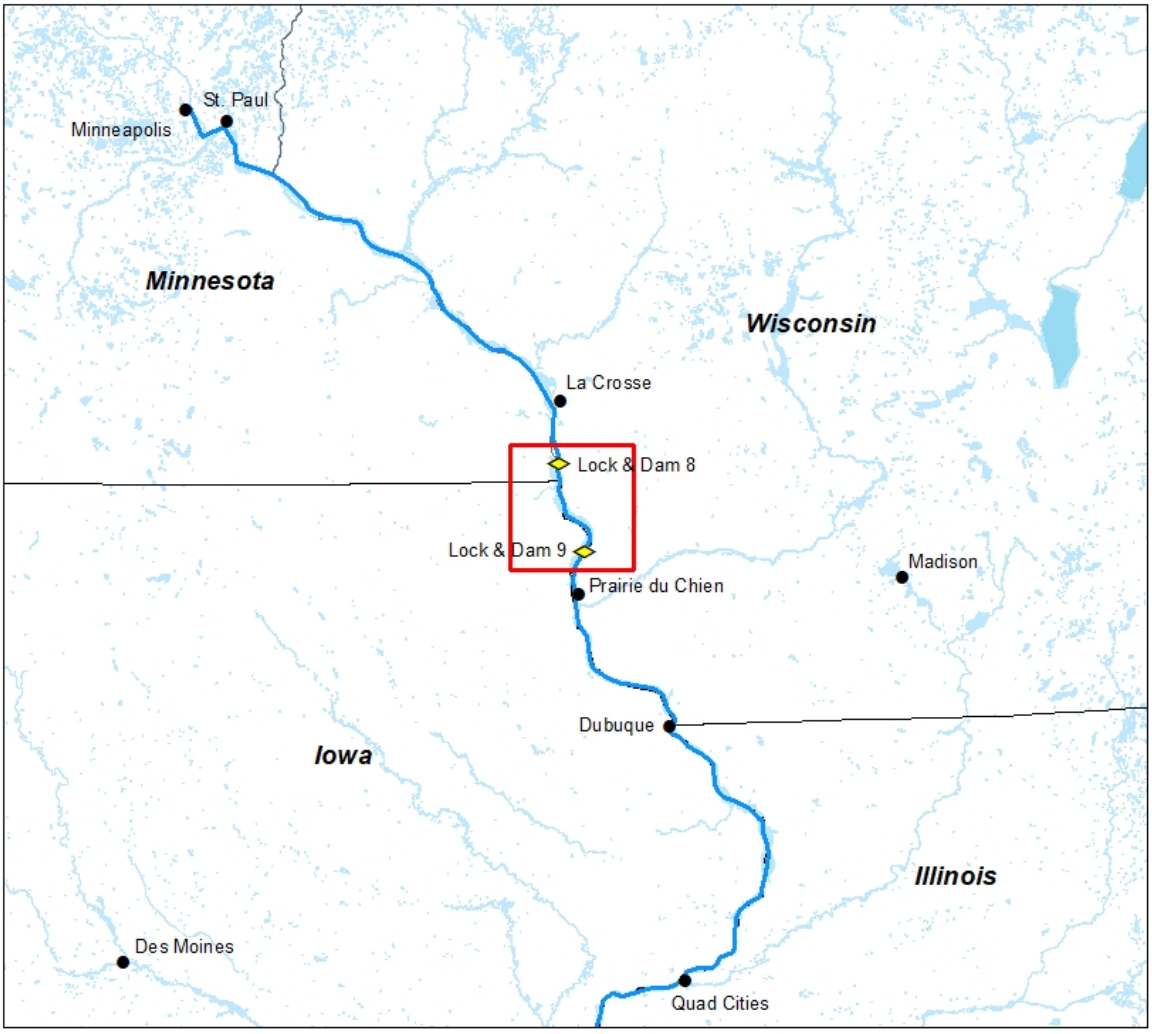
UPPER MISSISSIPPI RIVER POOL 9 OVERVIEW
Resource Description and General Response Considerations



The Pool 9 Spill Response Plan CD was developed to address the long-standing concerns about spills of oil and hazardous substances onto National Wildlife Refuge System lands along the Upper Mississippi River. The Pool 9 Overview document provides information on project background, geographic description of Pool 9, response considerations, and planning tools included in the CD.

