Preassessment Screen for the Ottawa River and Maumee Bay

Action:

Preassessment Screen on the Ottawa River and Maumee Bay, Lucas County, Ohio and Monroe County, Michigan by the United States Department of the Interior (DOI).

Authority and Delegations:

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended, 42 U.S.C. 9601 et seq., the Oil Pollution Act of 1990 (OPA), 33 U.S.C. 2701 et seq., and the Federal Water Pollution Control Act (FWPCA), as amended, 33 U.S.C. 1251 et seq., authorize the Federal Government and States to recover, on behalf of the public, damages for injuries to natural resources and their supporting ecosystems, belonging to, managed by, appertaining to, or otherwise controlled by the Federal Government or a State.

The President has designated federal natural resource trustees in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.600 and through Executive Order 12580, dated January 23, 1987. Pursuant to the NCP, the Secretary of the DOI acts as a trustee for natural resources and their supporting ecosystems, managed or controlled by the DOI. In this matter, the U.S. Fish and Wildlife Service (Service) is acting on behalf of the Secretary of the DOI as trustee for the natural resources under its jurisdiction.

Requirement:

Federal regulations at 43 CFR § 11.23(a) require Natural Resource Trustees to complete a preassessment screen and make a determination as to whether a Natural Resource Damage Assessment shall be carried out at a site, before assessment efforts are undertaken pursuant to the regulations. This document fulfills that requirement for the Ottawa River and Maumee Bay and follows the structure of Federal Regulations at 43 CFR Part 11.

Purpose:

The purpose of this preassessment screen is to provide a rapid review of the readily available information on releases of hazardous substances and potential impacts on natural resources in the Ottawa River and Maumee Bay – Lake Erie (the Ottawa Site) for which the DOI may assert trusteeship under section 107(f) of CERCLA.

Information on the Site and on the discharge or release (43 CFR §11.24 (a)).

1) The time, quantity, duration, and frequency of the discharge or release:

The sources of hazardous substances to the Ottawa River and Maumee Bay include, but are not limited to, municipal and industrial landfills and industrial sites located along the Ottawa River in and near the City of Toledo, OH. Table 1 contains a partial listing of these sites.

Table 1. Sources of hazardous substances to the Ottawa River and Maumee Bay.

Site	Address
Dura Ave Landfill	Dura Ave Toledo, OH
North Cove Landfill	North Cove Blvd. Toledo
Northern Ohio Asphalt Paving Co.	7950 Sylvania Ave. Sylvania, OH
Perstorp Polyols	622 Matzinger Rd. Toledo, OH
Royster Property	4401 Creekside Ave. Toledo, OH
Sheller-Globe/Armored Plastics	4510 Lint Ave. and 303 Dura Ave. Toledo, OH
Stickney Ave.Landfill	3900 Stickney Ave. Toledo, OH
TextileLeather Corp.	3729 Twining Toledo, OH
Tyler Street Landfill	Tyler St. Toledo, OH
XXKem Co.	3903-3905 Stickney Ave. Toledo, OH
Fraleigh Creek (F/K/A Unnamed Tributary to the Ottawa River	Stickney Ave. Toledo, OH

The above (and possibly additional) sites have been sources of a wide range of hazardous substances to the Ottawa River and Maumee Bay. The classes of hazardous substances currently known to occur at these sites are given in Table 2

Table 2. Classes of hazardous substances known to occur at sites near, or adjacent to, the Ottawa River and Maumee Bay.

