
A. Fish Species of the Kalamazoo River Watershed

A.1 Kalamazoo River Fish Species List

Table A.1. Fishes in the Kalamazoo River watershed. Data from University of Michigan, Museum of Zoology; MDNR, Institute for Fisheries Research and Plainwell Field Office. Species origin: N = native; C = colonized; and I = introduced. Kalamazoo status: P = recent observation; O = extirpated; U = historical record, current status unknown.

Common name	Scientific name	Species origin	Kalamazoo status
Lampreys			
Chestnut lamprey	<i>Ichthyomyzon castaneus</i>	N	P
Northern brook lamprey	<i>Ichthyomyzon fossor</i>	N	P
American brook lamprey	<i>Lampetra appendix</i>	N	P
Sea lamprey	<i>Petromyzon marinus</i>	C	P
Sturgeons			
Lake sturgeon (threatened)	<i>Acipenser fulvescens</i>	N	P
Gars			
Spotted gar (rare)	<i>Lepisosteus oculatus</i>	N	P
Longnose gar	<i>Lepisosteus osseus</i>	N	P
Bowfins			
Bowfin	<i>Amia calva</i>	N	P
Freshwater eels			
American eel	<i>Anguilla rostrata</i>	C	U
Herrings			
Alewife	<i>Alosa pseudoharengus</i>	C	P
Gizzard shad	<i>Dorosoma cepedianum</i>	N	P
Minnows			
Central stoneroller	<i>Camptostoma anomalum</i>	N	P
Goldfish	<i>Carassius auratus</i>	I	P
Spotfin shiner	<i>Cyprinella spiloptera</i>	N	P
Common carp	<i>Cyprinus carpio</i>	I	P
Brassy minnow	<i>Hybognathus hankinsoni</i>	N	P
Striped shiner	<i>Luxilus chrysocephalus</i>	N	P
Common shiner	<i>Luxilus cornutus</i>	N	P
Hornyhead chub	<i>Nocomis biguttatus</i>	N	P
River chub	<i>Nocomis micropogon</i>	N	P
Golden shiner	<i>Notemigonus crysoleucas</i>	N	P
Pugnose shiner (rare)	<i>Notropis anogenus</i>	N	P

Table A.1. Fishes in the Kalamazoo River watershed (cont.). Data from University of Michigan, Museum of Zoology; MDNR, Institute for Fisheries Research and Plainwell Field Office. Species origin: N = native; C = colonized; and I = introduced. Kalamazoo status: P = recent observation; O = extirpated; U = historical record, current status unknown.

Common name	Scientific name	Species origin	Kalamazoo status
Minnows (cont.)			
Emerald shiner	<i>Notropis atherinoides</i>	N	P
Bigmouth shiner	<i>Notropis dorsalis</i>	N	P
Blackchin shiner	<i>Notropis heterodon</i>	N	P
Blacknose shiner	<i>Notropis heterolepis</i>	N	P
Spottail shiner	<i>Notropis hudsonius</i>	N	P
Rosyface shiner	<i>Notropis rubellus</i>	N	P
Sand shiner	<i>Notropis stramineus</i>	N	P
Mimic shiner	<i>Notropis volucellus</i>	N	P
Weed shiner (extirpated)	<i>Notropis texanus</i>	N	O
Northern redbelly dace	<i>Phoxinus eos</i>	N	U
Bluntnose minnow	<i>Pimephales notatus</i>	N	P
Fathead minnow	<i>Pimephales promelas</i>	N	P
Western blacknose dace	<i>Rhinichthys obtusus</i>	N	P
Longnose dace	<i>Rhinichthys cataractae</i>	N	P
Creek chub	<i>Semotilus atromaculatus</i>	N	P
Suckers			
Quillback carpsucker	<i>Carpionodes cyprinus</i>	N	P
Longnose sucker	<i>Catostomus catostomus</i>	N	P
White sucker	<i>Catostomus commersonii</i>	N	P
Western creek chubsucker (threatened)	<i>Erimyzon claviformis</i>	N	U
Lake chubsucker	<i>Erimyzon sucetta</i>	N	P
Northern hog sucker	<i>Hypentelium nigricans</i>	N	P
Black buffalo (rare)	<i>Ictiobus niger</i>	I	P
Spotted sucker	<i>Minytrema melanops</i>	N	P
Silver redhorse	<i>Moxostoma anisurum</i>	N	P
Black redhorse	<i>Moxostoma duquesnei</i>	N	P
Golden redhorse	<i>Moxostoma erythrurum</i>	N	P
Shorthead redhorse	<i>Moxostoma macrolepidotum</i>	N	P
Greater redhorse	<i>Moxostoma valenciennesi</i>	N	P

