations throughout the facility. It is therefore advisable that the facility has floors that can tolerate being wet, with drains at least in the areas dedicated to cleaning activities.

Cold Water Volume (pools and general use) – 23,360 gal./day  
Hot Water Volume (animal cleaning only) – 450 gph @ 104 degrees F.  
(6750 gal/day @ 15 hrs.)  
Water Pressure (animal cleaning only) – 50-60 psi.  
Water Hardness (animal cleaning only) – 2.5-3.5 grains/gallon

A suitable facility in terms of size, availability and location should not be discounted due to hot water and hardness capacities. Provided that there is an adequate cold water supply, mobile hot water and treatment systems can be retrofitted into existing equipment without much difficulty.

#### **8.5.1.3 Electrical/Lighting**

The electrical needs of a wildlife response facility are very similar to those of a conventional manufacturing/industrial operation in so far as there is a need for general and task lighting, with an adequate number of separately circuited outlets throughout the space capable of providing 20 amp protection. Because of potential risk of electrical shock in wet areas, the addition of GFI circuit breakers in those areas is desirable.

In addition to lighting and the HVAC system, electric power will be used for freezers, refrigerators, heat lamps, pet dryers, office and medical equipment, pool pumps and filters, power tools, etc.

200 amp 120/240 volt 3-wire single phase service with minimum of ten (10) 20 amp circuits in addition to the lighting and HVAC needs, with the ability to expand.

#### **8.5.1.4 HVAC Systems**

The three main concerns regarding air quality are:

- 1) Eliminating the thermal stress to debilitated animals by providing a stable, draft free inside air temperature between 70-80 degrees F.;
- 2) Minimizing human exposure to petroleum volatiles; and
- 3) Minimizing animal exposure to pathogenic organisms (bacterial and fungal).

Air within a wildlife response facility should be exchanged 6 times per hour within office areas, 10 times per hour within large open spaces involving animal care, and 20 times per hour within critical care and/or surgical areas.

Typical HVAC systems used in industrial space are often forced air or closed recirculating systems which by themselves will not meet the above requirements. These systems will need to be augmented with portable filtration (HEPA) and air exchange units. The design of these systems should be determined by the wildlife response group once the facility has been selected, and the particulars of the animal caseload is known.

Air quality in systems that employ return air filtration can be enhanced through the replacement of the existing filters with an electrostatic type. This will not, however, preclude the need for HEPA type filtration and regular air exchanges as outlined above.

#### **8.5.1.5 Communications**

A minimum of three (3) telephone lines (public, private, fax/modem) are necessary with the ability to add more if needed.

### **8.5.2 Equipment, Training and Personnel Needed For Field Retrieval**

### **8.5.2.1 Equipment**

- Boats
- Safety protection/floatation gear
- Personal protective clothing
- Different types of netting
- Transport containers (boxes, ventilated)
- Transport vehicles (to and from spill site)
- Adequate communication (cellular phones, etc.)
- If stabilization is necessary at spill site (prior to transportation to rehabilitation facility), need rehabilitators to have necessary training and equipment available for stabilization

### **8.5.2.2 Training**

- OSHA training
- Coast Guard boat training
- QWR wildlife rescue and rehabilitation training
- QWR wildlife handling training

### **8.5.2.3 Personnel**

- Natural resources trust agencies personnel
- QWR trained field retrieval personnel
- QWR trained rehabilitation personnel
- Enforcement personnel
- Boat handlers
- Rehabilitators trained by QWR (both aspects of rehabilitation and handling)
- Personnel to handle 1-800 # calls for potential oiled wildlife sightings

If wildlife retrieval must begin prior to the QWR arrival, there is a need to specify where the wildlife would be taken for rehabilitation and who would be handling them. Please refer to Part I, Section 9 for further narrative.

## **8.6 Drills and Exercises**

(NCP sec. 300.212)

The State natural resource agency, the USFWS, and the QWR should be incorporated into appropriate drills and/or exercises involving oil spill response situations which may potentially impact wildlife. By including these groups as part of the exercise, the OSC will fully understand and appreciate the vital role that wildlife rehabilitation plays in the overall success of the response strategy.

Since the majority of this work occurs during the first 24-36 hours of a spill incident, early involvement of the QWR in drills and exercises is imperative. The QWR should provide a daily end-of-day report to the incident commander, outlining all communication and response efforts



made by the QWR. This information should be incorporated into the daily drill documents. The QWR participating in the drills/exercises should be included in the final critique of the drill/exercise to help ensure a complete and accurate assessment is made regarding the ability of all participants to respond to wildlife at risk.

## **9.0 SAFETY AND TRAINING**

(NCP sec. 300.210(c)(4)(ii)(H))

### **9.1 Requirements for OSHA and U.S. EPA training**

The annex should identify and secure the means of providing, if needed, the minimum required Occupational Safety and Health Administration (OSHA) or U.S. EPA training for volunteers, including those who assist with injured wildlife. Training should precede actual work in hazardous environments.

Two OSHA regulations address most of the occupational health and safety issues encountered during wildlife rescue and rehabilitation:

- 1) The OSHA standard for Hazardous Waste Operations and Emergency Response (HAZWOPER) (29 CFR 1910.120) applies to organizations or individuals involved directly in retrieval or clean-up efforts. In addition, each State may have its own worker safety requirements. Coordination with the appropriate State agency should be conducted to ensure those requirements are also met.
- 2) The Hazard Communication Standard (29 CFR 1910.1200), also known as "Right-to-Know Law" or "HazCom", requires that all chemicals in the work place be fully evaluated for possible physical or health hazards and that all information relating to these hazards be made available to all workers. HazCom applies to rehabilitation organizations because petroleum is considered to be a hazard to human health.

Appropriate available training offered by U.S. EPA (through their Environmental Response Training Program in Cincinnati, Ohio) includes the following:

- a) Hazardous Materials Incident Response Operations (165.5) 40hrs. (This course meets OSHA's requirement (29 CFR 1910.120) for a minimum of 40 hours of classroom safety training for hazardous waste site workers.)
- b) Emergency Response to Hazardous Materials Incidents (165.15) 40hrs. (This course meets and exceeds OSHA's requirement (29 CFR 1910.120 paragraph q) for a minimum of 24 hours of training for a hazardous materials technician.)

Rehabilitation organizations are legally required to educate and protect all employees, including volunteers, in accordance with OSHA standards. Individuals working with oiled animals must receive information concerning all potential hazards associated with the handling of these

animals. The following requirements should be applied to wildlife rescue and rehabilitation personnel, including volunteers:

- a) Wildlife rescue and rehabilitation management personnel - This is the core team of rehabilitators who will direct operations. These people must have 24-hours of classroom training in hazardous waste operations and emergency response.
- b) Rehabilitation facility volunteers - These volunteers work under the direction of the management team. Persons in this category must receive four hours of training at the HAZWOPER Awareness level, or have sufficient equivalent training or proven experience in specific competencies, before they can begin work. Additional training would be necessary before volunteers would be allowed on scene.
- c) Retrieval volunteers - These volunteers work under the direction of the search and rescue management team and are allowed on-scene, but not in the hot zone. Volunteers working in this category must receive between four and eight hours of HAZWOPER training (Awareness level) and site safety training before they can begin work.

## **9.2 Wildlife Response Training**

A contracted private source may be responsible for training volunteers on site. Additionally, USFWS may be interested in providing periodic training in preparation for spills.

### **9.2.1 Training Topics**

1. General overview of the external and internal effects of oil on wildlife
2. Current treatment protocols
3. Facility needs
4. Human health and safety

### **9.2.2 Training Goals**

- 1) Clarify the duties and the responsibilities of the spiller, cleanup contractor, State and Federal agencies, volunteers and the general public
- 2) Improve the treatment and the release rates for affected wildlife
- 3) Enhance speed and quality of a response involving wildlife following an oil spill event
- 4) Reduce wildlife response costs by making efforts more cost-effective
- 5) Help to insure the safety of all those working in a wildlife response

## **9.3 Wildlife Risks**

Specific human health and safety concerns in handling wildlife will vary with the species of animal involved, but the following safeguards apply universally:

- 1) Wearing gloves while cleaning animal cages and food bowls, washing hands with a disinfectant soap, wearing gloves and surgical mask while performing necropsies (post-

mortem examinations), and providing for adequate room ventilation will help reduce the risk of contracting wildlife transmitted diseases.

- 2) Protective eyewear should be worn when working with birds having long, pointed beaks, and towels (for entire body control) or gloves should be used to restrain feet of all birds.
- 3) All individuals who will be handling oiled wildlife must be trained in proper capture and restraint techniques. The head (beak or teeth) and feet (talons or claws) of most animals can cause serious injuries if the handler has received improper or incomplete training.
- 4) Animals should be held at or below waist-height, away from human faces. At least two people should be present for any prolonged handling (examinations, washing, etc.). Aggressive mammals should be controlled with nets or snare poles, and should be sedated for any prolonged handling.
- 5) Any worker handling wildlife should have a current tetanus shot, and only individuals who have received prophylactic rabies vaccinations should handle wild mammals.

Diseases which can be transmitted from animals to humans pose a potential risk to oil/hazmat spill responders during the rescue, rehabilitation and release of wildlife. Although this list may not be inclusive, the following diseases are of particular concern:

### **9.3.1 Birds**

- Aspergillosis--a fungal disease causing respiratory problems in humans.
- Chlamydiosis--a bacterial disease causing flu-like symptoms in people. Potentially fatal.
- Salmonellosis--a bacterial disease causing diarrhea in humans.
- Avian Tuberculosis--a bacterial disease causing skin lesions and occasionally respiratory problems in humans.
- Histoplasmosis--a fungal disease causing pneumonia in humans.

### **9.3.2 Mammals**

- Rabies--a viral disease causing central nervous system (CNS) disorder in humans. Fatal if untreated.
- Giardia--a protozoal disease causing diarrhea.
- Baylisascaris--a parasite causing CNS disorder & death in humans.
- Campylobacteriosis--a bacteria causing diarrhea in humans.

- Cryptosporidiosis--a protozoal disease causing diarrhea in humans.
- Toxoplasmosis--a protozoal disease which may cause CNS disorder in humans.

If responders are likely to come into contact with captured wildlife during a spill event, the site safety officer (or a contracted veterinarian) should be consulted to determine appropriate prevention measures. Volunteers should contact medical professionals if they become ill during or after potential exposure to wildlife diseases.

Medical professionals may also wish to consult the National Biological Discipline, National Wildlife Health Center in Madison, Wisconsin (<http://www.nwhc.usgs.gov/>), NWHCweb@usgs.gov) at (608) 270-2400 for wildlife disease diagnostic assistance.