Dura Ave Landfill	heavy metals, volatile organic compounds, semi volatile organic compounds, PCBs
North Cove Landfill	heavy metals, volatile organic compounds, semi volatile organic compounds, PCBs
Northern Ohio Asphalt Paving Co	heavy metals, PAHs
Perstorp Polyols	formaldehyde
Sheller – Globe/Armored Plastics	heavy metals, volatile organic compounds, PCBs PAHs, hydrocarbons
South Cove Landfill	paint wastes
Stickney Avenue Landfill	organochlorines, heavy metals, volatile organic compounds, semi volatile organic compounds
Textileather Corp	PCBs
Tyler Street Landfill	heavy metals, volatile organic compounds, semi-volatile organic compounds, PCBs
XXKem Company	heavy metals, volatile organic compounds, semi-volatile organic compounds, PCBs
Fraleigh Creek (F/K/A Unnamed Tributary to the Ottawa River	PCBs

2) The hazardous substances released:

Bottom sediments and biota of the Ottawa River and Maumee Bay are contaminated with PCBs, chlorinated pesticides, PAHs, other organic chemicals and heavy metals that originated from the above listed landfills and industrial facilities. A partial listing of hazardous substances that have been identified in the Ottawa River and adjacent Maumee Bay is provided in Table 3.

Table 3. Selected hazardous substances and their Chemical Abstract Registry Numbers identified in water, sediments and/or biota in the Ottawa River and adjacent Maumee Bay.

cadmium (7440439)	**chromium (7440473)**	**lead (7439921)**
mercury (7439976)	**selenium (7782492)**	**silver (7440224)**
benzo(k)fluoranthenbe (207089)	**fluoranthene (206440)**	**pyrene (129000)**
chrysene (218019)	**benzo(b)fluoranthene (205992)**	**benzo(a)anthracene (56553)**
benzo(a)pyrene (50328)	**phenanthrene (85018)**	**toxaphene (8001352)**
indeno(1,2,3-cd)pyrene	**aroclor 1248 (PCB)**	**Aroclor 1242 (PCB)**

(193395)	(12672296)	(53469219)
aroclor 1016 (PCB) (12674112)	aroclor 1254 (PCB) (11097691)	hexachlorobenzene (118741)
heptachlor (76448)	chlordane (57749)	dieldrin (60571)
endosulfan (115297)	endrin (72208)	DDE (72559)

3) History of the current and past use of the Ottawa Site:

The Ottawa River begins southeast of Sylvania, Ohio at the junction of Ten Mile Creek and North Ten Mile Creek. From there it flows, generally south east, through the City of Toledo, to Maumee Bay (Lake Erie), entering Maumee Bay - Lake Erie approximately 2.3 miles north of the Maumee River in Monroe County Michigan. The City of Toledo, with a population of more than 300,000 is the only significant urban center in the watershed. Upstream of Toledo, land use is primarily agricultural with some residential development. There is substantial marina development near the confluence of the Ottawa River with Maumee Bay. However, there is still significant undeveloped land in the lower reaches of the Ottawa, including significant hydraulically connected wetland complexes within the City of Toledo. Northern Maumee Bay is a protected shallow aquatic ecosystem with several islands and shallows supporting submergent and emergent vegetation. The combination of hydraulically connected wetlands in the Ottawa River, and islands and shallows in Maumee Bay, result in an area of significant natural resource value.

4) Relevant operations occurring at or near the Ottawa Site:

Decades of manufacturing activity and improper waste disposal practices have resulted in the release of hazardous substances to the Ottawa River and its watershed. Hazardous substances have migrated from landfills along the banks of the Ottawa River and from industrial facilities in the watershed, contaminating water, fish and wildlife in the Ottawa River and adjacent waters of Maumee Bay (Lake Erie). Most of the landfills which were sources of hazardous substances to the Ottawa River have been or are being remediated under CERCLA and other authorities. However, there are currently no regulatory activities underway to address the contamination present in water, sediments, fish and other biota in the Ottawa River and Maumee Bay.