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Common name	Scientific name	Species origin	Kalamazoo status
Catfishes			
Black bullhead	<i>Ameiurus melas</i>	N	P
Yellow bullhead	<i>Ameiurus natalis</i>	N	P
Brown bullhead	<i>Ameiurus nebulosus</i>	N	P
Channel catfish	<i>Ictalurus punctatus</i>	N	P
Stonecat	<i>Noturus flavus</i>	N	P
Tadpole madtom	<i>Noturus gyrinus</i>	N	P
Flathead catfish	<i>Pylodictis olivaris</i>	N	P
Pikes			
Grass pickerel	<i>Esox americanus vermiculatus</i>	N	P
Northern pike	<i>Esox lucius</i>	N	P
Muskellunge	<i>Esox masquinongy</i>	N	P
Mudminnows			
Central mudminnow	<i>Umbra limi</i>	N	P
Smelts			
Rainbow smelt	<i>Osmerus mordax</i>	C	P
Trouts			
Cisco (threatened)	<i>Coregonus artedii</i>	N	P
Lake whitefish	<i>Coregonus clupeaformis</i>	N	P
Coho salmon	<i>Oncorhynchus kisutch</i>	I	P
Rainbow trout	<i>Oncorhynchus mykiss</i>	I	P
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	I	P
Round whitefish	<i>Prosopium cylindraceum</i>	N	P
Atlantic salmon	<i>Salmo salar</i>	I	P
Brown trout	<i>Salmo trutta</i>	I	P
Brook trout	<i>Salvelinus fontinalis</i>	I	P
Lake trout	<i>Salvelinus namaycush</i>	N	P
Trout-perches			
Trout-perch	<i>Percopsis omiscomaycus</i>	N	P
Pirate perches			
Pirate perch	<i>Aphredoderus sayanus</i>	N	P
Codfishes			
Burbot	<i>Lota lota</i>	N	P

Table A.1. Fishes in the Kalamazoo River watershed (cont.). Data from University of Michigan, Museum of Zoology; MDNR, Institute for Fisheries Research and Plainwell Field Office. Species origin: N = native; C = colonized; and I = introduced. Kalamazoo status: P = recent observation; O = extirpated; U = historical record, current status unknown.

Common name	Scientific name	Species origin	Kalamazoo status
Killifishes			
Banded killifish	<i>Fundulus diaphanus</i>	N	P
Blackstripe topminnow	<i>Fundulus notatus</i>	N	U
Silersides			
Brook silverside	<i>Labidesthes sicculus</i>	N	P
Sticklebacks			
Brook stickleback	<i>Culaea inconstans</i>	N	P
Ninespine stickleback	<i>Pungitius pungitius</i>	N	P
Threespine stickleback	<i>Gasterosteus aculeatus</i>	I	P
Sculpins			
Mottled sculpin	<i>Cottus bairdii</i>	N	P
Striped basses			
Striped bass x white bass hybrid	<i>Morone saxatilis</i> x <i>M. chrysops</i>	I	P
Sunfishes			
Rock bass	<i>Ambloplites rupestris</i>	N	P
Green sunfish	<i>Lepomis cyanellus</i>	N	P
Pumpkinseed	<i>Lepomis gibbosus</i>	N	P
Warmouth	<i>Lepomis gulosus</i>	N	P
Bluegill	<i>Lepomis macrochirus</i>	N	P
Northern longear sunfish	<i>Lepomis peltastes</i>	N	P
Redear sunfish	<i>Lepomis microlophus</i>	I	P
Smallmouth bass	<i>Micropterus dolomieu</i>	N	P
Largemouth bass	<i>Micropterus salmoides</i>	N	P
White crappie	<i>Pomoxis annularis</i>	N	P
Black crappie	<i>Pomoxis nigromaculatus</i>	N	P
Perches			
Rainbow darter	<i>Etheostoma caeruleum</i>	N	P
Iowa darter	<i>Etheostoma exile</i>	N	P
Johnny darter	<i>Etheostoma nigrum</i>	N	P
Least darter (rare)	<i>Etheostoma microperca</i>	N	P
Yellow perch	<i>Perca flavescens</i>	N	P
Logperch	<i>Percina caprodes</i>	N	P
Blackside darter	<i>Percina maculata</i>	N	P
Walleye	<i>Sander vitreus</i>	N	P

Table A.1. Fishes in the Kalamazoo River watershed (cont.). Data from University of Michigan, Museum of Zoology; MDNR, Institute for Fisheries Research and Plainwell Field Office. Species origin: N = native; C = colonized; and I = introduced. Kalamazoo status: P = recent observation; O = extirpated; U = historical record, current status unknown.