#### **9.4 Safety Equipment**

Appropriate equipment is important for safe spill response activities. Necessary equipment will vary according to the particular situation, and may depend on such circumstances as the size of the spill and types of resources affected. For individuals not involved directly in on-site (hot zone) retrieval or cleanup efforts (exposed only to Level D hazards), personal protective equipment may include the following:

1. coveralls
2. gloves
3. boots/shoes, leather or chemical resistant, steel shank and toe
4. safety glasses or chemical splash goggles
5. hard hat with face shield
6. escape mask

Where sampling includes aquatic sites, personal protective equipment should include:

1. knee, hip, or chest waders in good condition
2. long rubber gloves

Life jackets are required for work in boats or over water. Safety equipment may also include specially designed respiratory equipment and/or ear protection.

#### **9.5 Product Risks**

Petroleum products in, on, and around wildlife may present a hazard to human health and safety. Various components in certain petroleum products can damage skin, conjunctivae of eyes, lungs, or the gastrointestinal tract (if inadvertently ingested). Chronic and/or prolonged exposure may cause damage to the central nervous system and some cancers, such as skin cancer and leukemia. Fetal defects have been documented in laboratory animals. Individual risk factors such as pregnancy or history of liver disease should be taken into consideration in allowing volunteers and staff to work in contaminated areas. Personal hygiene must be stressed during the

decontamination process. Protective measures should always be taken to avoid and/or minimize oil exposure throughout spill response activities.

## **9.6 Watercraft Safety**

Airboats or boats propelled by outboard motors are effective for hazing waterbirds and for searching for sick or injured wildlife. Small, noisy, shallow-draft aluminum boats are particularly effective for hazing, and can be used as platforms for shell crackers during the day and for propane exploders or bright lights at night. Although relatively ineffective for herding diving birds, boats may be used for herding young or molting waterfowl that are incapable of flight.

Response personnel will ensure that all watercraft operations are conducted in accordance with local laws and regulations of the U.S. Coast Guard and OSHA, as well as any applicable internal agency regulations.

Response leader responsibilities should include the following:

- 1) Ensure that all workers who operate or work in watercraft have received first aid instruction in artificial respiration.
- 2) Ensure that personnel who operate watercraft have completed a recognized boating or water safety course.

Each watercraft will be required to have personal protective equipment (personal flotation devices), firefighting equipment, and other safety equipment (distress signaling devices, bailing devices, and emergency position indicating radiobeacons, running lights, radio, fog horns, navigational aids, anchor and anchor line), and undergo periodic inspections as required by USCG and OSHA regulations.

## **9.7 Aircraft Safety**

Aircraft, especially helicopters, are effective in hazing migratory birds from large areas because of the combination of loud noise and rapid approach from above. Helicopters may also be used to herd flightless birds (young and molting birds). Aircraft can also be utilized for reconnaissance and transportation of personnel, equipment, and accessing injured wildlife.

Aircraft are considered to be especially useful during the early stages of cleanup and hazing operations. They are more effective if used in combination with other devices such as shell crackers and propane exploders. Because of their maneuverability and noise, helicopters are more effective than fixed-wing aircraft.

Established aviation safety programs and aircraft accident prevention programs within each organization will be complied with at sites at which such response measures are anticipated.

## **10.0 COMPATIBILITY OF NON-FEDERAL RESPONSE PLANS**

(NCP Sec. 300.210(c)(4)(ii)(I))

Section 300.210(c)(4)(ii)(I) of the NCP mandates that the Fish and Wildlife Annex to the ACP define the requirements for evaluating compatibility between this Annex and non-Federal response plans on issues affecting fish and wildlife, their habitat, and sensitive environments. Facility owners or operators must determine the maximum distance at which a worst case oil spill from their facility could cause injury to fish and wildlife and sensitive environments and develop a plan for mitigating that discharge's potential adverse effects. Facility plans must be consistent with the requirements of the NCP, the National Response Framework (NRF), RCP and this ACP Annex. Pipeline plans in the Region will be reviewed and approved by DOT.

Depending on the location of the spill, it may also be appropriate for responders to consult the Upper Mississippi River Spill Response Plan and Resource Manual (<http://www.umrba.org/hazspills/umrplan.pdf>). This document is consistent with the Regional Contingency Plans and Area Contingency Plans of Regions V and VII and provides response information tailored to the Upper Mississippi River and the surrounding basin.

## **11.0 NATURAL RESOURCE DAMAGE ASSESSMENT (NRDA)**

At the same time response efforts to contain and remove oil and undertake wildlife rescue and rehabilitation are occurring, natural resource trustees may pursue NRDA activities. These activities constitute a preliminary assessment, or preassessment, of natural resource injuries. While preassessment activities are generally different from removal/response activities and in most instances are conducted simultaneously. The removal/response activities are controlled by the OSC, while the components of the damage assessment process are directed by the trustees. There is a procedural linkage of the funding mechanisms (both are funded by the Oil Spill Liability Trust Fund) and it becomes necessary for natural resource managers to distinguish between the removal and preassessment activities.

NRDA regulations, authorized by OPA and other Federal laws, presume trustees will seek economic damages from responsible parties for injuries to natural resources from oil discharges. Trustees include Federal landowners, Federal natural resource managers, States, Indian tribes, and foreign governments. Damages collected must be used to restore, replace, or acquire natural resources equivalent to injured natural resources and to reimburse assessment costs.

### **11.1 Authority**

NRDA is authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), the Clean Water Act (CWA), and the OPA. To facilitate compliance with OPA, the Department of Commerce (DOC) promulgated 15 CFR Part 990 - Natural Resource Damage Assessment Regulations for discharges of oil. The final rule for these regulations was published in the Federal Register on January 5, 1996 with February 5, 1996 as the effective date of the final rule.

### **11.2 Natural Resource Trustees - NRDA Roles and Responsibilities**

Section 1006(b) of OPA provides for the designation of Federal, State, Indian Tribe, and foreign natural resource trustees to determine if injury to, destruction of, loss of, or loss of use of natural resources and services has resulted from an incident, to assess damages for those injuries, to present a claim for damages (including the reasonable costs of assessing these damages), to recover damages, and to develop and implement a plan for the restoration, replacement, or acquisition of the equivalent of the injured natural resources and services under their trusteeship. The DOI is the Federal trustee for migratory birds, certain anadromous fish, endangered species, and DOI-managed lands such as National Parks and Recreation Areas and Wildlife Refuges. The DOI Office of Environmental Policy and Compliance (OEPC) is the initial contact for notification and for overall coordination of trustee activities. The USFWS, a bureau of DOI and the program manager for migratory birds, endangered species, anadromous fish, and lands in the National Wildlife Refuge System, will likely be among those involved for DOI in spill incidents because of their responsibility for these resources. In instances where other Federal agency lands or resources are involved, those agencies (e.g. Department of Defense, U.S. Department of Agriculture, National Oceanic and Atmospheric Administration [NOAA]) may serve as co-trustees with DOI. At the time of a spill, the trustees will agree upon one agency to act as Federal lead administrative trustee and will convene a trustee group in cooperation with State, Indian, and foreign trustees, as appropriate, to ensure the best possible coordination of natural resource trustee activities such as data gathering, damage assessment, and negotiations with the responsible parties.

### **11.3 Process**

The NRDA process in the final rule includes 3 phases as outlined below:

- 1) preassessment
- 2) restoration planning
- 3) restoration implementation.

#### **11.3.1 Preassessment Phase**

When notified of an incident involving oil, trustees must first determine threshold criteria that provide their authority to begin an NRDA, such as applicability of OPA and risks to natural resources under their trusteeship. Based on early available information, trustees make a preliminary determination whether natural resources or services under their authorities have been, or are likely to be, injured. Through coordination with response agencies, trustees next determine whether response actions will eliminate the threat of ongoing and future injuries. If injuries have occurred and/or are expected to continue, and feasible restoration alternatives exist to address such injuries, trustees may proceed with the assessment.

Preassessment phase activities will likely be conducted simultaneously with removal/response activities. The intent of the preassessment phase activities is generally to acquire data and materials that are likely to be lost if not collected during or immediately after a spill has occurred. Such field sampling and data collection is generally limited to:

- 1) Samples necessary to preserve perishable materials likely to have been affected or to contain evidence of the oil. These samples will generally consist of biological material that is either dead or which has been visibly affected by the oil.
- 2) Samples of other materials which exhibit ephemeral conditions, such as surface water, sediments, soil, or the oil itself, which are necessary for identification of released product and measurement of concentrations. If not collected immediately, such information could otherwise be lost due to product dilution, movement, decomposition, or leaching.
- 3) Counts of dead or visibly injured organisms which, if delayed, may not be possible due to factors such as decomposition, scavenging, sinking, or movement from the spill site by currents.

Other types of activities that may be involved in assessment initiation include release detection and notification, trustee identification and notification, site characterization, and identification of pathways, exposed areas, and potentially affected resources. In very specific circumstances, a natural resource trustee may also undertake emergency restoration efforts to prevent or reduce the immediate migration of oil onto or into a trust resource. Emergency restoration is only undertaken if the responsible party or U.S. EPA cannot or does not conduct response actions within the time frame that natural resource trustees deem necessary to protect trust resources.

Because certain NRDA activities (e.g. collection of water and sediment samples) may be identical to those conducted by others as part of the response, all sampling and field work conducted by the natural resource trustees should be coordinated with the lead response agency so as to minimize duplication of sampling and data collection efforts. Work performed for response purposes is reimbursable by the OSLTF under response costs. Activities performed that are not response-related may be reimbursable by the OSLTF under assessment initiation costs.

### **11.3.2 Restoration Planning Phase**

The purpose of the Restoration Planning Phase is to evaluate potential injuries to natural resources and services, and to use that information to determine the need for and scale of restoration activities. The Restoration Planning Phase provides the link between injury and restoration. The Restoration Planning Phase has two basic components; injury assessment and restoration selection.

#### **11.3.2.1 Injury Assessment**

The purpose of injury assessment is to determine the nature and extent of injuries to natural resources and services, thus providing a technical basis for evaluating the need for, type of, and scale of restoration actions. Under the final rule, injury is defined as an observable or measurable adverse change in a natural resource or impairment of a natural resource service. Trustees must determine that there is: 1) exposure, a pathway, and an adverse change to a natural resource or service as a result of an actual discharge; or 2) an injury to a natural resource service as a result of response actions or a substantial threat of a discharge. Trustees must also quantify the degree and spatial and temporal extent of injuries. Injuries are



quantified by comparing the condition of the injured natural resources or services to baseline, where necessary.

### **11.3.2.2 Restoration Selection**

Once injury assessment is complete, trustees must develop a plan for restoring the injured natural resources and services. Acceptable restoration actions include any of the actions authorized under OPA (restoration, rehabilitation, replacement, or acquisition of the equivalent), or some combination of those actions.

### **11.3.3 Restoration Implementation Phase**

The Final Restoration Plan is presented to responsible parties to either implement or to fund the trustees' costs of implementing the plan, thus providing the opportunity for settlement of damages claims without litigation. Should responsible parties decline to settle a claim, OPA authorizes the trustees to bring a civil action for damages in Federal court or seek an appropriation from the OSLTF for such damages.