5) Additional hazardous substances potentially released from the Ottawa Site:

A partial listing of known hazardous substances is given in Table 3

6) Potentially responsible parties:

The PRPs include, but are not limited to, GenCorp Inc, City of Toledo, Kaiser Jeep Corp., DaimlerChrysler Corp., American Motors Corp., Allied Signal Inc., AP Parts International Inc., Blade Communications Inc., BFI Waste Systems of North America Inc., Centerior Energy Corp., Chevron U.S.A. Inc., Cooper Industries Inc., Cytec Industries Inc., Dana Corp., E.I. du Pont de Nemours & Co., Envirosafe Services of Ohio, Inc. (F/K/A Fondessey Enterprises Inc.), Flower Hospital, Mercy Hospital of Toledo Ohio Inc., Owens-Illinois Inc., Libbey Glass Inc., Riverside Hospital, Northcoast Health Systems Inc., St. Charles Hospital of Oregon Ohio, St. Luke's Hospital, St. Vincent Medical Center Inc., the Toledo Hospital, Promedica Health Systems Inc., City Auto Sampling Division of Shellar-Globe Corp. (N/K/A United Technologies Automotive Systems Inc.), Waste Management of Ohio Inc., International Paper, the Dial Corp., Earl Scheib of Ohio Inc., Eastman Kodak Co., Hanson Building Materials America Inc., Reichert Stamping Co., SafetyKleen Envirosystems Co.,the Sherwin-Williams Co., SUNOCO Inc., Borden Chemical Inks, Incorporated Crafts Inc., the Toledo Edison Co., Teledyne Industries Inc., Tecumseh Products Co., Federal-Mogul Corp., Federal-Mogul Ignition Co., Illinois Tool Works Inc., Eagle Industries Inc., Textileather Inc., Ohio Department of Transportation, Toledo Blade Company, Pan American Chemical, Miller Brothers Paving, Northern Ohio Asphalt Paving and Hepheastus.

Damages excluded from liability under CERCLA (43 CFR §11.24 (b)).

Damages resulting from discharge or release of PCBs and other hazardous substances (Table 3) at the Ottawa site were not identified in any environmental impact statement, pursuant to the National Environmental Policy Act (NEPA), as amended, 42 U.S.C. 4321 et seq.

The release of PCBs and other hazardous substances (Table 3) did not occur wholly before enactment of CERCLA, nor the 1977 amendments to FWPCA. Injuries to natural resources and resultant damages to the public from the release did not occur wholly before enactment of CERCLA, nor the 1977 amendments to FWPCA.

Damages resulting from the release of PCBs and other hazardous substances (Table 3) did not result from application of a pesticide product registered under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, 7 U.S.C. 136.

Damages resulting from the release of PCBs and other hazardous substances (Table 3) did not result from any federally permitted release as defined in section 101(10) CERCLA.

No exclusion from damages is applicable to this site, pursuant to the CERCLA and FWPCA.

Preliminary identification of pathways (43 CFR §11.25 (a)).

Hazardous substances were released from landfills and industrial sites along the Ottawa River over several decades. Hazardous substances have migrated downstream. contaminating natural resources in the Ottawa River and adjacent Maumee Bay (Lake Erie). Injuries to trust resources in the Ottawa River and adjacent Maumee Bay (Lake Erie) are the result of both the direct and indirect effects of hazardous substances through the direct contact, surface water, particulate movement, and food chain pathways. Hazardous substances are present at concentrations sufficient to cause direct toxicity to trust resources. In addition, hazardous substances are present at concentrations sufficient to cause toxicity to food organisms. This injures trust resources indirectly by reducing the ability of the Ottawa River and adjacent Maumee Bay (Lake Erie) to provide the supporting services required by trust resources.

Exposed areas (43 CFR §11.25 (b)).

Hazardous substances have migrated from landfills and industrial facilities near and adjacent to the Ottawa River into the Ottawa River, contaminating water, sediments and biota in (approximately) 8 miles of the Ottawa River. Once in the Ottawa River hazardous substances moved downstream to Maumee Bay, contaminating water, sediments and biota in Maumee Bay. The extent of contamination extends from approximately river mile 8.8 through Maumee Bay. While data are not available, it is possible that flood plain soils and wetlands adjacent to the Ottawa River have also been exposed.