Common name	Scientific name	Species origin	Kalamazoo status
Drums			
Freshwater drum	<i>Aplodinotus grunniens</i>	N	P
Gobies			
Round goby	<i>Neogobius melanostomus</i>	I	P
Source: Wesley, 2005, Table 18.			

A.2 Portage Creek Fish Species List

Table A.2. Portage Creek fish species

Common name	Scientific name
Blacknose dace	<i>Rhinichthys obtusus</i>
Bluntnose minnow	<i>Pimephales notatus</i>
Central stoneroller	<i>Campostoma anomalum pullum</i>
Common shiner	<i>Luxilus cornutus</i>
Creek chub	<i>Semotilus atromaculatus</i>
Horneyhead chub	<i>Nocomis biguttatus</i>
Spotfin shiner	<i>Cyprinella spiloptera</i>
Blackside darter	<i>Percina maculata</i>
Johnny darter	<i>Etheostoma nigrum</i>
Rainbow darter	<i>Etheostoma caeruleum</i>
Yellow perch	<i>Perca flavescens</i>
Bluegill	<i>Lepomis macrochirus</i>
Green sunfish	<i>Lepomis cyanellus</i>
Rock bass	<i>Ambloplites rupestris</i>
Smallmouth bass	<i>Micropterus dolomieu</i>
Golden redhorse	<i>Moxostoma erythrurum</i>
White sucker	<i>Catostomus commersonii</i>
Northern hogsucker	<i>Hypentelium nigricans</i>
Mottled sculpin	<i>Cottus bairdii</i>
Grass pickerel	<i>Esox americanus vermiculatus</i>
Yellow bullhead	<i>Ameiurus natalis</i>
Brook stickleback	<i>Culaea inconstans</i>
Brown trout	<i>Salmo trutta</i>
Northern brook lamprey	<i>Ichthyomyzon fossor</i>

Source: Smith, 2011, as cited in URS, 2013, Table 3.

B. Scientific Names of Species Used in Report

Table B.1. Common and scientific names used in this report

Common name	Scientific name
Alewife	<i>Alosa pseudoharengus</i>
Asian clam	<i>Corbicula fluminea</i>
Atlantic salmon	<i>Salmo salar</i>
Big bluestem	<i>Andropogon gerardi</i>
Blackside darter	<i>Percina maculata</i>
Blackside darter	<i>Percina maculata</i>
Bluegill	<i>Lepomis macrochirus</i>
Bog birch	<i>Betula pumila</i>
Broad-leaved cattail	<i>Typha latifolia</i>
Brook trout	<i>Salvelinus fontinalis</i>
Brown trout	<i>Salmo trutta</i>
Channel catfish	<i>Ictalurus punctatus</i>
Chinook salmon	<i>Oncorhynchus tshawytscha</i>
Clubshell	<i>Pleurobema clava</i>
Common carp	<i>Cyprinus carpio</i>
Common shiner	<i>Luxilus cornutus</i>
Copperbelly water snake	<i>Nerodia erythrogaster neglecta</i>
Deertoe	<i>Truncilla truncata</i>
Dogwood	<i>Cornus</i> spp.
Eastern massasauga	<i>Sistrurus catenatus catenatus</i>
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>
Fawnsfoot	<i>Truncilla donaciformis</i>
Flathead catfish	<i>Pylodictis olivaris</i>
Freshwater drum	<i>Aplodinotus grunniens</i>
Garlic mustard	<i>Alliaria petiolata</i>
Gizzard shad	<i>Dorosoma cepedianum</i>
Glossy buckthorn	<i>Frangula alnus</i> (synonym: <i>Rhamnus frangula</i>)
Golden redhorse	<i>Moxostoma erythrurum</i>
Indiana bat	<i>Myotis sodalis</i>
Indiangrass	<i>Sorghastrum nutans</i>
Indian plantain	<i>Arnoglossum plantagineum</i>

Table B.1. Common and scientific names used in this report (cont.)

