GOAL: Prevent spill on land from reaching Lake Onalaska.

| Site Number | Waterbody, River Mile | Site Name | |
|---|--------------------------|----------------|----------------|
| LO2 | Lake Onalaska | Blackdeer Cut | |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | 400 | Y | Y |
| Strategy Implementation (Go to Aerial View) | | | |
| Boom opening to prevent spill on Co. Rd. ZB from reaching Lake Onalaska. | | | |
| | Site A | ccess | |
| Openings to Lake Onalaska 500 ft. NW and .8 mi. SE of Brice Prairie landing, Co. Rd. ZB just S of Co. Rd. ZN. Good access and staging. Both locations accessible from adjacent private land. Winter fish habitat area. | | | |
| UTM z15 Y: 4865772 UTM z15 X: 635570 Latitude: 43.916129 Longitude: -91.310972 | | | |



Bird's eye view of boat ramp ©2009 Microsoft Corp., ©NAVTEQ, ©Pictometry International Corp.

GOAL: Prevent spill from Brice Prairie area from entering Lake Onalaska via Halfway Creek.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|-------------------------------|---|
| LO1 | Halfway Creek | Halfway Creek at Co. Rd. Z | |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 200-250 | Y | Ν |

Strategy Implementation (Go to Aerial View)

Contain product both above and below culvert with skirted boom above absorbent boom. Use vac truck to collect product. Area north of Co. Rd. Z could possibly be used as a burn site if collection not feasible.

Site Access

Culvert under Co. Rd. Z, 400 ft. W of railroad crossing. Access site from Co. Rd. Z or private residence W7083. Small boats can pass through culvert to enter creek. Lake side of culvert is deep and calm water.

UTM z15 Y: 4864031 **Latitude:** 43.916129

UTM z15 X: 639777 Longitude: -91.259037



Halfway Creek, looking upstream from Co. Rd. Z. Railroad grade in background.



Halfway Creek culvert, looking downstream from Co. Rd. Z

GOAL: Access upper backwaters and wetlands during high water conditions.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------------------|-------------------|
| BR4 | Shingle Creek | | Creek at Trail |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| Other | n/a | Ν | Y |

Strategy Implementation (Go to Aerial View)

Jon boats could be launched during high water conditions to access wetlands and creeks above Big Marsh.

Site Access

Bike trail (Great River State Trail) bridge over Shingle Creek, 1.5 mi. NW of Brice Prairie. Turn right from Co. Rd. Z onto Lytle Rd. to access trail. Trail can be used by pickup truck to carry equipment.

| UTM z15 Y: 4869833 | UTM z15 X: 632017 |
|---------------------|-----------------------|
| Latitude: 43.969785 | Longitude: -91.354211 |



Shingle Creek, looking downstream from Bike Trail

GOAL: Contain and collect product spilled from the bridge or upstream.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------------------|------------------|
| BR3 | Tank Creek | | reek at wy 35 |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 100 | Y | Ν |

Strategy Implementation (Go to Aerial View)

Inlets below bridge on both banks could be used to contain and collect spilled product during low flow or slow release. Not usable during high flow.

Site Access

WI Hwy 35 bridge over Tank Creek, 1 mi. W of Black River bridge. Steep banks, but accessible from bike trail (Great River State Trail). Creek not marked on highway signs. Airboats cannot pass under bridge.

| UTM z15 Y: 4873290 | UTM z15 X: 632044 |
|---------------------|-----------------------|
| Latitude: 44.000886 | Longitude: -91.353023 |



View of inlet on Tank Creek from WI Hwy 35 bridge, looking downstream

GOAL: Collect product spilled from the bridge or upstream. Access and staging area.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------------------|-------------------|
| BR2 | Black River | | River at wy 35 |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 200 | Y | Y |

Strategy Implementation (Go to Aerial View)

Tank Creek flows out of Black River 1 mi. upstream of bridge. Small spill could be collected at landing. Collection not possible if large spill or fast current. Access river here even if spill has flowed past.