## **PART II. EMERGENCY SPILL RESPONSE GUIDANCE**

### **1.0 ROLES AND RESPONSIBILITIES OF NATURAL RESOURCE TRUSTEES**

(NCP sec. 300.210(c)(4)(I) and 300.615)

#### **1.1 Overview**

When a spill occurs, impacts to the ecosystem are usually unavoidable. However, such impacts can be minimized through proper planning and coordination with State and Federal natural resource trustees and managers both before and during a spill. Consultation and coordination with natural resource managers during the pre-spill planning phase aids in identifying and understanding potential natural resource concerns and issues as a result of spills in general. Consultation and coordination during a spill is also essential to ensure that site-specific resource concerns are addressed.

#### **1.2 Spill Response**

The DOI has statutory responsibilities for protecting migratory birds and Federally-listed threatened and endangered species. In addition, DOI shares trustee responsibilities with the Department of Commerce for anadromous fish. These DOI responsibilities at the field level have been delegated to the USFWS. During a spill event, the USFWS will normally serve as the lead agency for trustee response, coordinating with other trustees and providing oversight for a qualified wildlife rehabilitator (QWR).

If wildlife other than migratory birds, Federally-listed threatened or endangered species, or anadromous fish are found injured, the responsible trustee agency would typically be the State wildlife agency.

During a spill response, natural resource trustees and managers can provide the OSC with technical assistance and expertise on potential effects of oil on fish and wildlife and their habitats (for Notification numbers, see Part II, Section 3). They are frequently familiar with the habitat in the path of the spill and can provide recommendations concerning the best locations for equipment staging, access points, or boom anchors. They can recommend specific habitats where protective actions should be taken and provide advice on specific response measures. They can assist in the development of a monitoring plan and subsequent collection of data. Finally, the USFWS and State natural resource agencies will direct or provide oversight for the protection, rescue, and rehabilitation of wildlife.

When a spill occurs, natural resource trustees or managers will provide advice on the measures necessary to minimize or prevent the exposure of wildlife to oil, as well as the priority and timing of such measures. Protective measures may include one or more of the following:

- preventing the oil from reaching areas where migratory birds and other wildlife are located by either containing or recovering the oil
- deterring birds or other wildlife from entering areas affected by oil by using wildlife hazing devices or other methods.

If exposure of birds and other wildlife to oil cannot be prevented, an immediate decision must be made regarding whether to rescue and rehabilitate oiled birds and other wildlife. The decision must be made in consultation with the applicable Federal (USFWS) and State natural resource management agencies, since State and Federal permits are required by law (please refer to Part I, Section 8). Rehabilitation services for contaminated wildlife can be contracted for by the Responsible Party, the OSC, or Federal and State designated trustees. However, full authority regarding protection, rescue and rehabilitation of wildlife and fish remains with the trustees.

Following a spill, natural resource trustees may have the additional responsibility of assessing injury to the environment as a result of the spill. Natural Resource Damage Assessment (NRDA) is the process (refer to Part I, Section 11) by which trustees collect, compile, and evaluate data, information and statistics to determine the extent of injury to natural resources. This information is used to assess damages (the dollar amount necessary to restore injured trust resources and compensate for lost use as a result of injury) and to seek recovery of those damages from the responsible party. The initiation of a NRDA is typically begun while response activities are still being carried out.

## **1.2.1 Specific Responsibilities of Federal Natural Resource Trustees During a Spill Response**

### **1.2.1.1 U.S. Department of the Interior, U.S. Fish and Wildlife Service**

The USFWS is the lead agency for the DOI in the management of migratory birds (co-trustee with State natural resource agencies), Federally-listed endangered and threatened species, and USFWS lands (such as National Wildlife Refuges, Waterfowl Production Areas, and fish

hatcheries) within this ACP planning area. During a spill response, USFWS personnel (biologists, law enforcement officers, refuge and fisheries managers) have the following responsibilities:

- a) ensure notification of all necessary USFWS personnel, and establish a response protocol delineating roles of each USFWS office. Coordination protocol with the State natural resource agency and other trustees will also be established.
- b) provide the OSC with specific fish and wildlife habitat information for USFWS lands. USFWS will also provide recommendations for preventing or minimizing spill impacts to USFWS lands, as well as consult on the best locations for response staging areas and access points.
- c) provide the OSC with critical habitat information for Federally-listed threatened and endangered species. USFWS will also provide recommendations for preventing or minimizing spill impacts to these species, as well as advise on the best locations for response staging areas and access points in the vicinity of endangered species critical habitat.
- d) provide the OSC with fish and wildlife habitat information for locations other than Federal lands within the area potentially affected by the spill (in coordination with the State natural resource agencies and other trustees).
- e) provide the OSC with technical assistance and expertise on potential effects of oil on fish and wildlife and their habitats or on other sensitive environments that can be found in the potentially impacted area.
- f) provide the OSC with assistance in coordination of wildlife rescue and rehabilitation efforts (in conjunction with the State natural resource agency and other trustees). NOTE: It is critical that properly licensed and qualified rehabilitators be contacted as soon as it is determined that such services are necessary. The USFWS and State natural resource agencies have joint responsibility for overseeing any activity involving the handling of wildlife. Because such activities may impinge upon the Natural Resource Damage Assessment (NRDA) responsibilities of the trustees, any decision to rescue and rehabilitate oiled and injured wildlife during a spill response must be made in coordination with the USFWS and State natural resource agency.
- g) initiate a Natural Resource Damage Assessment (NRDA) (in conjunction with other natural resource trustee agencies), if applicable. Such activity usually involves acquiring data both during and after a spill event to document: (1) evidence of the oil in water, sediments, soil, and organisms; (2) effects on fish, wildlife, and/or their habitat; (3) exposure pathways, and; (4) the potential need to undertake emergency restoration efforts to prevent or reduce the immediate migration of oil onto or into a trust resource. Because activities associated with NRDA initiation may be identical to those conducted as part of the response, all sampling and field work conducted by the natural resource trustees should be coordinated with the lead response agency.

### **1.2.1.2 Department of the Interior, National Park Service**

The National Park Service (NPS) may provide access, advice and participation in emergency response activities affecting any of the 22 National Park System lands within Region 5, including National Parks, Lakeshores, Monuments, Scenic Trails, Recreation Areas, Memorials, Historic Sites and Canals. It may also offer assistance for spill incident responses that may impact units of the National Wild and Scenic Rivers System and properties on or eligible to be listed on the National Register of Historic Places. The NPS Midwest Regional Office is located in Omaha, Nebraska.

### **1.2.1.3 Department of the Interior, Bureau of Indian Affairs**

The Bureau of Indian Affairs (BIA) may assist in coordination of emergency response activities affecting Indian lands, and in identifying Indian tribal government Officials. The BIA may also assist in obtaining access to Indian land areas as needed for response action, and may also coordinate with the incident Public Information Office Director to ensure that pertinent information is made available to tribal authorities on a timely basis. Currently, there are 35 federally recognized tribes in Region 5, all located in Minnesota, Wisconsin and Michigan. The BIA's Midwest Regional Office is located in Fort Snelling, Minnesota.

### **1.2.1.4 Department of Commerce, NOAA**

This section provides NOAA's element of the Fish and Wildlife and Sensitive Environments Annex to the U.S. EPA Region 5 RCP/ACP

The NCP requires a Fish and Wildlife and Sensitive Environments Annex to the NCP, RCPs, and ACPs. The Annex is intended to provide for coordinated, immediate, and effective protection, rescue, and rehabilitation of, and minimization of risk of injury to, fish and wildlife resources and habitat.

Following is a summary of how NOAA contributes to these goals and objectives:

- 1) NOAA and the American Petroleum Institute (API) developed the manual Options for Minimizing Environmental Impacts of Freshwater Spill Response (also known as the Freshwater Manual). It provides a framework for identification of appropriate countermeasures in the Great Lakes region. It contains information to assist contingency planners and field responders with selecting appropriate protection, response, and cleanup techniques, both before and after an oil spill. The guide provides information on 29 response methods and classifies their relative environmental impact on 12 freshwater environments and habitats in combination with 4 oil types. Spill topics of special concern in freshwater settings are also discussed including: public health, conditions under which oil might sink in freshwater, and oil behavior in ice conditions. The manual is available through the NOAA HAZMAT Scientific Support Coordinator (SSC) assigned to U.S. Coast Guard District 9 in Cleveland, Ohio.

- 2) NOAA developed Environmental Sensitivity Index (ESI) Maps for the Great Lakes. The ESI maps include information for three main components: shoreline habitats; sensitive biological resources; and human-use resources. Shoreline habitats are ranked from 1 to 10 (10 being most sensitive) based on their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. Four major categories of biological resources were considered during the production of the ESI maps; birds, fish, plants, and mammals. The human-use features include: airports, boat ramps, Coast Guard units, marinas, national parks, State parks, water intakes, and wildlife areas. A complete set of ESI maps for the Great Lakes is maintained by the NOAA HAZMAT SSC, USCG District 9 Marine Safety Division, USCG District 9 Civil Engineering Unit, and U.S. EPA Region 5 Emergency Response Branch. USCG District 9 Marine Safety Offices have ESI Maps for their area of responsibility.
- 3) NOAA maintains an extensive library and database of resources at risk in the Great Lakes and remainder of the U.S. This information is available through the NOAA SSC for contingency planning and during incident response.
- 4) NOAA and U.S. EPA Region 4 developed a strategy for meeting OPA 90 mandates for sensitive area mapping in oil spill contingency plans. The strategy compliments the ESI system noted above. The Reach Sensitivity Index (RSI) provides a sensitivity index classification system for small rivers and streams. This RSI also compliments the ongoing U.S. EPA Region 5 mapping of the Mississippi River. Reference NOAA/HAZMAT Report 96-11, A strategy for Mapping Sensitive Resource of Rivers and Streams in U.S. EPA Region 4, July 1996.
- 5) In the spirit of the intent of the Fish and Wildlife and Sensitive Environments Annex, the NOAA SSC has assisted USCG Sector Offices with the development of ACP appendices including: "Sensitive Areas", "Response and Protection Priorities and Strategies", and "Countermeasures and Removal Techniques".

### **1.2.2 Specific Responsibilities of State Natural Resource Trustees During a Spill Response**

The State natural resource agencies are trustees (or co-trustees depending on the State) for the natural resources of the State and co-trustees with the USFWS concerning the management of migratory birds and some Federally threatened and endangered species. The State natural resource trustee has management authority over all State lands, parks, timber, waters, minerals, and wildlife. This includes the protection, preservation, and propagation of fish and wildlife resources of the State. In response to a spill event, State natural resource agency personnel (biologists, conservation officers, managers) have the following responsibilities:

- a) notify other appropriate State natural resource agency personnel and establish a response protocol describing the role of responders;
- b) coordinate efforts with other participating natural resource trustees, such as the USFWS.