Common name	Scientific name
Karner blue butterfly	<i>Lycaeides melissa samuelis</i>
Lake sturgeon	<i>Acipenser fulvescens</i>
Largemouth bass	<i>Micropterus salmoides</i>
Leaf-eating beetles	<i>Galerucella pusilla</i> and <i>G. californiensis</i>
Mapleleaf	<i>Quadrula quadrula</i>
Massasauga snake	<i>Sistrurus catenatus</i>
Mitchell's satyr butterfly	<i>Neonympha mitchellii mitchellii</i>
Mottled sculpin	<i>Cottus bairdii</i>
Mucket	<i>Actinonaias ligamentina</i>
Narrow-leaved cattail	<i>Typha angustifolia</i>
Northern hog sucker	<i>Hypentelium nigricans</i>
Northern long-eared bat	<i>Myotis septentrionalis</i>
Northern pike	<i>Esox lucius</i>
<i>Phragmites</i> (aka common reed) ^a	<i>Phragmites australis</i>
Pimpleback	<i>Quadrula pustulosa</i>
Pitcher's thistle	<i>Cirsium pitcher</i>
Pocketbook	<i>Lampsilis ventricosa</i>
Poison sumac	<i>Toxicodendron vernix</i>
Poweshiek skipperling butterfly	<i>Oarisma poweshiek</i>
Prairie dropseed	<i>Sporobolus heterolepis</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Quillback carpsucker	<i>Carpionodes cyprinus</i>
Rainbow smelt	<i>Osmerus mordax</i>
Rainbow trout	<i>Oncorhynchus mykiss</i>
Rayed bean	<i>Villosa fabalis</i>
Rock bass	<i>Ambloplites rupestris</i> , <i>Ambloplites constellatus</i>
Root-boring weevil	<i>Hylobius transversovittatus</i>
Rufa red knot	<i>Calidris canutus rufa</i>
Sea lamprey	<i>Petromyzon marinus</i>
Smallmouth bass	<i>Micropterus dolomieu</i>
Snuffbox	<i>Epioblasma triquetra</i>
Stonecat	<i>Noturus flavus</i> ,
Striped shiner	<i>Luxilus chrysocephalus</i>
Switchgrass	<i>Panicum virgatum</i>

Table B.1. Common and scientific names used in this report (cont.)

Common name	Scientific name
Tamarack	<i>Larix laricina</i>
Tiger muskellunge	<i>Esox masquinongy</i>
Walleye	<i>Sander vitreus</i>
White heelsplitter	<i>Lasmigona complanata</i>
White sucker	<i>Catostomus commersonii</i>
Zebra mussel	<i>Dreissena polymorpha</i>
a. Although the common name for this plant is “common reed,” it is most commonly known as “ <i>Phragmites</i> .”	

C. Summary of Other Regional and Local Restoration Plans

Several other restoration initiatives are ongoing or planned in the Kalamazoo River watershed. The Trustees relied on other regional and local plans in developing their preferred alternative and their project evaluation criteria (presented in Section 2.3). Additionally, the Trustees would coordinate with other restoration programs to prevent redundancies and avoid conflicts between restoration projects, as well as explore opportunities for coordination to achieve greater benefit to natural resources.

C.1 Regional Restoration Plans

This section summarizes regional plans for restoration in the Kalamazoo River watershed, including river assessments, remedial action plans, and watershed management plans. The geographic area of these restoration plans range in spatial extent from the larger Great Lakes region to the Kalamazoo River watershed and its subwatersheds. A few of the restoration plans focus on the Kalamazoo River Area of Concern, which includes the river and its floodplain from Morrow Dam and Lake Michigan as well as lower Portage Creek (Figure C.1). The Kalamazoo River Area of Concern was designated because of PCB contamination of sediments.¹

The **Great Lakes Restoration Initiative** (GLRI) is a collaborative effort of federal agencies to address significant environmental concerns in the Great Lakes. The **GLRI Action Plan** described the goals for fiscal years 2010 through 2014 for Great Lakes restoration and protection (White House Council on Environmental Quality et al., 2010). The Action Plan addresses five key concerns in the region: (1) cleaning up toxics and Areas of Concern, (2) combating invasive species, (3) promoting nearshore health by protecting watersheds from polluted runoff and algae, (4) restoring wetlands and other habitats, and (5) tracking progress and working with strategic partners. Table C.1 summarizes restoration projects in the Kalamazoo River watershed that have received GLRI grants through March 2015.

1. Areas of Concern were designated by the United States and Canada. They are areas within the Great Lakes that are most severely impacted by toxic substances and pollutants. There are 43 Areas of Concern in the Great Lakes, of which 26 are in the United States.