Site Access

WI Hwy 35 bridge over main stem of Black River. Boat access on E bank. In <u>Van Loon State Wildlife Area</u>.

UTM z15 Y: 4873129 **Latitude:** 43.999077

UTM z15 X: 634071 Longitude: -91.327786



Black River, looking downstream from boat landing



View of WI Hwy 35 bridge from boat landing

GOAL: Divert spilled product to collection point before it flows into Pool 7.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------------------|-------------------|
| BR1 | Black River | | River at Trail |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| Div. | 200 | Y | Y |

Strategy Implementation (Go to Aerial View)

Anchor boom upstream of bike bridge on RDB. Cascade two 100 ft. booms to divert oil to private access below bridge. Collection see strategy <u>BR0</u>.

Site Access

Bike trail (Great River State Trail) crossing near Landfill site at mouth of Black River. Canoe access near site. Accessible by air boat. Boat access at 8658 and 8666 Co. Rd. Z (private). Turn right from Co. Rd. Z onto Lytle Rd. to access trail.

 UTM z15 Y:
 4868765
 UTM z15 X:
 633313

 Latitude:
 43.959937
 Longitude:
 -91.338323



Private access next to bike trail on the Black River



Looking upstream to possible anchor point location

GOAL: Contain and collect spilled product before it flows into Pool 7.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------------------|----------------------|
| BR0 | Black River | | River at d bridge |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 200 | Y | Ν |

Strategy Implementation (Go to Aerial View)

Last possible collection point for product spilled on Black River. Collect product diverted in strategy <u>BR1</u> on sand delta. Can back vac truck in on private land for collection. Need 100' vacuum hose. High water after rainfall may make bridge too low for larger boats.

Site Access

Railroad bridge near Landfill site at mouth of Black River. Sand delta just downstream of bridge on LDB, exposed during low water conditions.

UTM z15 Y: 4868658 **Latitude:** 43.959002

UTM z15 X: 633164 Longitude: -91.340217



Private access across railroad tracks to reach riverbank



Riverbank, looking upstream to railroad bridge

GOAL: Contain and collect spilled product above or in lock chamber.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------------------|---------|
| 714c | Mississippi River 714.2 LDB | Lock and | d Dam 6 |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 200 | Y | Y |

Strategy Implementation (Go to Aerial View)

Contain and collect product diverted to LDB in north bay between lock chamber and marina. Leaking vessel can be held in lock. Vac truck can access either site easily. Excellent staging.

Site Access

Turn S from WI Hwy 35 on Fremont St, cross railroad tracks and bear right on Lock and Dam Rd. Request access at security gate. Contact Lockmaster (608) 534-6424. Boat access available at adjacent marina. Steep launch may require pushing boat in by hand in high water conditions.

| UTM z15 Y: 4873078 | UTM z15 X: 625279 |
|--------------------|-----------------------|
| Latitude: 44.00017 | Longitude: -91.437404 |



View of lock chamber from parking lot

GOAL: Keep spilled product from passing over the spillway. Protect mussel beds below spillway.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------------------|----------|
| 714b | Mississippi River 714.2 RDB | Dam 6 S | Spillway |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 1000 | Y | Ν |

Strategy Implementation (Go to Aerial View)

Protect mussel beds below dam. Low flow may allow use of boom to keep spilled product from passing over spillway. Contain product in slack water area at shore. Depending on product, boom below the spillway may be used to collect at private sites.

Site Access

Downstream end of Pool 6 along Minnesota bank. Access from Sunset Bay Marina adjacent to Lock and Dam 6 on LDB. Land access not possible through contractor gate on US Hwy 14/61 due to removed temporary railroad grade crossing.