Due to long-standing concerns about spills of oil and hazardous substances affecting National Wildlife Refuge properties and associated sensitive resources on the Upper Mississippi River (UMR), the US Environmental Protection Agency, US Fish and Wildlife Service, Minnesota Pollution Control Agency, Iowa Department of Natural Resources (DNR), Minnesota DNR, Wisconsin DNR, US Coast Guard, US Army Corps of Engineers, other agencies, and private sector interests, with the assistance of the Upper Mississippi River Basin Association, have developed a set of planning and response tools for the Upper Mississippi River National Wildlife & Fish Refuge. The goal of this effort has been to foster communications, enhance spill contingency planning and preparedness, and to develop site-specific protection strategies that assist responders in prioritizing tactics and recommending strategies and locations to protect the Refuge and the public from releases of oil or other substances.

This overview document provides a description of Pool 9 and its sensitive resources. It also provides general considerations for response. For more information, see the Site Specific Response Strategies Maps and the Pool 9 Incident Action Plan included on the Pool 9 Spill Response Plan CD.

Location of Pool 9

Pool 9 of the Upper Mississippi River (UMR) is the area between Lock and Dam 8 (river mile 679), at Genoa, Wisconsin, and Lock and Dam 9 (river mile 648), near Lynxville, Wisconsin. Pool 9 includes portions of the Upper Mississippi River National Wildlife and Fish Refuge (Refuge), Blackhawk Park and the Rush Creek State Natural Area (Wisconsin). Populated areas along the river include the towns of Lansing, Iowa and De Soto, Wisconsin. There are no public drinking water intakes in Pool 9; however, the power plants near Genoa and Lansing each have cooling water intakes.

Most of the bottomland in the Pool is owned by the federal government and is administered by the US Fish and Wildlife Service (FWS). Much of what is not federal land is privately held. Both banks are flanked by private land through most of the Pools. Several state- or county-managed areas are also present.

Resource Description

The Mississippi River Valley is confined to a broad bedrock gorge in Pool 9. The interface between the river floodplain and bluffs is generally abrupt. The main channel of the river begins on the left descending bank, then crosses the valley at Lansing, Iowa. From there it follows the right descending bank until crossing back to the left at Lynxville, Wisconsin. The main tributaries to the Mississippi River within Pool 9 are the Upper Iowa River, which enters at river mile 671, and the Bad Axe River, which enters at river mile 675. Smaller tributaries include Winnebago Creek, Village Creek, Rush Creek, and Sugar Creek.

Rail lines run adjacent to the river banks along both banks for almost the entire length of the Pool. The rail embankments may be the only land access point in some parts of the river. Wisconsin Highway 35 runs along the entire length of the pool. Iowa Highway 26 runs along the bluffs behind the railroad tracks from Dam 8 to the Lansing Power Plant. There is minimal road access downstream of the power plant on the Iowa side.

The main feature of the upper reach of Pool 9 is Reno Bottoms. This area has sloughs, backwater lakes, wetlands, isolated backwaters, and bottomland forest. The Pool Slough Closed Area, above the Upper Iowa River, is closed to all migratory bird hunting, hunting, and trapping from March 16 to the end of

duck hunting season, and has voluntary avoidance from October 15 to end of duck hunting season. Below the Upper Iowa River inflow, the Big Slough and Lansing Big Lake area also has sloughs and tertiary channels, interconnected wetlands, and lakes in bottomland forest. There is more open water here, notably Lansing Big Lake. Blackhawk Park, east of the main channel, has modified channels that support important fish habitat in the backwaters.

The main channel of the Mississippi River crosses from the left to the right descending bank at Lansing, Iowa. Winneshiek Slough and its backwaters are a complex of forested islands, wetlands, and lakes crossed by Wisconsin Highway 82. The highway has bridges over the main channel and four side channels.