The Ottawa River is a tributary to Lake Erie. Hazardous substances discharged to the Ottawa River are known to migrate into Lake Erie and add to contaminant burdens in the Lake and its biota. Currently there are fish consumption advisories for Ottawa River and Maumee Bay, as well as Lake Erie. Several Lake Erie fish species also use the Ottawa seasonally and receive additional exposure while in the Ottawa River. Bald eagles nesting on the Woodtick Peninsula, part of the Erie State Game Area of the State of Michigan, exhibit elevated PCB concentrations and deformities, suggesting the PCBs from the Ottawa River are transported at least three miles into northern Maumee Bay.

Exposed water estimates (43 CFR §11.25 (c)).

Water column concentrations of PCBs were measured at several sites in the Ottawa River in 1986 by the Ohio Environmental Protection Agency. Total PCB concentrations ranged from 200 ng/L to 400 ng/L. The State of Ohio has established water quality criteria at 0.026 ng/L for the protection of human health and at 0.12 ng/L for the protection of wildlife. Data are not available for water column concentrations of other hazardous substances, nor for PCBs other than in 1986.

Estimates of concentrations (43 CFR §11.25 (d)).

Loading estimates are not available from the Ottawa River. Concentration ranges for several hazardous substances in surface water, bottom sediments, and fish of the Ottawa River are provided in Table 4.

Table 4. Concentration ranges for selected hazardous substances in water sediments and biota from the Ottawa River.

	PCBs	Pb	Chrysene	Cr	Pyrene	Flour.	BAP	BAA
Water (ng/l)	200-400		≤2,000	-	-	≤2,000	-	-
Sediment (ug/kg)	50-540,000	nd-1,800	nd-3,300	nd-2,000	nd-7,000	nd-8,800	nd-3,200	nd-2,900
Fish (ug/kg)	**30-510,000**						-	

PCB = polychlorinated biphenyls
Pb = lead
Cr = chromium
BAP = benzo(a)pyrene
Flour. = flouranthene
BAA = Benz(a)anthracene
nd = below analytical detection limits
- = no data are available

Potentially affected resources (43 CFR §11.25 (e)).

1) Natural resources for which the Trustees may assert trusteeship under CERCLA have been or are likely to have been adversely affected by the release:

The following natural resources and their supporting ecosystems have been, or potentially have been, affected: Geologic resources, ground water, surface water (including sediments) and biological resources including benthic organisms, fish, fish eating birds, wading birds, water fowl and fish eating mammals in the Ottawa River and Maumee Bay. The following services to the public have or potentially have been affected: sport fishing, hunting, bird watching, boating, tourism, and passive values provided by wilderness areas, parks, forests, waterways, and a healthy ecosystem.

Migratory bird species in the Ottawa River and Maumee Bay include, but are not limited to, the bald eagle (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*), wood duck (*Aix sponsa*), Canada goose (*Branta canadensis*), common merganser (*Mergus merganser*), great blue heron (*Ardea herodias*), cliff swallow (*Hirundo pyrrhonta*), tree swallow (*Tachycineta bicolor*), Caspian tern (*Sterna caspia*), Forester's tern (*Sterna forsteri*), common tern (*Sterna hirundo*), mallard duck (*Anas platyrhynchus*), black duck (*Anas rubripes*), lesser scaup (*Aythya affinis*) and kingfisher (*Ceryle alcyon*). Numerous species of migratory Neotropical songbirds inhabit the area seasonally.

Fish species in the Ottawa River and Maumee Bay include, but are not limited to, yellow

perch (*Perca flavescens*), white bass (*Morone chrysops*), pumpkinseed (*Lepomis gibbosus*), white crappie (*Pomoxis annularis*), goldfish (*Carassius auratus*), emerald shiner (*Notropis atherinoides*), gizzard shad (*Dorosoma cepedianum*), carp (*Cyprinus carpio*), brown bullhead (*Ictalurus nebulosus*), alewife (*Alosa pseudoharangus*), smallmouth bass (*Micropterus dolomieui*), rainbow smelt (*Osmerus mordax*), Johnny darter (*Etheostoma nigrum*), walleye (*Stizostedion vitreum*), rainbow trout (*Oncorhynchus mykiss*), spottail shiners (*Notropis hudsonius*), log perch (*Percina caprodes*), freshwater drum (*Aplodinotus grunniens*), lake sturgeon (*Acipenser fulvescens*) white suckers (*Catostomus commersoni*), coho salmon *(Oncorhynchus kisutch)* and Chinook salmon *(Oncorhynchus tschawytscha)*.