UTM z15 Y: 4872458 UTM z15 Latitude: 43.994684 Longitud

UTM z15 X: 624695 Longitude: -91.444848



Locked gate access from US Hwy 61



Spillway seen from Pool 7 channel

GOAL: Exclude spilled product to protect Higgins Eye mussel beds.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------|----------------|
| 714a | Mississippi River 714.0 RDB | Mussel Be | ds RM 714 |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Exclude spilled product to protect Higgin's Eye mussel beds along island. During low flow, roller gates at dam can be closed to steer oil to shore.

At high water, dam gates are open, causing fast flow. Boat activity too risky, strategy may not be implementable.

Site Access

Island just downstream of Lock & Dam 6, inlet and north shore. Access from Trempealeau Landing, across river on LDB. For flow control efforts, contact Lockmaster at (608) 534-6424.

| UTM z15 Y: 4872489 | UTM z15 X: 625428 |
|---------------------|-----------------------|
| Latitude: 43.994837 | Longitude: -91.435695 |



Mussel areas along islands below Lock & Dam 6

GOAL: Collect spilled product to protect resources downstream or exclude to protect marina.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------|----------------|
| 713b | Mississippi River 713.8 LDB | Hungry Pc | pint marina |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| C&C | 200 | Y | Y |

Strategy Implementation (Go to Aerial View)

Spill at locks could be contained and collected at marina, a 50 ft. rock inlet with slack water. Vac truck can easily access water near opening.

Site Access

Small private marina with small, shallow access. Turn S from WI Hwy 35 on Fremont St, continue straight on Lake Rd. Larger boat access 1000 ft. upstream at Trempealeau Landing.

UTM z15 Y: 4872669 **Latitude**: 43.996374 UTM z15 X: 625919 Longitude: -91.429531



View of marina opening from Lake Road

GOAL: Keep spilled product from entering East Island side channel and backwater entries.

| Site Number | Waterbody, River Mile | Site N | lame | |
|--|---|--------------------------|----------------|--|
| 713a | Mississippi River 713.2 LDB | East Island Side Channel | | |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access | |
| Exc. | 2500 | Ν | Ν | |
| Strateg | Strategy Implementation (Go to Aerial View) | | | |
| Cascade boom to deflect spilled product into main channel and possible barge collection at Richmond Island (Strategy <u>712b</u>) | | | | |
| | Site A | ccess | | |
| Two side channel openings east of Richmond Island, 1 mi. downstream of L&D 6 on the LDB. Access from Trempealeau Landing, 1 mi. upstream on LDB. | | | | |
| UTM z15 Y: 4871826 Latitude: 43.988708 UTM z15 X: 626384 Longitude: -91.42393 | | | | |



Point of East Island, looking toward Richmond Island

GOAL: Keep oil from entering side channel, divert downstream for collection.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------|----------------|
| 712e | Mississippi River 712.0 LDB | Pigeon Island | l side channel |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Div. | 1500-2000 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Anchor boom at RM 712 LDB to keep spilled product in main channel, to be collected downstream. Cascade boom in shorter sections to keep product out of side channel.

Site Access

Side channel east of Pigeon Island. Anchor on shore near day marker at RM 712. Access from Trempealeau Landing, 2 mi. upstream on LDB.

| UTM z15 Y: 4870204 | UTM z15 X: 627529 |
|--------------------|-----------------------|
| Latitude: 43.97391 | Longitude: -91.410058 |



Day marker at RM 712, looking upstream

GOAL: Contain and collect product in the event of a spill between Trempealeau and Tank Creek.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------|----------------|
| 712d | Trempealeau Lakes | Outlet to F | Round Lake |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| C&C | 100 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Into 2nd and 3rd lake, jurisdiction changes to state. May be easier to collect, but is more wooded and wider (200 ft). Very slow current, 100 ft width at private land.

Site Access

Lake outlet flowing into Round and Mud Lakes. Land access through mown lawn on private property. Boat access at middle landing on lake. Road around lake blocked by locked WI DNR gate. Access from south may require airboat due to shallow areas.