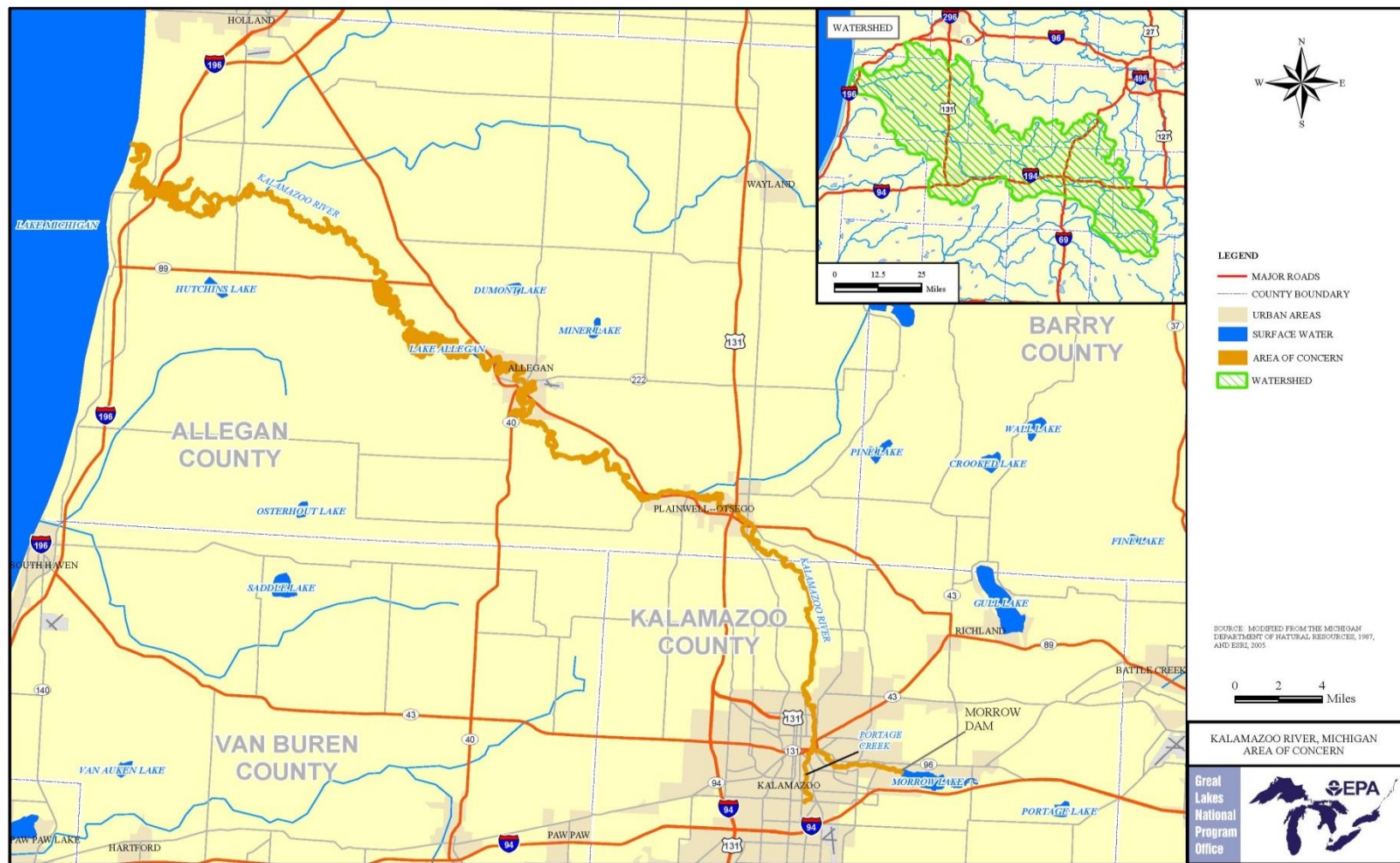


Figure C.1. Kalamazoo River, Michigan Area of Concern.

Source: U.S. EPA, 2013a.