Below the Rush Creek delta, Lake Winneshiek and Capoli Slough are fringed by restored islands, forested natural islands, and wetland complexes with open water channels. Lake Winneshiek is a large open water lake with stump fields that stretches from Rush Creek to Lynxville, Wisconsin. Critical habitat for endangered mussel species is found in the main channel below the Lansing Power Plant.

The lower reach Pool 9 includes the upper end of Harper's Slough, an important fish and mussel habitat area. It is managed as a closed area during the fall for migratory waterfowl, which can appear in the hundreds of thousands. The lower reach is bound on the upper end by the main channel, where it crosses back from right to left descending banks. Island stabilization projects have recreated seasonally exposed islands and varied habitats.

Response Considerations

Primary Response Goals for Pool 9:

- In general, any spilled oil product should be excluded from backwaters and kept in the main channel of the Mississippi River. Then, if possible, the oil should be diverted with boom and collected on the main shore. Few natural collection sites can be found below Lansing, responders may need to employ on-water collection strategies when possible. Incident Command should prioritize identifying potential collection sites early in the response.

- The main channel below the Lansing Power Plant is designated as critical mussel habitat by FWS. Consult with resource managers to keep spilled product or response actions from affecting the substrate in this area.

- Keeping product out of the refuge's closed areas is a top priority in any spill event. Due to seasonal high waterfowl use, deflection and exclusion booming of multiple openings and channels should be prioritized as a response tactic.

Likely Spill Sources
The most likely potential for spills in this pool is the transportation corridors; railroad, highway, and vessels, tugs, and barges on the river. The BNSF Railroad track runs on the Wisconsin side along the shore or above the bottomlands. CP Rail track runs along the river on the Minnesota and Iowa side, mainly along the shore or above the bottomlands. Both lie directly adjacent to the river or backwaters for almost the entire length of Pool 9. Wisconsin Highway 82 crosses the river from Lansing, Iowa to Wisconsin. Wisconsin Highway 35 runs next to the BNSF railroad tracks along the river or bottomlands for the entire length of the pool. Minnesota and Iowa Highways 26 run along the bottomlands from

Dam 8 to below Lansing. On both banks, access to the Pool from roads is limited, or potentially restricted by the railroad tracks.

Limited Availability of Local Response Resources
Timely response to spills in Pool 9 will require pre-planning and cooperative agreements with local industry and responders. Local response resources and equipment are limited. The closest oil spill response organizations are several hours' drive from either the Twin Cities or Quad Cities. The Iowa regional HazMat team for the area is based approximately 110 miles away in Waterloo, in Black Hawk County.

The Red Wing CAER group (MN) maintains US Coast Guard spill response equipment at the Canadian Pacific rail yard in Marquette, Iowa. A trailer on site contains 1000' of 6" and 12" skirt containment boom, 6 blue/white anchor floats, 5 orange marker buoys, rolls of rope in 25', 50', and 100' lengths, 8 anchors, tow bridles, and small tools. **Contact CP Railroad response group at (612) 904-6132**. BNSF Railroad maintains an equipment trailer in Prairie du Chien, Wisconsin, with 700' of containment boom, sorbents, anchors, and other equipment. **Contact Red Wing CAER (612) 670-8978 or Bob's Towing and Repair (608) 326-6716**. Sorbent boom and boats may also be found at Locks 8, 9 and 10, contact the appropriate Lockmaster. Local equipment is currently adequate for a small or medium spill, but is not sufficient for a large spill. The development of and renewed interest in agreements with a local spill cooperative, such as Red Wing CAER or Dubuque CAER, and procurement of additional response equipment that may be pre-staged are essential in protecting the natural resources and the public in this area. In addition, consideration of the placement of permanent anchor points for the recommended protection strategies should be evaluated.

Use of Locks & Dams/Coordination with USACE
While limited in its potential impact and duration, modification of hydraulic control at Lock and Dam 9 to help slow, stop or divert flow of a spilled product to a collection area could be part of a response operation in some situations. The Lock and Dams may also be natural collection points for spilled product or these structures may be used to alter the flow of the spilled product and facilitate collection. Additionally, the room to stage equipment and command posts at the Locks and Dams should be considered.