UTM z15 Y: 4872013 **Latitude:** 43.990107 UTM z15 X: 628030 Longitude: -91.403377



Middle boat landing northwest of lake outlet



Private property access for collection

GOAL: Contain and collect spilled product, protect wild rice in Big Marsh.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------|----------------|
| 712c | Tank Creek, Big Marsh | Tank | Creek |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| C&C | 150 | Y | Ν |

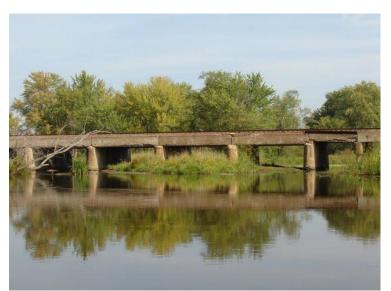
Strategy Implementation (Go to Aerial View)

Could burn in situ in small embankment from tree line to tree line. Cascade boom if needed. Potential use of inflatable dikes to contain non-oil product. Difficult to stage equipment, maybe on bike trail bridge (Great River State Trail).

Site Access

Mouth of Tank Creek, entry to Big Marsh. Possible jon boat access or small staging on bike trail bridge 1000 ft. upstream. Launch boat SE of bridge, may need to cut brush. Good depth and current. Bike trail usable by pickup truck to bring in equipment. Access from Trempealeau. If creek is 2'+ above normal, airboat will be unable to pass under railroad bridge.

| UTM z15 Y: 4871267 | UTM z15 X: 629964 |
|---------------------|-----------------------|
| Latitude: 43.983052 | Longitude: -91.679445 |



Railroad bridge over Tank Creek, entering on the left



Mouth of Tank Creek flowing into Big Marsh

GOAL: Contain spilled product on island or in side channel. Collect on barge.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-------------------------------|----------------|----------------|
| 712b | Mississippi River 712.8 | Richmor | nd Island |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| C&C | 1500 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Cascade boom to keep oil out of side channel and deflect it to a barge anchored on east shore for collection. Additional boom may be needed across main channel to divert oil to RDB from southern tip of East Island (Strategy 713a). Flow enters side channel in high water, but wing dams greatly reduce flow in low water conditions.

Site Access

Upstream end of Richmond Island, on the main channel. Access from Trempealeau Landing, 1.2 mi. upstream on LDB.

UTM z15 Y: 4870946 Latitude: 43.980788

UTM z15 X: 626400 Longitude: -91.42394



Northeast tip of Richmond Island, a possible collection point

GOAL: Protect backwater entry during inflow conditions.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------|----------------|
| 712a | Mississippi River 712.7 LDB | Long La | ke entry |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Protect backwater entry during inflow conditions. Control structure present. Structure may be underwater during high water conditions.

Site Access

Turn S from WI Hwy 35 on Fremont St, continue straight 1 mi. on Lake Rd. Turn right just after left turn to public hunting area. Backwater entry near Long Lake Access, across side channel from East Island. Shallow area with wing dams.

| UTM z15 Y: 4871266 | UTM z15 X: 627024 |
|--------------------|-----------------------|
| | Longitude: -91.416096 |



View of backwater entry from main channel

GOAL: Hold spilled product in Big Marsh for burn or collection to prevent spread downstream.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|--------------------------|----------------|----------------|
| 711c | Big Marsh | Big Mar | sh outlet |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Other | 200 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Anchor boom from tree to tree to hold oil in Big Marsh for burn or collection. Deep outflow channel. Islands may be submerged during high water conditions, making strategy unimplementable.

Site Access

Big Marsh southern outlet that flows to Hammond Chute. Access by airboat unless high water allows access by other boat through Hammond Chute.