Table C.1. Projects in the Kalamazoo River watershed funded under the GLRI

Project title	Organization	Year funded	GLRI funding	Project description	Status^a
Feasibility Study and Engineering Design Work for the Removal of the Alcott Street Dam	USFWS Direct Implementation	2012	\$141,683	This project will enable the USFWS East Lansing Field Office to collaborate with MDEQ to develop the feasibility study and engineering design for the removal of Alcott Street Dam, located at the former Bryant Mill Pond immediately south of Alcott Street Bridge in the City of Kalamazoo. The site is approximately three miles upstream from Portage Creek's confluence with the Kalamazoo River. Support for the feasibility study would subsequently leverage resources necessary for the removal of the Alcott Street Dam, and will contribute toward removal of the loss of fish and wildlife habitat, degradation of fish and wildlife populations, and degradation of benthos beneficial-use impairments.	To be completed in 2016
Portage Creek Toxic Substance Source Reduction	MDEQ	2010	\$3,347,362	This project restored 1,440 linear feet of habitat in an industrialized section of Portage Creek by removing deteriorating cement channel walls and contaminated fill material from the upland floodplain area. The project was intended to significantly restore habitat for fish and benthic organisms and address the three habitat-related beneficial-use impairments, which will lead to delisting the Kalamazoo River Area of Concern.	Completed
Kalamazoo River Dam Removal Feasibility Study	MDNR	2010	\$361,956	MDNR developed design plans for the removal of two dams (Otsego and Otsego City) on the Kalamazoo River. The plans also addressed removal of PCB-contaminated sediment, which has accumulated behind the dams.	Completed

Table C.1. Projects in the Kalamazoo River watershed funded under the GLRI (cont.)

Project title	Organization	Year funded	GLRI funding	Project description	Status^a
Restoring Habitats of Southwest Michigan Endangered Species	Kalamazoo Nature Center	2010	\$196,139	This project removed invasive species, established native flora, reintroduced historical fire regimes, monitored results, and conducted outreach activities at the Kalamazoo Nature Center. The intent of these activities was to (1) restore approximately 1,500 acres of prairie fen and associated upland habitats, and (2) benefit an additional 500 acres of surrounding forest and wetlands within the Kalamazoo River watershed. Prairie fens and associated uplands, historically oak-dominated savanna, are critical habitats for several state and federally listed species; this project will address the habitat needs of 16 state and federally listed plant and animal species. The project was also intended to improve physical, chemical, and biological processes and ecosystem functions and help maintain or improve conditions for native fish and wildlife.	Completed
Wild Rice Restoration	Match-e-be-nash-she-wish Band of Pottawatomi Indians of Michigan (Gun Lake)	2012	\$141,091	This project involved assessment and restoration of wild rice in the Kalamazoo and Grand River watersheds.	Completed
Wild Rice Restoration Phase II	Match-e-be-nash-she-wish Band of Pottawatomi Indians of Michigan (Gun Lake)	2013	\$100,370	This is a continuation of the 2012 Wild Rice Restoration project.	Completed
Wild Rice Restoration (Bodewadmi Manoomin)	Match-e-be-nash-she-wish Band of Pottawatomi Indians of Michigan (Gun Lake)	2014	\$89,830	This is a continuation of the 2013 Wild Rice Restoration Phase II project, which is focused on providing best management practices, developing a geographic information system (GIS) database layer, identifying threats to wild populations, and informing the public.	To be completed in 2015

Table C.1. Projects in the Kalamazoo River watershed funded under the GLRI (cont.)

Project title	Organization	Year funded	GLRI funding	Project description	Status^a
Spawning Habitat Restoration and Egg and Larval Surveys in the Kalamazoo River, Michigan	Match-e-be-nash-she-wish Band of Pottawatomi Indians of Michigan (Gun Lake)	2013	\$199,000	The ultimate goal of this project is assist with lake sturgeon rehabilitation through habitat restoration in the Kalamazoo River, and ultimately the Lake Michigan basin. It will contribute to the ongoing management of the population through on-the-ground restoration supported by surveys to document reproductive success. This mission has three main objectives: (1) restore 686 ft ² of habitat in the Kalamazoo River suitable for lake sturgeon spawning; (2) conduct egg mat and larval drift surveys to assess fish use of spawning habitat and assist with lake sturgeon restoration; and (3) increase public knowledge of lake sturgeon, tribal culture, and the restoration efforts through public and tribal educational outreach efforts.	To be completed in 2017
Technical Assistance to Agricultural Producers in SE Lake Michigan Watersheds	Calhoun Soil Conservation District	2010	\$793,424	This project provided technical assistance to agricultural producers in the Kalamazoo River, the Black River, and the St. Joseph River watersheds to implement the Agricultural Water Enhancement Program. It attempted to address the following watershed concerns: hydrologic flows and loading of sediment, nutrients, pathogens, and pesticides, as well as energy conservation.	Completed
Allegan State Game Area Wetland Restoration Project	Ducks Unlimited Inc.	2012	\$283,128	Ducks Unlimited will restore and/or enhance 150 acres of wetland habitat on two units of the Allegan State Game Area. This work involves disrupting subsurface drainage tiles, and installing WCS, a pump, and a low-level berm.	To be completed in 2016
Lake Sturgeon Streamside Rearing Facilities	MDNR and USFWS	2011	\$514,223	This project will utilize and adapt the streamside rearing technique for multiple sites in the Great Lakes basin. Under this project, a site on the Kalamazoo River was selected for trailer site placement and site development was completed. This project will also help to protect the genetic diversity of remnant stocks, promote lake sturgeon restoration to the public, increase public participation and ownership in natural resource rehabilitation efforts and education, and ultimately introduce at least 6,000 fingerling lake sturgeon into the Great Lakes basin annually.	To be completed in 2015