- c) provide the OSC with specific fish and wildlife habitat information within the area concerning all lakes, streams, wetlands, and rivers. The State agency will also consult with the responders as to the best locations for staging and recovery areas as well as access points.
- d) provide the OSC with critical habitat information for State-listed threatened and endangered species as well as information on sensitive natural communities and special concern species found in the area.
- e) provide the OSC with technical assistance and expertise on potential effects of oil and hazardous substances on fish and wildlife and their habitats.
- f) provide the OSC with assistance for coordination of wildlife rescue and rehabilitation efforts in cooperation with the USFWS.
- g) assess damages to natural resources during (as circumstances allow) and after a spill. Data acquired would be used to determine the extent of injury to natural resources, to develop restoration or replacement strategies, and to develop and submit a claim for damages to the responsible party(ies).

## **2.0 IDENTIFICATION AND PRIORITIZATION OF NATURAL RESOURCES REQUIRING PROTECTION**

(NCP sec. 300.210(c)(4)(ii)(A)&(B))

Sensitive environments and species are identified in order to provide for coordinated, immediate, and effective protection of fish, wildlife, and their habitats that may be affected by a discharge of oil or hazardous material. Identification of sensitive natural resources allows priority to be placed on protection of these resources prior to a discharge (through pre-spill planning of appropriate countermeasures and pre-staging of response equipment), as well as during a spill event (by focusing attention and response resources on the most critical areas).

### **2.1 Identification**

Because natural systems are dynamic, the best available information on the identification and distribution of sensitive resources will be obtained through the Federal and State natural resource biologists/managers. The experience of these professionals, as well as their ability to provide the most up-to-date information, cannot effectively be utilized without the event-specific conditions of a discharge, such as the location, season, weather, type and amount of material involved. Because of the importance of coordinating with natural resource biologists and managers at the time of a spill, a list of Federal and State agency personnel most familiar with the resources has been assembled (see Part II, Section 3.). Once alerted, these personnel will provide event-specific technical assistance to the Federal or State OSC.

Clearly, there is a need for prior identification of sensitive natural resources to guide those responding to discharges during initial phases of response (i.e., before the consensus opinions of

natural resource managers can be obtained). Therefore, a list of high priority natural resources is provided below (see Section 2.3: Categories for Resource Protection Prioritization).

## **2.2 Prioritization**

Because of the diversity and extent of sensitive natural resources in the ACP region, it is important to reach a consensus, to the extent possible, on the highest resource priorities in order to provide for time-sensitive, coordinated, and effective protection, rescue, and restoration.

Although prioritization is difficult, several criteria that may be used in making this determination have been identified:

- relative abundance or scarcity of a particular resource
- relative diversity and abundance of resources at a particular site
- fecundity of biological resources
- vulnerability to spills
- sensitivity to the product discharged
- amenability to restoration or remediation
- protection by Federal and State laws
- economic importance

## **2.3 Categories for Resource Protection Prioritization**

In general, natural resources are most at risk from oil spills when:

- 1) large numbers of individuals are concentrated in a relatively small area, such as bays where rafts of waterfowl concentrate during migration and overwintering;
- 2) areas important to specific life stages or migration patterns, such as foraging and overwintering sites, are impacted by oil;
- 3) the species are threatened or endangered;
- 4) early life stages of birds and anadromous fish are present in somewhat restricted areas;
- 5) specific areas are known to be vital sources for propagation, such as shellfish beds;
- 6) a significant percentage of the population is likely to be exposed to oil; and
- 7) wildlife come ashore for resting, molting, or birthing.

The above factors lead to categories of natural resources that should be considered of high priority for protection and remediation:

### **2.2.1 Priority 1**

- Federally listed or proposed Endangered and Threatened Species and their Designated Critical Habitat (DOI/FWS/NPS)

## **2.2.2 Priority 2**

### **2.2.2.1 Migratory birds (waterfowl, wading birds, shorebirds, raptors, diving birds, songbirds) and their habitats (DOI/FWS)**

- Migratory Bird Nesting Sites (DOI/FWS)
- Colonial Waterbird Nesting Sites (DOI/FWS)
- Migratory Concentration Areas for Migratory Birds (DOI/FWS)
- Seasonal Concentration Areas for Migratory Birds (DOI/FWS)

### **2.2.2.2 Anadromous Fish Spawning Areas (DOI/FWS/NOAA)**

### **2.2.2.3 National and State Protected Areas:**

- National Wildlife Refuges and Waterfowl Production Areas (DOI/FWS)
- National Wilderness Areas (DOI/FWS/NPS; USDA/FS)
- National Parks (DOI/NPS)
- National Preserves (DOI/NPS)
- National Forests (USDA/FS)
- National Fish Hatcheries (DOI/FWS; NOAA/NMFS)
- Clean Lakes Program Critical Areas (U.S. EPA)
- Tribal Lands (appropriate Tribal Contact)
- State Parks
- State Refuges
- State Wildlife Management Areas
- State Forests

### **2.2.2.4 State-listed or proposed Endangered and Threatened Species**

### **2.2.2.5 High quality priority freshwater wetlands (other than included above) identified by Local, State, regional, or Federal levels of Government (U.S. EPA; COE; DOI/FWS/NPS; USDA/FS)**

### **2.2.2.6 Federal and State Species of Concern (DOI/FWS/NPS)**

### **2.2.2.7 Outstanding National Resource Waters/Outstanding Resource Value Waters (if not listed above):**

- National Wild and Scenic Rivers (DOI/NPS; USDA/FS)
- Critical areas under the Clean Lakes Program (U.S. EPA/States)
- Sites within Joint Venture Project Areas under the North American Waterfowl Management Plan (DOI/FWS)
- Sites under the RAMSAR Treaty on Wetlands of International Importance (DOI/FWS)



- State Scientific and Natural Areas
- Calcareous Fens
- State Wild and Scenic Rivers
- Trout streams

### **2.2.3 Priority 3 - Sensitive Recreation Areas**

- Heritage Program Sites
- Cultural Sites (Archeological, Historical, Monuments)
- Recreational Areas (Boating, Fishing, Swimming)

PLEASE NOTE: Fish and wildlife agency concerns are intensified with the above species and specified areas at specific times of the year (e.g., breeding and migration season). Should an oil spill occur within these designated areas, the USFWS and State(s) natural resource agencies should be contacted immediately to assist in determining the routing direction of the spill as well as other aspects of the cleanup effort.

## **3.0 STATE-BY-STATE NOTIFICATION NUMBERS AND INFORMATION RESOURCES OF FISH AND WILDLIFE RESOURCE MANAGERS**

When an oil spill impacts wildlife, or has the significant potential for impact, in addition to contacting the NRC (1-800-424-8802), the State or Federal OSC should immediately notify the DOI POC, State natural resource agency and the appropriate USFWS Field Office in each State. Primary contact points for the agencies are listed under the appropriate State heading. Only one contact per agency is necessary because the person initially contacted will notify other personnel in their agency, such as Law Enforcement staff and Refuge managers. The OSC may also contact any other natural resource agency for help with fish and wildlife issues.

The USFWS is responsible for the management and protection of migratory birds, Federally listed threatened and endangered species (and their critical habitat), and for USFWS lands, including National Wildlife Refuges, Waterfowl Production Areas, and National Fish Hatcheries. The USFWS will provide responders with information concerning these resources, as well as technical assistance concerning the effects of oil on these resources. The USFWS will help coordinate wildlife recovery and rehabilitation efforts in conjunction with the State natural resource trustee.

On-scene-coordinators must also contact Native American community officials if they need technical information/assistance in the protection of fish and wildlife resources on tribal lands. (Please refer to the directory of tribal authorities presented in the ACP/RCP.)

### **3.1 Information for Spills that Occur in Illinois**

#### **3.1.1 Appropriate Staff Contacts for the Designated Officials for Fish and Wildlife Resource Management Agencies**

Entities for which contact information may be necessary in the event of a spill include:

### 3.1.1.1 Illinois

For Fish and Wildlife Service contact information, see

<http://www.fws.gov/midwest/Eco%5FServ/Env%5FCont/ecwho.html>

- Fish and Wildlife Service Regional Office – Region 3
- Fish and Wildlife Service Illinois (Mississippi River, left and right banks)

Illinois Environmental Protection Agency:

Primary	Alternate
Roger Lauder, Manager	Bud Bridgewater
Office of Emergency Response	Illinois Environmental Protection Agency
Illinois Environmental Protection Agency	1021 North Grand Avenue East
P.O. Box 19276	P.O. Box 19276
Springfield, IL 62794-9276	Springfield, IL 62794-9276
Phone: 215-524-5027	Phone: 217-782-3637
Cell: 217-306-7145	FAX: 217-524-4036
Pager: 800-249-9891	24 hour: 217-782-7860
24 hr: 217-782-7860 (IEMA)	Email: <a href="mailto:bud.bridgewater@illinois.gov">bud.bridgewater@illinois.gov</a>
FAX: 217-782-1431	
Email: <a href="mailto:roger.lauder@illinois.gov">roger.lauder@illinois.gov</a>	

For an indexed list of Federal Threatened and Endangered Species, see

[http://www.fws.gov/midwest/Endangered/lists/cty\\_indx.html](http://www.fws.gov/midwest/Endangered/lists/cty_indx.html)

### 3.1.1.2 Indiana

For Fish and Wildlife Service contact information, see

<http://www.fws.gov/midwest/Eco%5FServ/Env%5FCont/ecwho.html>

- Fish and Wildlife Service Indiana

Indiana Department of Environmental Management ~~Natural Resources~~:

Max Michael, Section Chief  
Emergency Response  
Indiana Department of Environmental Management  
100 North Senate Drive  
P.O. Box 6015  
Indianapolis, IN 46206-6015  
Phone 317-308-3049  
24 hr: 317-233-7745  
Toll Free: 888-233-7745  
FAX: 317-308-3063  
Email: [mmichael@idem.in.gov](mailto:mmichael@idem.in.gov)

For an indexed list of Federal Threatened and Endangered Species, see [http://www.fws.gov/midwest/Endangered/lists/cty\\_indx.html](http://www.fws.gov/midwest/Endangered/lists/cty_indx.html)

### 3.1.1.3 Michigan

For Fish and Wildlife Service contact information, see <http://www.fws.gov/midwest/Eco%5FServ/Env%5FCont/ecwho.html>

- Michigan Department of Environmental Quality

Primary  
Pete Ostlund  
Field Operations, Water Bureau  
Michigan Department of Environmental Quality  
Constitution Hall, 2<sup>nd</sup> Floor  
525 W. Allegan  
P.O. Box 30273  
Lansing, MI 48933  
Phone: 517-373-1982  
24 hr: 517-373-7660 (out of State)  
800-292-4706 (in State)  
FAX: 517-373-2040  
Email: ostlundp@michigan.gov

Alternate  
Mitch Adelman  
Jackson District Supervisor  
Environmental Response Division  
MI Dept. of Environmental Quality  
Jackson, MI 48909  
Phone: 517-780-7852  
24 hr: 517-373-7660 (out of state)  
800-292-4706  
FAX: 517-780-7855  
Email: adelmanm@michigan.gov

For an indexed list of Federal Threatened and Endangered Species, see [http://www.fws.gov/midwest/Endangered/lists/cty\\_indx.html](http://www.fws.gov/midwest/Endangered/lists/cty_indx.html)