UTM z15 Y: 4869940 **Latitude:** 43.971127 UTM z15 X: 629838 Latitude: -91.381347



Trees on either side of outlet can be used to anchor boom



Looking north into Big Marsh outlet

GOAL: Protect backwater entry during inflow conditions.

| Site Number | Waterbody, River Mile | Site | lame |
|--|-----------------------------------|----------------------------|------|
| 711b | Mississippi River 711.5 LDB | Web Slough outlet | |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| Exc. | 50 | Ν | Ν |
| Strategy Implementation (Go to Aerial View) | | | |
| Boom across mouth to prevent spilled product from entering backwater. Optional if strategy <u>712e</u> is used successfully. | | | |
| Site Access | | | |
| Small 30 ft. wide outlet from Long Lake. Access from Trempealeau Landing, 2.5 mi. upstream on LDB. | | | |

| UTM z15 Y: 4869892 | UTM z15 X: 628334 |
|--------------------|-----------------------|
| Latitude: 43.97096 | Longitude: -91.400096 |



Web Slough outlet seen from the side channel

GOAL: Protect large marsh complex entry during inflow conditions.

| Site Number | Waterbody, River Mile | Site I | Name |
|-------------------|-----------------------------------|----------------|----------------|
| 711a | Mississippi River 711.0 LDB | Spring Slc | ough outlet |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | 350 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Anchor boom to trees upstrem of outlet. Less boom needed if permanent anchor installed. Collection possible from a boat. Flow can reverse if Black River is high and Mississippi River is low. Optional if strategy <u>712e</u> is used successfully.

Site Access

Spring Slough and Big Marsh outlet to Mississippi River. Access from Trempealeau Landing, 3 mi. upstream on LDB. Slough typically accessible only by airboat.

| UTM z15 X: 628736 Longitude: -91.395175 |
|--|
| |



Spring Slough outlet seen from side channel

GOAL: Prevent spill on main channel from entering backwater areas.

| Site Number | Waterbody, River Mile | Site I | Name |
|-------------------|-----------------------------------|----------------|----------------|
| 709b | Mississippi River 709.7 LDB | Hammor | nd Chute |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Other | 600-1000 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Anchor boom at day marker just upstream on LDB, cascade boom to deflect spilled product away from chute. In fall, possible to collect and burn in outlet to protect Lake Onalaska. Sorbents may also be used and collected by boat.

Site Access

Hammond Chute, wide backwater opening from Shingle Creek and Big Marsh areas. Main outflow of Black River water. Access from Trempealeau Landing, 4 mi. upstream on LDB.

UTM z15 Y: 4867810 **Latitude:** 43.951914

UTM z15 X: 630131 Longitude: -91.378216



View of main channel from backwater



Day marker at RM 710

GOAL: Protect backwater entry, or use to collect and burn product.

| Site Number | Waterbody, River Mile | Site I | Name |
|-------------------|-----------------------------------|----------------|----------------|
| 708b | Mississippi River 708.5 LDB | No Nam | e Chute |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| C&C | 100 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Backwater can be used to collect and burn spilled product. Boom from trees to protect backwater from spill on main channel. Flow can reverse depending on conditions, whirlpool forms near opening in high water. Deep, rock lined channel.

Site Access

Backwater entry with sand beach on downstream side. Access from Dresbach Landing, 3.5 mi. downstream on RDB or Trempealeau Landing, 5.5 mi. upstream on LDB.

UTM z15 Y: 4866081 **Latitude:** 43.936096

UTM z15 X: 631536 Longitude: -91.361133



Backwater entry seen from main channel



View of rock shoreline in chute

GOAL: Protect backwater during inflow conditions. Collect and burn product under favorable conditions.

| Site Number | Waterbody, River Mile | Site I | Name |
|-------------------|-----------------------------------|----------------|----------------|
| 708a | Mississippi River 708.8 LDB | Bullet | Chute |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | 150 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Backwater can be used to collect and burn spilled product. Protect backwater entry if spill can also be kept out of downstream backwaters. Flow can reverse toward main channel when Black River flow is high. Rock lined channel.