Source: Great Lakes Restoration, 2015.

The Great Lakes Water Quality Agreement requires the development of remedial action plans for each Area of Concern, including the Kalamazoo Area of Concern (Kalamazoo River Watershed Public Advisory Council, 1998; Sims, 2007). The Kalamazoo River remedial action plan outlines the environmental concerns, referred to as “beneficial-use impairments” in the Kalamazoo River Area of Concern, and provides recommendations for action (Kalamazoo River Watershed Public Advisory Council, 1998). This remedial action plan, which is updated every two years, is used as the primary tool for documenting and communicating progress to the public and to government agencies (Sims, 2007; Spoelstra, 2009; Riley, 2012). As of the 2012 biennial remedial action plan, three of eight beneficial-use impairments for the Kalamazoo River Area of Concern had been assessed and one of the beneficial-use impairments had been removed (Table C.2). In addition, a Fish and Wildlife Expert Team was created to develop local restoration criteria for two beneficial-use impairments: the “Loss of Fish and Wildlife Habitat” and “Degradation of Fish and Wildlife Populations” (Spoelstra, 2009). This team proposed three types of habitat and population-related restoration targets and actions for fish and wildlife in the Area of Concern: (1) “required” restoration for the beneficial-use impairments to be considered restored (e.g., dam removal and restoring impounded areas of the river to a free-flowing state), (2) “facilitative” restoration that helps integrate watershed management across various programs and agencies, and (3) “desirable” restoration to focus on cleanup and restoration of the Kalamazoo River ecosystem that goes above and beyond the “required” restoration activities.

Table C.2. Kalamazoo River beneficial-use impairment status

Beneficial-use impairment	Beneficial use remains impaired	Assessment in 2011	Beneficial-use impairments removed
Restrictions on fish and wildlife consumption	√		
Bird or animal deformities or reproductive problems	√	√	
Degradation of benthos	√		
Restriction on dredging activities	√	√	
Beach closings			March 3, 2011
Degradation of aesthetics		√	April 3, 2012
Degradation of fish and wildlife populations	√		
Loss of fish and wildlife habitat	√		
Sources: Korleski, 2012; Riley, 2012.			

The **Kalamazoo River Assessment** was prepared by the Fisheries Division of MDNR to describe the characteristics of the Kalamazoo River and its biological communities (Wesley, 2005). The Kalamazoo River Assessment describes the characteristics of the river and the watershed, including geography, history, geology and hydrology, soils and land use, channel

morphology, dams and barriers, water quality, special jurisdictions, biological communities, fishery management, recreational use, and citizen involvement. The assessment also describes management options for each of the river segments and watershed characteristics that will protect, rehabilitate, and enhance the integrity of the watershed. Four types of options are presented: (1) options to protect and preserve existing resources, (2) options requiring additional surveys, (3) opportunities for rehabilitation of degraded resources, and (4) opportunities to improve an area or resources beyond the original condition. These management options can be used to guide restoration planning by the Trustees and others.

The **Kalamazoo River Watershed Hydrologic Study** was conducted by MDEQ to improve the understanding of the watershed's hydrologic characteristics (Fongers, 2008). This study provides information to help local governments manage stormwater and develop stormwater ordinances. The study quantifies changes in stormwater runoff as a result of land-use change, and identifies critical areas based on hydrologic criteria (e.g., changes in runoff volume, infiltration, and the frequency and rapidity of short-term changes in stream flow).

The **Kalamazoo River Watershed Management Plan**, prepared by the Kalamazoo River Watershed Council (2011), is a 10-year comprehensive plan that aims to develop a unifying vision for water resources planning and management in the Kalamazoo River watershed. Building on subwatershed efforts and addressing spatial and informational gaps, this plan develops a framework for coordinating existing and new programs, setting direction for policy and management decisions, and prioritizing funding.