### 3.1.1.4 Minnesota

For Fish and Wildlife Service contact information, see <http://www.fws.gov/midwest/Eco%5FServ/Env%5FCont/ecwho.html>

- Fish and Wildlife Service Regional Office – Region 3
- Fish and Wildlife Service Illinois Minnesota

Minnesota Department of Natural Resources:  
Minnesota Pollution Control Agency:

Marilyn Danks  
Minnesota Department of Natural  
Resources  
Ecological Services  
500 Lafayette Road  
St. Paul, MN 55155

Phone: 651259-5087  
FAX: 651-296-1811  
Stephen Lee  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, MN 55155

Phone: 651-297-8610  
24 hr: 651-649-5451

FAX: 651-297-8321  
Email: Stephen.lee@pca.state.mn.us

For an indexed list of Federal Threatened and Endangered Species, see  
[http://www.fws.gov/midwest/Endangered/lists/cty\\_indx.html](http://www.fws.gov/midwest/Endangered/lists/cty_indx.html)

### **3.1.1.5 Ohio**

For Fish and Wildlife Service contact information, see  
<http://www.fws.gov/midwest/Eco%5FServ/Env%5FCont/ecwho.html>

- Fish and Wildlife Service Regional Office – Region 3
- Fish and Wildlife Service Ohio

Ohio Department of Natural Resources, Ohio Division of Wildlife

Central Ohio  
Dan Huss, Manager  
District One  
1500 Dublin Rd.  
Columbus, Ohio 43215  
Phone: 614-644-3925  
Fax: 614-644-3931

Northwest Ohio  
John Daugherty, Manager  
District Two  
952 Lima Ave., Box A  
Findlay, Ohio 45840  
Phone: 419-424-5000  
Fax: 419-422-4875

Northeast Ohio  
Jeff Herrick, Manager  
District Three  
912 Portage Lakes Dr.  
Akron, Ohio 44319  
Phone: 330-644-2293  
FAX: 330-644-8403

Southeast Ohio  
Mark Hemming, Manager  
District Four  
360 E. State St.  
Athens, Ohio 45701  
Phone: 740-589-9930

FAX: 740-589-9999

Southwest Ohio  
Todd Haines, Manager  
District Five  
1076 Old Springfield Pike  
Xenia, Ohio 45385-1238  
Phone: 937-372-9261  
Fax: 937-376-3011

For an indexed list of Federal Threatened and Endangered Species, see

[http://www.fws.gov/midwest/Endangered/lists/cty\\_indx.html](http://www.fws.gov/midwest/Endangered/lists/cty_indx.html)

### **3.1.1.6 Wisconsin**

For Fish and Wildlife Service contact information, see

<http://www.fws.gov/midwest/Eco%5FServ/Env%5FCont/ecwho.html>

- Fish and Wildlife Service Regional Office – Region 3
- Fish and Wildlife Service Wisconsin

Wisconsin Department of Natural Resources

Wisconsin Department of Emergency Management

Primary

David Woodbury  
Bureau of Law Enforcement  
Wisconsin Department of Natural Resources  
101 South Webster St.  
P.O. Box 7921  
Madison, WI 53707-7921  
Phone: 608-266-2598  
24 hr: 800-943-0003  
Pager 608-376-9049  
Cell: 608-444-3976  
FAX: 608-266-3696  
Email: david.woodbury@wisconsin.gov

Alternate

Jerry Haberl  
Wisconsin Depart. of Emergency Mgt.  
Dept. of Military Affairs  
2400 Wright St.  
P.O. Box 7865  
Madison, WI 53707-7865  
Phone 608-242-3213  
24 hr: 608-376-1594 (pager)  
FAX 608-242-3248  
Email: jerry.haberl@wisconsin.gov

For an indexed list of Federal Threatened and Endangered Species, see

[http://www.fws.gov/midwest/Endangered/lists/cty\\_indx.html](http://www.fws.gov/midwest/Endangered/lists/cty_indx.html)

## **References/Acknowledgements**

1. Department of Commerce, National Oceanic and Atmospheric Administration, 15 CFR Part 990, Natural Resource Damage Assessment Final Rule. Federal Register Notice, Vol. 61. No. 4, Friday, January 5, 1996.
2. Environmental Protection Agency, 40 CFR Parts 9 and 300, National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule. Federal Register Notice Vol. 59, No. 178, Thursday, September 15, 1994.
3. North Carolina Coastal Areas Wildlife Contingency Plan.
4. U.S. Department of the Interior, Fish and Wildlife Service. Endangered and Threatened Wildlife and Plants. 50 CFR 17.11 & 17.12. October 31, 1995.
5. U.S. Fish and Wildlife Service Administrative Manual 24 AM 2.
6. U.S. Fish and Wildlife Service Administrative Manual 24 AM 16 - Exhibit A.
7. U.S. Fish and Wildlife Service Administrative Manual 24 AM 16 - Exhibit D.
8. U.S. Fish and Wildlife Service Administrative Manual 24 AM 16 - Exhibit F.
9. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Environmental Response Training Program (Schedule of Courses).
10. U.S. Environmental Protection Agency Region VIII Contingency Plan-Fish and Wildlife Sensitive Environments Annex.

**Attachment 1. SAFETY CHECKLIST**

**PART I. BEFORE FIELD ACTIVITY**

1. Employee: \_\_\_\_\_ Date: \_\_\_\_\_

2. Site Location: \_\_\_\_\_

3. Activity Description: Environmental Sampling \_\_\_\_\_

Reconnaissance \_\_\_\_\_

Other (describe) \_\_\_\_\_

4. Type of Response/Site:

Spill \_\_\_\_\_ Industrial \_\_\_\_\_ Nonindustrial \_\_\_\_\_

Rural \_\_\_\_\_ Suburban \_\_\_\_\_ Urban \_\_\_\_\_

Private Lands \_\_\_\_\_ Refuge \_\_\_\_\_ Hatchery \_\_\_\_\_

Other Service Lands \_\_\_\_\_

5. Site topography:

Mountains \_\_\_\_\_ River \_\_\_\_\_ Valley \_\_\_\_\_

Level \_\_\_\_\_ Sloping \_\_\_\_\_

6. Site Accessibility:

Foot only: \_\_\_\_\_

Road: Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor \_\_\_\_\_

Air: Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor \_\_\_\_\_

7. Suspected chemical(s):

\_\_\_\_\_  
\_\_\_\_\_

8. Source of chemical(s):

\_\_\_\_\_  
\_\_\_\_\_

9. First Aid available: Yes \_\_\_\_\_ No \_\_\_\_\_

10. If SCBA, identify team members (buddies): \_\_\_\_\_

\_\_\_\_\_

**PART II. AFTER RESPONSE**

1. List possible chemical exposure:

Same as above \_\_\_\_\_

Other chemicals: \_\_\_\_\_

Identified or suspected: \_\_\_\_\_

2. Describe any contact or exposure with chemical: \_\_\_\_\_

\_\_\_\_\_

3. Equipment Decontamination: \_\_\_\_\_

4. Approximate time at site: hr/day \_\_\_\_\_ for \_\_\_\_\_ days \_\_\_\_\_

5. Personal Protective Equipment used:

Gloves \_\_\_\_\_

Hip Waders \_\_\_\_\_

Chest waders \_\_\_\_\_

Other \_\_\_\_\_

6. Date Part I Prepared: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

7. Date Part I Prepared: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_



## **Attachment 2. Biological Opinion**

Biological Opinion to be provided upon completion.

## **Appendix VIII: Region 5 RRT Oil Spill Solidifier Preapproval Documentation**

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Available online at <http://www.rrt5.org/Portals/0/Appendices/5 RRT solidifier preapproval documents.pdf>

Federal Region V Regional Response Team

Oil Spill Solidifier Preapproval- Contained within socks, booms, pillows

Under the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300) the Regional Response Team (RRT) may authorize the use of oil spill control agents that are on the National Product Schedule. Pursuant to various presentations on the products, and the additional written materials that the Science and Technology Sub-Committee of the RRT has reviewed, the Region V RRT will allow the use of the following products under limited approval and specific conditions explained below:

ALSOCUP

Aqua N-CAP Polymer

CI Agent

WASTE-SET #3200

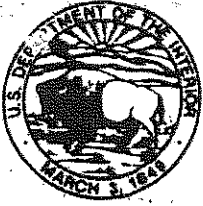
WASTE-SET #3400

The Region V RRT has approved the use, in Region V, of socks, booms, pads, pillows or other device which completely surrounds and contains one of the solidifier products listed above subject to the following conditions:

- a. Application of the solidifier product must be done in a manner that does not allow the solidifier product to be released from the sock, boom, pad, or pillow; and
- b. The sock, boom, pad, or pillow is not left in the environment for more than one week after contact with oil; and
- c. The sock, boom, or pillow must be recovered from the water within one week of contact with oil or depletion of solidifying capacity and properly disposed of.
- d. This preapproval does not include preapproved use in tribal or Department of Interior managed lands.

Customers must be advised of these conditions to the approval of the solidifier products.

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# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Bishop Henry Whipple Federal Building  
1 Federal Drive  
Fort Snelling, MN 55111-4056

IN REPLY REFER TO:

FWS-AES/TE

NOV 17 2010

Jason H. El-Zein  
U. S. Environmental Protection Agency  
Region 5, Emergency Response Branch 1  
Superfund Division  
77 West Jackson, SE-5J  
Chicago, Illinois 60604

Dear Mr. El-Zein,

An identical letter is being sent to Captain Stephen Torpey, U. S. Coast Guard.

This replies to your letter dated May 5, 2010, requesting our concurrence on your determination that the proposed preauthorized use with conditions of five solidifier products in emergency oil spill response throughout Regional Response Team Region V (RRTV) "is not likely to adversely affect" listed species or critical habitat pursuant to the Endangered Species Act of 1973, amended (ESA). Preauthorization is defined here as approval by the RRTV to use the selected chemical countermeasures from the Subpart J National Product Schedule of the National Contingency Plan. This chemical countermeasure approval does not eliminate the need for the responders to consult with our agency on the potential for adverse effects to federally listed species or the potential for adverse modification to federally designated critical habitat from the emergency oil spill response as a whole. We have reviewed the materials forwarded to this office on the solidifier products and conducted some independent literature review. We concur with your determination that federally listed species, candidate species, and critical habitat are not likely to be adversely affected by the conditional preauthorization to use solidifier products within RRTV.

The action under review is the preauthorization for use of enclosed or contained solidifier products in responding to oil spills within the geographic area of RRTV. The federally listed endangered, threatened, and candidate species considered for this review include the aquatic and aquatic dependent species that occur in States of Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin (see attached list). The conditions for the preauthorized use require that the solidifier product be enclosed or contained within socks, booms, or pillows that does not allow the free product to be released into the environment, that the enclosed products be removed from the water after use, and that the enclosed products are not be left in the water for more than one week. The five solidifier products under consideration include ALSOCUP, Aqua N-CAP Polymer, CIAgent, WASTE-SET #3200, and WASTE-SET #3400. There are two aspects

germane to our section 7 review: direct toxicity due to exposure to the solidifier product should it be accidentally released into the environment from the enclosed products and indirect effects due to changed environmental conditions resulting from an accidental release of solidifier products.