Site Access

Backwater entry. Water access 3 mi. downstream at Dresbach, MN or 5 mi. upstream at Trempealeau Landing on LDB.

UTM z15 Y: 4866357 Latitude: 43.938622 UTM z15 X: 631316 Longitude: -91.363812



Looking down Bullet Chute toward main channel



Bullet Chute seen from the main channel

GOAL: Keep spilled product from entering chute and backwater.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------|----------------|
| 707b | Mississippi River 707.8 LDB | Gibbs | Chute |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | 850 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Boom off openings to chute by anchoring to trees on banks. Use 500 ft. boom to protect northern opening, 350 ft. to protect southern opening. Barge could be anchored on rock sill to block openings. Flow can reverse toward backwater when Mississippi River flow is high.

Site Access

Two openings to Gibbs Chute at RM 707.5 LDB and 707.8 LDB. Access from Dresbach Landing, 2.5 mi. S on RDB.

UTM z15 Y: 4865083 Latitude: 43.926993

UTM z15 X: 632225 Longitude: -91.352798



Lower opening at RM 707.5 LDB



Upper opening at RM 707.8 LDB

GOAL: Use as a staging area or launch recon boats. Possible collection site.

| Site Number | Waterbody, River Mile | Site I | Name |
|-------------------|-----------------------------------|----------------|----------------|
| 707a | Mississippi River 707.1 RDB | Dakota | Ramp |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| C&C | 1500-2000 | Y | Y |

Strategy Implementation (Go to Aerial View)

Public access point, shallow water entry. Too small for response boats, but good access for vac truck if spilled product is diverted into creek mouth. Typical outflow may prevent use for collection. Very limited use in response, maybe only if spill is just upstream.

Site Access

MN DNR Dakota Landing. From I-90 or US Hwy 61, exit to Center St (southbound) or River St. (northbound). Landing is 1000 ft. N of Center St. on RIver St. Ramp gives access to creek between road and railroad bridges.

UTM z15 Y: 4863941 Latitude: 43.916821 UTM z15 X: 631662 Longitude: -91.360095



Landing parking lot and boat access



Outlet beneath railroad bridge, as seen from river

GOAL: Keep product from entering sensitive backwater.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------|----------------|
| 706c | Mississippi River 706.7 LDB | Goose | Chute |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | 500 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Boom across chute opening to keep product from entering Lake Onalaska backwaters. Anchor to trees on banks. Slack or slow water in opening could be used for collection.

Site Access

Goose Chute, across river from Dakota, MN. Access from Dresbach Landing, 1.7 mi. S on RDB.

| UTM z15 Y: 4863751 | UTM z15 X: 632633 Longitude: -91.348051 |
|---------------------|--|
| Latitude: 43.914932 | Longitude: -91.348051 |



Goose Chute viewed from main channel

GOAL: Contain and collect spilled product on barge at Dakota Island.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------------------|--------|
| 706b | Mississippi River 706.8 LDB | Dakota | Island |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 2000 | Ζ | Ν |

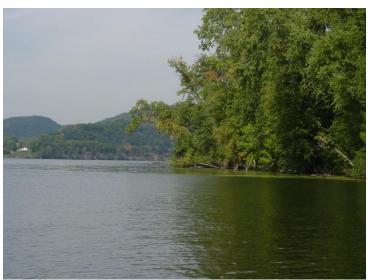
Strategy Implementation (Go to Aerial View)

Use anchor point on LDB or upstream island to cascade boom and divert oil to collect from barge at Dakota Island. May be difficult to implement in high flow conditions.