Rainbow smelt *(Osmerus mordax)*, rainbow trout *(Oncorhynchus mykiss)*, coho salmon *(Oncorhynchus kisutch)* and Chinook salmon *(Oncorhynchus tschawytscha)* are anadromous fish species. Great Lakes populations of yellow perch *(Perca flavescens)*, lake sturgeon *(Acipenser fulvescens)*, walleye *(Stizostedion vitreum)*, and forage fish are nationally significant fish stocks pursuant to the GLFWRA.

2) Preliminary estimate of resources potentially affected:

The Ohio Environmental Protection Agency uses biological indices to assess river and stream quality. The Lacustuary Invertebrate Community Index (LICI) includes invertebrate taxa which are important indicators of stress resulting from contamination by metals and organic compounds. In addition, two fish based indices, which consider factors such as species richness, relative abundance, as well as deformities, fin erosion, lesions/ulcers, and tumors are used. These are the Index of Biotic Integrity for Lacustrine Conditions (IBI) and the Index of Well Being (IWB2). All of these indices indicate degraded biological conditions in the Ottawa River. The LICI and IBI results are less than 50% of their respective targets in the Ottawa River (Table 5). As these are aquatic community indices, they indicate that there has been a greater than 50% loss in aquatic based natural resource services.

Table 5. Ohio EPA biotic community indices results by river segment and targets for the Ottawa River.

River Mile	0-3.2	3.2-4.9	4.9-6.6	6.5-8.8	Target Value
ICI	8	14	13	15	42
IWB2	7.1	6.2	6.1	6.6	7.3-8.6
IBI	24.0	20.0	21.3	21.3	42

Fish consumption advisories and contact advisories have been issued for the Ottawa River since 1991. The current (2004) fish consumption advisory recommends that no one consume any species of fish taken from the Ottawa River between Interstate 475 north of Wildwood Preserve, Toledo and Maumee Bay, Lake Erie (Lucas County). The public is also advised not to wade or swim in the Ottawa River in this area. Fish consumption advisories have also been issued for Lake Erie, including Maumee Bay. These advisories recommend no consumption of channel cat fish above 16 inches in length and only limited consumption of twelve other species of fish.

Preassessment Screen Determination:

Based upon a review of readily available data and an evaluation of the preassessment determination criteria, summarized in this document, the Trustees have reached the following conclusions:

- Releases of hazardous substances have occurred;
- Natural resources for which the trustees may assert trusteeship under CERCLA and FWPCA have been adversely affected by the discharge or release of hazardous substances;
- The quantity and concentration of the released hazardous substances are sufficient to potentially cause injury to natural resources;
- Data sufficient to pursue an assessment are readily available or likely to be obtained at a reasonable cost;
- Response actions planned will not sufficiently remedy the injury to natural resources without further action;

The Trustees hereby determine that further investigation and assessment is warranted and should be carried out at this site in accordance with Federal Regulations at 43 CFR §11, Subparts C and E. The Trustees further determine that current information indicates that there is a reasonable probability of making a successful natural resources damage claim pursuant to section 107 of the CERCLA and section 311 of the FWPCA and that all criteria and requirements in 43 CFR Part 11, generally, and 43 CFR § 11.23(a)-(g), § 11.24 and § 11.25, specifically, have been satisfied.

The information provided and conclusions made in this preassessment screen shall be used to direct further investigations and assessments and is not intended to preclude consideration of other resources later found to be affected or other parties found to be responsible for releases.

Robyn Thorson

Robyn Thorson, Regional Director

U.S. Fish and Wildlife Service

Authorized Official for the
Department of Interior

Date NOV - 3 2004