First, to assess the effects of toxicity from direct exposure, we relied upon the freshwater fish toxicity test results available through the RRT and a review of the scientific literature. Our analysis indicates that the selected solidifier products are acutely toxic at high concentrations, but only at levels above what would be encountered from the prescribed application during an emergency response (Fingas 2008). The endpoints used in the toxicological tests were various species of fish. Although we do not know if fish are among the most sensitive organism, we did not find any contradictory data or information to suggest that aquatic invertebrates or aquatic dependent wildlife are toxicologically more sensitive than fish. Therefore, we concur that direct exposure and ingestion of the subject solidifier products are unlikely to adversely affect listed species.

Second, we assessed the indirect effects to listed species and critical habitat as a result of changing the baseline conditions. The baseline condition for this action is the oiled environment without the controlled application of enclosed or contained solidifier products. The application of solidifier products in oiled environments is expected to change the baseline condition should there be an accidental release by a tear or rupture in the socks, pillows, or booms containing the solidifier product. The change to the baseline condition includes creating thicker solid deposits of oil that float and are contained to a smaller area plus any of the incidentally released free solidifier product within the immediate area. Organisms including federally listed aquatic and aquatic dependent species are less likely to be exposed as the area containing oil and the solidifier products will be reduced. However, short term exposure to the thicker floating oil deposits and free solidifier product, although not likely to be more toxic than the oil itself, may present new physical barriers for the federally listed and candidate species, which could alter the normal behavior of organisms. We believe, based on the best available information, that exposure to thicker oil deposits and any free solidifier product will not elicit a detectable negative response in listed species beyond the response expected from exposure or contact with the oil without the use of solidifier products. This includes for example, free solidifier product from controlled uses is not expected to adhere to the skin, fur, or feathers of animals to the extent that it affects thermal regulation by altering natural oils of the exposed organisms beyond the exposure to the untreated oil.

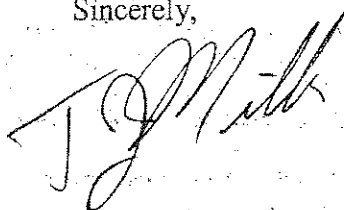
The new condition resulting from an accidental release with the proper use of solidifier products may also modify the baseline conditions within designated critical habitat and potentially affect associated primary constituent elements (see attached matrix). We believe, based on the best available information, that any potentially exposed primary constituent elements will not be further adversely affected. That is, we do not anticipate any further detectable adverse impacts to critical habitat from the application of contained solidifier products in an oiled environment.

Note, activities such as clearing vegetation for roads, construction of boat ramps, access to the oiled environment, physical disturbance to shorelines, construction of groundwater wells, or

discharge of wastewaters during the response effort is not part of the proposed action, and thus, was not contemplated in this section 7 review. To comply with the ESA, further section 7 review is necessary before such actions are undertaken. The request for preauthorized use of solidifier products in waters part of the National Wildlife Refuge System within RRTV is under review. The results of Refuge preauthorized use of solidifier products will be transmitted under a separate letter. This precludes the need for further consultation on this action (preauthorization of use of solidifiers) as required under Section 7 of the Endangered Species Act of 1973, as amended. Should the project be modified or new information indicate endangered species may be affected, consultation should be initiated.

Thank you for the opportunity to consult with you on this matter. Please feel free to call Jennifer Szymanski (608-783-8455) for endangered species related questions or Mike Coffey (309-757-5800 x206) for oil response related questions.

Sincerely,



T. J. Miller  
Chief, Endangered Species

References:

Fingas, M. 2008. A review of the literature related to oil spill solidifiers 1990 – 2008. Report for Prince William Sound Regional Citizens' Advisory Council, Anchorage, AK by Merv Fingas, Spill Science, Edmonton, Alberta. Contract number 955.08.03



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Bishop Henry Whipple Federal Building  
1 Federal Drive  
Fort Snelling, MN 55111-4056

IN REPLY REFER TO:

FWS-AES/TE

NOV 17 2010

Captain Stephen Torpey  
Chief, Office of Incident Management  
U.S. Coast Guard, Ninth District (drm)  
1240 E. 9<sup>th</sup> Street, Room 2007C  
Cleveland, Ohio 44199-2060

Dear Captain Torpey,

An identical letter is being sent to Mr. Jason H. El-Zein, U.S. Environmental Protection Agency.

This replies to your letter dated May 5, 2010, requesting our concurrence on your determination that the proposed preauthorized use with conditions of five solidifier products in emergency oil spill response throughout Regional Response Team Region V (RRTV) "is not likely to adversely affect" listed species or critical habitat pursuant to the Endangered Species Act of 1973, amended (ESA). Preauthorization is defined here as approval by the RRTV to use the selected chemical countermeasures from the Subpart J National Product Schedule of the National Contingency Plan. This chemical countermeasure approval does not eliminate the need for the responders to consult with our agency on the potential for adverse effects to federally listed species or the potential for adverse modification to federally designated critical habitat from the emergency oil spill response as a whole. We have reviewed the materials forwarded to this office on the solidifier products and conducted some independent literature review. We concur with your determination that federally listed species, candidate species, and critical habitat are not likely to be adversely affected by the conditional preauthorization to use solidifier products within RRTV.

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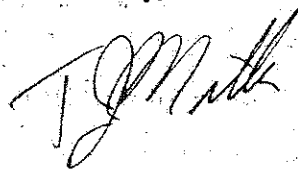
Captain Stephen Torpey

3

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T. J. Miller  
Chief, Endangered Species

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**RRTV Solidifier Product PreAuthorization**  
**Critical Habitat Aquatic and Aquatic Dependent Species**  
**Adverse Modification Analysis Matrix**

**Hines Emerald Dragonfly Critical Habitat (Illinois Units)**

Primary Constituent Element	Baseline Condition	Action Condition	Baseline Modified	Adverse Effects	Comments
<b>HINES EMERALD DRAGONFLY</b> Organic soils (histosols, or with organic surface horizon) overlying calcareous substrate predominantly dolomite and limestone bedrock)	Liquid oil	Solid oil	No	No	
Calcareous water from intermittent seeps and springs and associated shallow, small, slow flowing streamlet channels, rivulets, and/or sheet flow within fens	Liquid oil	Solid oil	Yes	No	Temporary plugging of shallow groundwater recharge pathways
Emergent herbaceous and woody vegetation for emergence facilitation and refugia	Liquid oil	Solid oil	No	No	
Occupied burrows maintained by crayfish for refugia	Liquid oil	Solid oil	Yes	No	Temporary plugging up of chimney openings
Prey base of aquatic macroinvertebrates, including mayflies, aquatic isopods, caddisflies, midge larvae, and aquatic worms	Liquid oil	Solid oil	No	No	
Natural plant communities near the breeding/larval habitat which may include fen, marsh, sedge meadow, dolomite prairie, and the fringe (up to 100meters) of bordering shrubby and forested areas with open corridors for movement and dispersal	Liquid oil	Solid oil	No	No	
Prey base of small flying insect species (e.g., dipterans)	Liquid oil	Solid oil	No	No	

**RRTV Solidifier Product PreAuthorization  
Critical Habitat Aquatic and Aquatic Dependent Species  
Adverse Modification Analysis Matrix**

**Piping Plover Critical Habitat (Illinois, Indiana, Michigan, Minnesota Units)**

Primary Constituent Element	Baseline Condition	Action Condition	Baseline Modified	Adverse Effects	Comments
<b>PIPING PLOVER</b>					
Sand, gravel, or cobble beaches or spits	Liquid oil	Solid oil	No	No	
Shoreline length $\geq$ 0.2 kilometers of gently sloping sand beach	Liquid oil	Solid oil	No	No	
Sand beach area of $\geq$ 2 hectares	Liquid oil	Solid oil	No	No	
$\geq$ 50 meters where beach width is $\geq$ 7 meters or $\geq$ 7 meters sand and cobble between dune and treeline	Liquid oil	Solid oil	No	No	
Distance from waterline to treeline $\geq$ 50 meters	Liquid oil	Solid oil	No	No	
Sparse vegetation with $\leq$ 50% herbaceous or woody cover	Liquid oil	Solid oil	No	No	
Protective cover - small herbaceous patches, cobble, gravel, or debris (driftwood, wrack, root masses, dead shrubs)	Liquid oil	Solid oil	No	No	
Potential for the dynamic ecological processes that create and maintain habitat (e.g., erosion, accretion, plant succession, lake-level fluctuations; episodic storm events)	Liquid oil	Solid oil	Yes	No	Not a significant change to natural erosion or accretion processes
Low level of disturbance from human activities or domestic animals	Liquid oil	Solid oil	No	No	

**RRTV Solidifier Product PreAuthorization**  
**Critical Habitat Aquatic and Aquatic Dependent Species**  
**Adverse Modification Analysis Matrix**

**Topeka Shiner Critical Habitat (Minnesota Units)**

Primary Constituent Element	Baseline Condition	Action Condition	Baseline Modified	Adverse Effects	Comments
<p><b>TOPEKA SHINER</b></p> <p>Streams most often with permanent flow, but that can become intermittent during dry periods. Side-channel pools and oxbows either seasonally connected to a stream or maintained by groundwater inputs, at a surface elevation equal to or lower than the bankfull-discharge stream elevation. The bankfull discharge is the flow at which water begins leaving the channel and flowing into the floodplain; this level is generally attained every 1 to 2 years. Bankfull discharge, while a function of the size of the stream, is a fairly constant feature related to the formation, maintenance, and dimensions of the stream channel.</p> <p>Streams and side-channel pools with water quality necessary for unimpaired behavior, growth, and viability of all life stages. The water quality components can vary seasonally and include—temperature (1 to 30° Centigrade), total suspended solids (0 to 2000 ppm), conductivity (100 to 800 mhos), dissolved oxygen (4 ppm or greater), pH (7.0 to 9.0), and other chemical characteristics.</p> <p>Living and spawning areas for adult Topeka shiner with pools or runs with water velocities less than 0.5 meters/second (approx. 20 inches/second) and depths ranging from 0.1 to 2.0 meters (approximately 4 to 80 inches).</p> <p>Living areas for juvenile Topeka shiners with water velocities less than 0.5 meters/second (approx. 20 inches/second) with depths less than 0.25 meters (approx. 10 inches) and moderate amounts of instream aquatic cover, such as woody debris, overhanging terrestrial vegetation, and aquatic plants</p>	Liquid oil	Solid oil	Yes	No	Temporary blockage of water table recharge through stream bed during dry periods
	Liquid oil	Solid oil	No	No	
	Liquid oil	Solid oil	No	No	
	Liquid oil	Solid oil	No	No	

Sand, gravel, cobble, and silt substrates with amounts of fine sediment and substrate embeddedness that allows for nest building and maintenance of nests and eggs by native *Lepomis* sunfishes (green sunfish, orangespotted sunfish, longear sunfish) and Topoka shiner as necessary for reproduction, unimpaired behavior, growth, and viability of all life stages