Site Access

Dakota Island and side channels. Use Dresbach landing at RM 705 RDB for access.

| UTM z15 Y: 4863973 | UTM z15 X: 632362 |
|---------------------|-----------------------|
| Latitude: 43.916974 | Longitude: -91.351386 |



East bank anchor point north of Goose Chute



View from anchor point across river to Dakota Island

GOAL: Crucial to keep spilled product from entering chute, the main inflow to Lake Onalaska.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------------------|---|
| 706a | Mississippi River 706.4 LDB | Sommer's Chute | |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| Exc. | 1000-2000 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Huge flow into Lake Onalaska. Underwater structure reduces flow at 6ft depth. Possible to exclude with boom anchored upstream (Strategy 706b). Cascade boom to exclude oil from entering chute. May be possible to collect oil in eddies at downstream point if flow is not too high. Flow too strong to anchor barge in opening.

Site Access

Largest backwater entry in Pool 7. Access from Dresbach Landing, 1.5 mi. S on RDB.

UTM z15 Y: 4863388 Latitude: 43.911603 UTM z15 X: 632981 Longitude: -91.343808



North bank at entry, seen from middle of chute

GOAL: Divert spilled product from east channel to protect mussel beds.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-------------------------------|----------------------------|---|
| 705c | Mississippi River 705.1 | Dresbach Island N | |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| Div. | 3000 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Divert spilled product to protect mussel beds. Anchor boom above side channel and cascade to divert product across main channel to collect at Dresbach Landing (Strategy <u>705b</u>). Critical to use shallow-skirt river boom due to flow.

Site Access

Wide side channel east of Dresbach Island. Access from Dresbach Landing on RDB. Side channel entry is shallow.

| UTM z15 Y: 4861990 Latitude: 43.89892 | UTM z15 X: 633518 Longitude: -91.337475 |
|--|--|
| | |



View across wing dam to beach next to Dresbach Landing, seen from east bank of main channel

GOAL: Use as staging area and access point. Collect oil on river. Contain oil in storm drainage system.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------------------|-----------------------|
| 705b | Mississippi River 705.0 RDB | Dresbach I | ^D ark Ramp |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 3000 | Y | Y |

Strategy Implementation (Go to Aerial View)

Good staging area and access. Under favorable conditions, collect spilled product diverted away from Dresbach side channel (Strategy <u>705c</u>). Cascade boom to steer oil to shore. Stormwater outfall 10 ft. N of boat launch. Holding pond above parking lot. Low wall along river to the north.

Site Access

Dresback Landing. From I-90, exit to Riverview Dr. Turn or bear N to Park Rd. or Mulder Dr. Turn E toward river to access landing and parking lot. Sand beach lies south of boat launch.

| UTM z15 Y: 4861415 | 1 |
|--------------------|---|
| Latitude: 43.8938 | |

UTM z15 X: 633233 Longitude: -91.341164



Boat landing and parking lot



Landing seen from the river – note outfall at right

GOAL: Collect spilled product at natural collection point, keeping it from entering Lake Onalaska.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------------------|-----------|
| 705a | Mississippi River 705.5 LDB | Proudfoc | ot Slough |
| Strategy Type* | Boom Length (ft) | Land Boat Access Access | |
| C&C | 200 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Natural collection point for heavier product in certain conditions. Exclude light sheen. Spilled product must be kept out of Lake Onalaska, but bend provides a natural collection point. Possible to divert oil to RDB and collect at Dresbach Landing. High water during spring runoff inundates islands, making containment unfeasable.

Site Access

At natural bend approx. 1/2 mi into the slough. Boat access possible 1 mi. downstream from slough opening at Dresbach Landing on RDB. Shallow sand bar may limit access in certain conditions. Rock sill at bend could be anchor location for barge.

| UTM z15 Y: 4862432 | UTM z15 X: 633792 |
|--------------------|-----------------------|
| Latitude: 43.90285 | Longitude: -91.333955 |



Looking southeast into Proudfoot Slough from main channel



Near bend in slough, smaller side channel flows south

GOAL: Collect spilled product before it reaches the spillway.

| Site Number | Waterbody, River Mile | Site Name | |
|---|--------------------------|-------------------|----------------|
| 703b | Black River | Onalaska Spillway | |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Div. | 1000 | Y | Y |
| Strategy Implementation (Go to Aerial View) | | | |
| Trees along shorelines provide anchor points. Divert product from LDB for collection in embayment on RDB. | | | |