Responders must contact the Lockmaster of the appropriate lock for site-specific assistance and information. The Saint Paul District Hydraulics Branch must be contacted to request changes to dam gate settings or for river level/flow projections. See the Emergency Contact list for these numbers.

In-Situ Burning
The uses of these tactics are discussed in the Upper Mississippi River Spill Response Plan and Resource Manual. If in-situ burning is being considered as a response tactic, the in-situ burn checklist found in the UMR Response Plan should be used to evaluate this tactic. In-situ burning will require close coordination with Federal and State resource trustees. Some of the response tactics developed in this document may recommend collection and burning of the product if appropriate. This does not constitute a pre-approval for in-situ burning; consulting the checklist and close coordination with Federal and State Responders and Resource Trustees remains necessary.

Chemical Oil Spill Treating Agents (COSTAs)
The use of COSTAs requires approval of the Regional Response Team. If the use of a COSTA was considered it must be registered on the National Product Schedule and the Incident Commander,

Federal On-Scene Commander (OSC), State OSC, and State and Federal Trustees would have to be in agreement to utilize the registered product. The use of dispersants is not allowed within the boundaries of USEPA Regions 5 and 7 or by the Regional Response Teams. This is primarily because the dispersants solubilize or drive the product into the water column. The river is a drinking water resource. Driving the spilled product into the water column can also have adverse effects on the aquatic life and vegetation. First Responders should also take into account that firefighting foams or dispersants such as "biosolve" or other products can also solubilize the spilled product and release with the firefighting water or storm water and then discharge to the river.

Air Boats

Due to the vast backwater areas and changing seasonal water levels, response efforts should consider the use of air boats for reconnaissance and boom deployment. The river contains impediments like wing dams, underwater structures, and sunken logs which can impede standard boat response. In addition, cold-weather seasonal response may be limited by ice.

Use of Barges or Vessels to Divert or Exclude Spilled Product

The effectiveness of using barges in response has been demonstrated in nearby areas of the UMR. Barges can divert, exclude and collect spilled product. Barges and other vessels could be employed by grounding or anchoring at the designated slough, harbor, or inlet to facilitate the required response tactic.

Communication and Command

An immediate response by local responders, industry, and contractors to collect and contain product prior to its release to the main channel or back waters will be essential in protecting Pool 9. If spilled material reaches the main channel, it will be essential that there are quick notifications and communications and the deployment of a Unified Command and implementation of an Incident Action Plan. An Initial Incident Action Plan for use in the first response period has been prepared to outline the roles of the agencies, local responders, and industry and includes some recommended organizational structures and response tactics. Quick response with deployment of local resources will be vital in the first hours and days of the response until additional resources can be mobilized.

Cold Weather Conditions and Ice Spill Response

Cold weather response and working on ice can create a number of safety concerns. Safety plans will need to take into account such variables as ice thickness variability, under-ice currents, and water depth. Winter weather can also cause equipment failures. Vortex and drum skimmers can be problematic and inefficient in extreme cold weather conditions as properties such as viscosity changes and equipment doesn't work properly. Recovery hoses can freeze and render vacuum-truck recovery difficult.

For on-ice recovery some of the following practices have been found to be very useful:
Partial–depth ice slotting in the surface of the ice to create recovery trenches and catchment sumps for oil; contaminated snow and ice harvesting for later melting and recovery; the creation of snow-berms and ice-berms (water-spraying of snow berms) also helps limit the spread of spills.

For in-water recovery during ice and partial ice conditions, cutting recovery holes is the simplest method. Surface basins can be created in the ice and then opened with ice-auger boreholes for oil collection areas. Ice augers can also be useful for assessment of under-ice oil. Full-cut ice slots can be cut to allow for oil collection and recovery. This can be especially useful in flowing river conditions to capture oil traveling under the ice. Plywood diversion barriers can also be placed through a slot so that

the barrier freezes in place and diverts under-ice oil to a recovery point. Recovery of contaminated ice for later melting and oil separation is also a good method of oil recovery in extreme cold conditions where new ice is entraining a lot of oil.

Stagnant water may require alternative methods to capture oil under ice such as mop-rope recovery between slots. For small frozen ditches and/or melting runoff, underflow dams and straw-bale dams are often preferred for oil collection and recovery.