An adequate terrestrial, semiaquatic, and aquatic invertebrate food base that allows for unimpaired growth, reproduction, and survival of all life stages

A hydrologic regime capable of forming, maintaining, or restoring the flow periodicity, channel morphology, fish community composition, offchannel habitats, and habitat components described in the other primary constituent elements

Few or no nonnative predatory or nonnative competitive species present

Liquid oil

Solid oil

No

No

Liquid oil

Solid oil

No

No

Liquid oil

Solid oil

Yes

No

Temporary obstruction for stream channel connectivity

Liquid oil

Solid oil

No

No

**AQUATIC AND AQUATIC DEPENDENT  
ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES  
PARTS OF U.S. FISH AND WILDLIFE SERVICE REGION 3  
Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin  
October 2010**

**MAMMALS**

Gray bat (*Myotis grisescens*) Status: Endangered, Habitat: Caves, Range in RRTV: Illinois, Indiana, Missouri

Indiana bat (*Myotis sodalis*) Status: Endangered, Habitat: Summer habitat includes small to medium river and stream corridors with well developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests. Caves and mines as hibernacula. Range in RRTV: Illinois, Indiana, Iowa, Michigan, Missouri, Ohio

**BIRDS**

Least tern (*Sterna antillarum*) Status: Endangered, Habitat: Bare alluvial islands and dredged spoil islands, Range in RRTV: Illinois, Indiana, Iowa, Missouri

Piping plover (*Charadrius melodus*) - Great Lakes population Status: Endangered, Habitat: beaches along shorelines of the Great Lakes Range in RRTV: Michigan, Ohio, Wisconsin Great Plains population Status: Threatened Habitat: Bare alluvial and dredged spoil islands; sand and gravel areas around fly ash ponds, beaches, Range in RRTV: Iowa, Missouri, and Lake of the Woods, Minnesota

Whooping Crane (*Grus americana*) Status: nonessential, experimental population, Habitat: open wetlands and lakeshores, Range in RRTV: Iowa, Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin are within the Nonessential, Experimental Population area

**REPTILES**

Copperbelly water snake (*Nerodia erythrogaster neglecta*) Status: Threatened, Habitat: wooded and permanently wet areas such as oxbows, sloughs, brushy ditches and floodplain woods Range in RRTV: Indiana, Michigan, Ohio

Eastern massasauga (*Sistrurus catenatus catenatus*) Status: Candidate, Habitat: wetlands and uplands, Range in RRTV: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin

Lake Erie water snake (*Nerodia sipedon insularum*) Status: Threatened, Habitat: shorelines of islands in western Lake Erie Range in RRTV: Ohio

## FISHES

Pallid sturgeon (*Scaphirhynchus albus*) Status: Endangered, Habitat: Mississippi River downstream of its confluence with the Missouri River; Ohio River below Dam #53; Missouri River Range in RRTV: Illinois, Iowa, Missouri

Scioto madtom (*Noturus trautmani*) Status: Endangered, Habitat: stream riffles of moderate flow over sandy gravel bottom; may be extinct, Range in RRTV: Ohio

Topeka shiner (*Notropis topeka*) Status: Endangered, Critical Habitat designated in Minnesota and Iowa, Habitat: Small prairie streams, Range in RRTV: Minnesota, Iowa, Missouri

## MUSSELS

Clubshell (*Pleurobema clava*) Status: Endangered, Habitat: Found in coarse sand and gravel areas of runs and riffles within streams and small rivers, Range in RRTV: Indiana, Michigan, Ohio

Cracking pearl mussel (*Hemistena lata*) (= *Lastena l.*) Status: Endangered, Habitat: Medium to large rivers in mud, sand, or gravel, Range in RRTV: Indiana (possibly extirpated)

Fanshell (*Cyprogenia stegaria*) (= *C. irrorata*) Status: Endangered, Habitat: Found in areas of packed sand and gravel at locations in a good current Range in RRTV: Illinois, Indiana, Ohio

Fat pocketbook (*Potamilus capax*) (= *Proptera c.*) Status: Endangered, Habitat: Large rivers in slow-flowing water Range in RRTV: Illinois, Indiana, Missouri

Higgins eye pearly mussel (*Lampsilis higginsii*) Status: Endangered, Habitat: Mississippi River and some of its larger northern tributaries (*i.e.*, St. Croix and Wisconsin Rivers) in gravel or sand, Range in RRTV: Illinois, Iowa, Minnesota, Missouri, Wisconsin

Northern riffleshell (*Epioblasma torulosa rangiana*) Status: Endangered, Habitat: Large streams and small rivers in firm sand of riffle areas; also occurs in Lake Erie, Range in RRTV: Indiana, Michigan, Ohio, reintroduced into Illinois

Orange-foot pimpleback pearl mussel (*Plethobasus cooperianus*) Status: Endangered, Habitat: Gravel bars with strong currents in large rivers, Range in RRTV: Illinois, Indiana (possibly extirpated)

Pink mucket pearl mussel (*Lampsilis abrupta*) (= *L. orbiculata*) Status: Endangered, Habitat: The lower Mississippi and Ohio Rivers and their larger tributaries, Range in RRTV: Illinois, Indiana, Missouri, Ohio



Purple cat's paw pearl mussel (*Epioblasma* (= *Dysnomia*) *obliquata obliquata*) (= *E. sulcata sulcata*) Status: Endangered, Habitat: Gravel riffles of medium to large rivers, Range in RRTV: Ohio

Rabbitsfoot (*Quadrula cylindrica cylindrica*) Status: Candidate, Habitat: Rivers, Range in RRTV: Illinois, Indiana, Missouri, Ohio

Rayed Bean (*Villosa fabalis*) Status: Candidate, Habitat: Large rivers, Range in RRTV: Indiana, Michigan, Ohio

Ring pink mussel (= golf stick pearly) (*Obovaria retusa*) Status: Endangered, Habitat: Large rivers in sand or gravel, Range in RRTV: Indiana (possibly extirpated)

Rough pigtoe (*Pleurobema plenum*) Status: Endangered, Habitat: Medium to large rivers in sand or gravel, Range in RRTV: Indiana

Sheepnose (*Plethobasus cyphus*) Status: Candidate, Habitat: Large rivers, Range in RRTV: Illinois, Indiana, Iowa, Minnesota, Missouri, Ohio, and Wisconsin

Spectaclecase (*Cumberlandia monodonta*) Status: Candidate, Habitat: Large rivers, Range in RRTV: Illinois, Iowa, Minnesota, Missouri, and Wisconsin

Tubercled-blossom pearl mussel (*Epioblasma* (= *Dysnomia*) *torulosa torulosa*) Status: Endangered, Habitat: Gravel riffles in medium to large rivers, Range in RRTV: Indiana (possibly extirpated)

White cat's paw pearl mussel (*Epioblasma obliquata perobliqua*) Status: Endangered, Habitat: Firm sand or gravel riffles in small streams and medium to large rivers, Range in RRTV: Ohio, Indiana (possibly extirpated)

White wartyback pearl mussel (*Plethobasus cicatricosus*) Lead: Region 4 Status: Endangered Habitat: Large rivers in gravel Range in RRTV: Indiana (possibly extirpated)

Winged mapleleaf (*Quadrula fragosa*) Status: Endangered, Habitat: Medium to large rivers in mud, sand, or gravel, Range in RRTV: Minnesota, Missouri, Wisconsin

## INSECTS

Hines emerald dragonfly (*Somatochlora hineana*) Status: Endangered, Habitat: Spring fed wetlands, wet meadows and marshes; calcareous streams & associated wetlands overlying dolomite bedrock, Range in RRTV: Illinois, Michigan, Missouri, Wisconsin

Hungerford's crawling water beetle (*Brychius hungerfordi*) Status: Endangered, Habitat: Cool riffles of clean, slightly alkaline streams; known to occur in only 3 isolated locations, Range in RRTV: Michigan

Mitchell's satyr butterfly (*Noenympha mitchelli mitchelli*) Status: Endangered Habitat: Fens; wetlands characterized by calcareous soils which are fed by carbonate-rich water from seeps and springs, Range in RRTV: Indiana, Michigan, Ohio

## CRUSTACEANS

Illinois cave amphipod (*Gammarus acherondytes*) Status: Endangered, Habitat: cave streams, Range in RRTV: Illinois (currently found in 3 caves)

## PLANTS

Decurrent false aster (*Boltonia decurrens*) Status: Threatened, Habitat: Disturbed alluvial soils (Mississippi and Illinois River alluvial floodplain), Range in RRTV: Illinois, Missouri

Dwarf lake iris (*Iris lacustris*) Status: Threatened, Habitat: Partially shaded sandy-gravelly soils on lakeshores, Range in RRTV: Michigan, Wisconsin

Eastern prairie fringed orchid (*Platanthera leucophaea*) Status: Threatened, Habitat: Mesic to wet prairies and meadows, Range in RRTV: Illinois, Iowa, Michigan, Ohio, Wisconsin

Fassett's locoweed (*Oxytropis campestris* var. *chartaceae*) Status: Threatened, Habitat: Open sandy lakeshores, Range in RRTV: Wisconsin

Houghton's goldenrod (*Solidago houghtonii*) Status: Threatened, Habitat: Sandy flats along Great Lakes shores, Range in RRTV: Michigan

Michigan monkey-flower (*Mimulus glabratus* var. *michiganensis*) Status: Endangered, Habitat: Soils saturated with cold flowing spring water; found along seepages, streams and lakeshores, Range in RRTV: Michigan

Minnesota dwarf trout lily (*Erythronium propullans*) Status: Endangered, Habitat: North facing slopes & floodplains in deciduous forests, Range in RRTV: Minnesota

Price's potato-bean (*Apios priceana*) Status: Threatened, Habitat: Wet floodplain forests, shrubby swamps, Range in RRTV: Illinois (possibly extirpated)

Running buffalo clover (*Trifolium stoloniferum*) Status: Endangered, Habitat: Disturbed bottomland meadows; disturbed sites that have shade during part of each day, Range in RRTV: Indiana, Missouri, Ohio

Virginia spiraea (*Spiraea virginiana*) Status: Threatened, Habitat: Stream banks and floodplains,  
Range in RRTV: Ohio

Western prairie fringed orchid (*Platanthera praeclara*) Status: Threatened, Habitat: Wet prairies  
& sedge meadows, Range in RRTV: Iowa, Minnesota, Missouri

## **Appendix IX: Disinfection Procedures for Invasive Species in Vessels and Water Wetted Equipment**

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Available online at [www.rrt5.org/RCPACPMain/RCPACPApendices/DisinfectionProcedures](http://www.rrt5.org/RCPACPMain/RCPACPApendices/DisinfectionProcedures)

## APPENDIX IX: DISINFECTION PROCEDURES FOR INVASIVE SPECIES IN VESSELS AND WATER WETTED EQUIPMENT

### Definitions

Vessel-The word vessel includes every description of watercraft or other artificial contrivance used or capable of being used as a means of transportation on water.