Site Access

Black River outlet of Lake Onalaska, above the spillway. Two possible boat access points on French Island. Spillway can be crossed with vehicle, as water runs through, not over, the structure.

| UTM z15 Y: 4860605 | UTM z15 X: 641559 |
|---------------------|-----------------------|
| Latitude: 43.884962 | Longitude: -91.237772 |



View of spillway from east bank

GOAL: Divert spilled product toward RDB for collection at L&D 7.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-------------------------------|----------------|----------------|
| 703a | Mississippi River 703.2 | Dresbach | n Island S |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Div. | 2000 | Ν | Ν |
| | | | |

Strategy Implementation (Go to Aerial View)

Cascade boom from end of Island to divert product toward RDB for collection at L&D 7 (Strategy <u>702a</u>).

Site Access

Southern tip of Dresbach Island. Access from Dresbach Landing, 2 mi. upstream on RDB.

| UTM z15 X: 635254 Longitude: -91.316506 |
|--|
| |



Southern tip of Dresbach Island, looking north

GOAL: Prevent spilled product from passing over spillway into Pool 8.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-------------------------------|-------------------------|----------------|
| 702c | Mississippi River 702.5 | Lock and Dam 7 Spillway | |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | 2000 | Ν | Ν |

Strategy Implementation (Go to Aerial View)

Stand pipe and warning sign provide good anchoring points. Boom across spillway to keep product from passing over spillway. Spillway underwater during high flow conditions, strategy may be unfeasable.

Site Access

Spillway on Dam 7. Access from Upper Spillway Landing, .5 mi. E on French Island, see strategy <u>702b</u>.

 UTM z15 Y: 4858753
 UTM z15 X: 637409

 Latitude: 43.869077
 Longitude: -91.289881



View of spillway, looking east



Same view as above, but during high water conditions

GOAL: Block spilled product from passing through culvert.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|-----------------------|----------------|
| 702b | Mississippi River 702.5 LDB | French Island Culvert | |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| Exc. | 200 | Y | Y |

Strategy Implementation (Go to Aerial View)

Boom across culvert opening to prevent product from entering culvert. Anchor boom ends to shore. Wild celery collects in bay in October. Response will not likely be possible at this time.

Site Access

Exit I-90 at Dawson Ave. Go N to Fanta Reed Rd., turn left. Turn N on Lakeshore Dr. to Spillway Dr. Go to Upper Spillway Landing boat access at end of street. Staging on site.

| UTM z15 Y: 4858781 | UTM z15 X: 638547 |
|---------------------|-----------------------|
| Latitude: 43.869116 | Longitude: -91.275725 |



View of culvert area from dam– note eddy where water is drawn through the culvert

GOAL: Contain and collect spilled product above or in lock chamber.

| Site Number | Waterbody, River Mile | Site Name | |
|-------------------|-----------------------------------|----------------|----------------|
| 702a | Mississippi River 702.5 RDB | Lock and Dam 7 | |
| Strategy Type* | Boom Length (ft) | Land Access | Boat Access |
| C&C | 200 | Y | Y |

Strategy Implementation (Go to Aerial View)

Contain and collect product diverted to RDB (Strategy 703a) in north bay next to lock chamber. Leaking vessel can be held in lock. Vac truck can access either site easily. Excellent staging. USCG response trailer on site.

Site Access

Exit from I-90 or US Hwy 14 to wayside, turn N on Lock and Dam Rd. Access lock chamber or launch from parking lot. Access N bay or launch through security gate. Contact Lockmaster (507) 895-2170.

UTM z15 Y: 4858437 **Latitude:** 43.866535

UTM z15 X: 635787 Longitude: -91.310145



North bay next to lock chamber



Lower parking lot seen from lock chamber access path