Water wetted equipment-Water wetted equipment refers to water wetted resources being utilized between infected water and uninfected waters.

### Purpose

Aquatic invasive species are waterborne, non-native organisms, including plants, animals, and pathogens, that can threaten ecosystems into which they spread or are introduced. Aquatic invasive species can compete with native species for food and habitat, prey on native species and kill them through disease processes, disrupt ecosystem stability, impact water quality, impact commercial and recreational activities, affect property values, and cost millions of dollars in prevention and control. The long term impacts of invasive species on an ecosystem can easily exceed those of an oil spill.

Aquatic invasive species may be introduced via vessels and water wetted equipment that are from waters outside of the region, as well as vessels that have been used in more local, but separate, waterways. For example, viral hemorrhagic septicemia is a fish virus that is present in the Great Lakes, but is not yet present in most inland lakes. The movement of vessels and water wetted equipment between infected waters and uninfected waters may spread the virus.

### Process

For the purposes of this RCP/ACP, the term Disinfection Procedures should be considered distinct from Decontamination Plan. The purpose of disinfection is to prevent the spread of invasive organisms that may be present on vessels or water wetted equipment into or out of the spill area; whereas, the purpose of decontamination is to remove oil or other contaminants after use in the spill area. Thus, disinfection should occur **before** vessels and water wetted equipment are used in the spill area as well as **after**, when they are demobilized from the area.

The Disinfection Group, under the oversight of the appropriate state environmental agency, U.S. Fish and Wildlife Service (USFWS), or local water resource manager is responsible for the implementation of the Disinfection Procedures.

At a minimum, all vessels and water wetted equipment, coming from either 1) a distinctly separate water (salt vs fresh water, a different water shed, an isolated waterbody etc...), or 2) coming from downstream of a dam or falls, will need to pass an inspection for the need for disinfection prior to being allowed into the water. This could be coordinated with the vessel safety inspection. A sample checklist is attached to the Disinfection Procedures, but this checklist may need to be tailored to specific threats related to the expected source areas for vessels and water wetted equipment. Following inspection, boats and equipment that could be carrying invasive species in any form must go through disinfection.

Disinfection areas will be established onsite during a spill response. The disinfection areas may be co-located with decontamination areas, staging areas, or vessel inspection areas. Disinfection areas must be configured to contain all wastewater for proper disposal. Disinfection wastewater must not be allowed to drain onto unpaved surfaces or into sewers, ditches, or waterways.

## DISINFECTION PROCEDURES

The following techniques are acceptable for disinfection of vessels and water wetted equipment. Contact time is crucial for complete disinfection. Contact time reflects exposure of air, water, or disinfectant to a specific area, and not the total amount of time spent disinfecting. For example, if you are using 70° C water to disinfect your vessel, you must apply 70° C water to each area for one minute or longer (see options and procedures below from USFWS, Region 3).

Methods	Procedures	Positives	Negatives
<b>Heat + air</b> (Drying in hot sun)	<b>30C (86F) 24 hrs minimum</b> (time at Temp contact period crucial) (Exposure to Hot sun/air while dry)	Follow MSDS directions for health risk and use Personal Protective Equipment (PPE).	Time consuming Weather/Temperature criteria critical to reliable results
<b>Heat + water</b> Spray &/or immerse	<b>50C (122F) contact time for 10 minutes</b> (time at temp contact period crucial) (Large source of hot water needed)	Follow MSDS directions for health risk and use PPE.	Must maintain high water/contact; hotter than average tap water
<b>Heat + water</b> Spray &/or immerse	<b>70C (158F) contact time for 1 minute</b> (time at temp contact period crucial) (Large source of hot water needed)	Follow MSDS directions for health risk and use PPE.	Must maintain very high water/contact; much hotter than average tap water. Risk of Burns. Requires additional logistical support for steady supply of fuel.
<b>Virkon Aquatic</b>	<b>Follow Product directions for Proper mixture and minimum contact time.</b> (immerse in solution, Apply directly, or Spray-on with pressure washer and rinse)	Follow MSDS directions for health risk and use PPE.	Follow MSDS directions for health risks and use PPE) when mixing concentrate form. Chemical based
<b>Quarternary Ammonium+Water</b> *(family of products)	<b>Follow Product directions for Proper mixture and minimum contact time.</b> (immerse in solution, Apply directly, or Spray-on with pressure washer and rinse)	Follow MSDS directions for health risk and use PPE.	Chemical Based Follow MSDS directions for health risk and use PPE.
<b>Chlorine + water</b>	<b>Min. 200 mg/liter water for 20 minutes</b> (immerse in solution, Apply directly, or Spray-on with pressure washer and rinse/neutralize thoroughly)	Follow MSDS directions for health risk and use PPE.	Follow MSDS directions for health risk and use PPE. Highly corrosive.

An example equipment list for the disinfection station follows:

- Four steam pressure sprayers or disinfectant sprayers, depending on method
- 200 gallon diesel storage with secondary containment
- 100 feet of caution tape
- Six free-standing guide posts
- Two 55-gallon drums – open top with lid
- Two 55-gallon drums – open top with bung opening lid
- Eight packs of sorbent wipers (minimum 50 pads each)
- Two plastic buckets and two scrub brushes
- Two child wading pools
- Labels for drummed waste
- Four 50-foot garden hoses with variable spray nozzles
- Four 20-gallon plastic trash cans
- PPE for a minimum 4 person team (Face shields, Tyvek suits, PVC Gloves, booties, and respirators depending on cleaning chemicals)
- Vacuum truck for waste water recovery
- Absorbent boom
- Portable containment pad or other containment system
- One or more frac tanks or other storage containers to contain wastewater

### **Sample Checklist**

The procedures in this document will focus on expectations of inspection criteria of vessels, vehicles and their trailers, as well as, equipment entering Regional Response Team 5 waters. The recommended inspections procedure is being implemented to ensure that invasive species do not enter the waterways of Region 5 and impact treatment infrastructure and threaten the ecosystem.

The vessel, trailer/vehicle and equipment inspection will include looking for water, debris or growth on or in any inspected area. Surfaces will also be touched to see if growth or mussels may be attached. The inspection should be completed the same way each time starting at one side and ending up at the other side.

Below are the recommended procedures for what to inspect.

## Inspection Checklist

The following list of items comes from the Vessel Inspection Checklist and states what the Disinfectant team should be looking for:

- (a) **Vehicle Rear:** The vehicle bumper, tailgate or spare tire may have mud, grass, weeds or other debris on it.
- (b) **Trailer Structure, Railings and Spare Tire:** The trailer, railings and spare tire may have mud, grass, weeds, debris or standing water.
- (c) **Vessel Hull:** The vessel hull should be inspected for growth and debris. Growth may be visible if it has recently come from being in the water for an extended period of time. Small mussels attached to a boat can feel like sandpaper or sesame seeds.
- (d) **Transom:** The transom is at the back of the vessel that the engine is attached to. The transom may have several items of importance to inspection that mussels can attach to including the outdrive, trim tabs, transducers, bilge plug area and through hull fittings. Check the transom to make sure the surface is smooth and visibly clear of all debris and growth.
- (e) **Outdrive:** The outdrive is attached to the transom on stern drive vessels and the lower unit on outboard vessels. It has intricate parts that make it easy for mussels to attach, hide and grow. The inspector should feel and look for any signs of growth, debris or texture of sandpaper.
- (f) **Propeller/Shafts:** Mussels can attach and live on or around where the propeller attaches to the lower unit of drive shaft. Mussels can also attach to the shaft or connecting points of the vessel. These can be hard to see and should be inspected with a flashlight to verify if any mussels, debris or water is present.
- (g) **Trim Tabs:** Trim tabs are located on the lower portion of the transom and are usually metal plates that help stabilize the vessel while underway. The inspector should feel the corners, edges and look on the underside of the trim tabs for debris and growth.
- (h) **Transducers:** These are located on the transom or bottom of the hull near the stern of the vessel. They are used in conjunction with a computer to determine depth, speed and water temperature. Growth or debris can appear on them.
- (i) **Bilge Plug:** If the bilge plug is pulled when the vessel arrives at the lake, there should be no fluid or debris coming from it. By carefully putting your finger in the plug hole, it can be determined if debris is blocking water from exiting. If the bilge plug is not pulled, have the owner/operator pull the plug. If water exits, place the plug back it to prevent it from coming out.
- (j) **Through Hull Fittings:** Through hull fitting in all boats have the potential to store mussels in the right conditions. To check these fittings, look with a flashlight inside them and feel for irregularities.
- (k) **Bait Tank/Live Well/Compartments:** Bait tanks, live wells and compartments should be dry and clear of all water and debris. Some compartments do not drain completely due



to the way they are manufactured. Any debris in compartments is not acceptable. Common debris often found includes; fish scales, weeds, small pebbles and trash.

- (l) **Bilge:** The bilge is at the bottom of the inside stern of the vessel. It may not be visible in all boats due to various boat designs. The bilge should be clean from all water and debris.
- (m) **Anchor/Fenders and Line:** Anchors can have mud or debris on them. If an anchor, fender and lines attached have been in infested water for an extended period of time then mussels and debris can attach. Check these items for mud, growth and debris.
- (n) **Trolling Motor:** Trolling motors can pick up plants and debris while being used and must be inspected. Check these items for mud, growth and debris.

The Disinfectant Team will determine if vessel has been used locally or non-locally. If the vessel is local and there are no visible signs of mussels, plants, mud or other type of species, approve for launch, otherwise, disinfect.

Disinfectant Team will conduct a complete inspection for non-local vessels. If vessel passes inspection, approve for launch, otherwise, disinfect.

If Disinfectant Team determines vessel is a viable threat to the Great Lakes ecosystem and is not confident that disinfecting the vessel would protect the water quality, quarantining the vessel for 28 days is another option.

**Sample Checklist:**

Inspection: Check for **WATER, MUD, DEBRIS** or **GROWTH** and check all smooth surfaces for **“SANDPAPER”** feel.

Clear of Water, Debris and/or Growth: Check appropriate box below.

**Yes      No**

- Vehicle rear
  - Trailer structure, railings, spare tire
  - Vessel hull
  - Transom
  - Outdrive
  - Prop/shafts (propeller on the engine)
  - Trim tabs (located on back of hull near engine. Not all vessels have them)
  - Transducers
  - Bilge plug pulled – no fluid or debris
  - Through hull fittings
  - Bait tank/live wells/compartments
  - Bilge (may not be visible)
  - Anchor/fenders and line
  - Boom
  - Skimmers
  - Other Response equipment
- Your vessel has not cleared the inspection due to water and or debris in one or more areas. Your vessel will not be allowed on Region 5 waters for a minimum of 28 days and will be placed on a vessel quarantine list as of today. This zero tolerance has been established to ensure the safety of the water quality and its ecosystem.
- Your vessel will need to be disinfected before it can be cleared to enter Region 5 waters.
- OK to enter Region 5 waters.

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Date

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Staff (Print Name)