The Kalamazoo River Watershed Council also developed management plans for subwatersheds and other management areas in the Kalamazoo River watershed: Figure C.2 shows the locations of areas that have a subwatershed plan. The **Kalamazoo River subwatershed management plans** provide the characteristics of each subwatershed, along with designated and desired uses and management goals. The State of Michigan establishes the designated uses, while local residents, industries, and recreational users determine the desired uses. Table C.3 summarizes the subwatershed management plans within the Kalamazoo River watershed and the Allegan State Game Area management plan.

C.2 Local Plans

The Trustees considered numerous local planning documents while developing their preferred alternative and project selection process. These include master plans, recreational plans, and zoning ordinances that guide long-term growth and development of the community. They focus on land use, economics, transportation, recreation, and housing. Table C.4 summarizes a few of the local plans in the Kalamazoo River watershed; this list is not intended to be comprehensive, but provides an overview of the types of local plans in this watershed.

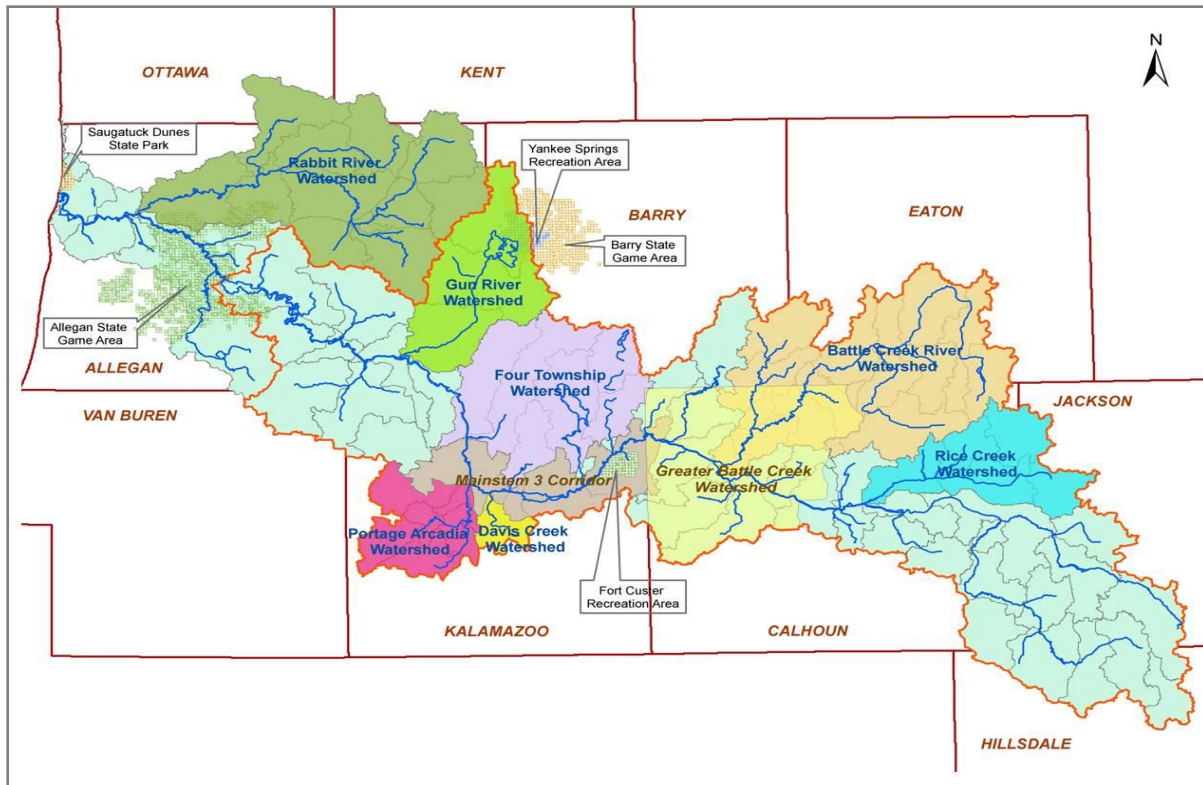


Figure C.2. Subwatersheds and other management areas in the Kalamazoo River watershed. Areas in light blue do not have a watershed plan that is separate from the Kalamazoo River Watershed Management Plan.

Source: Kalamazoo River Watershed Council, 2013.

Table C.3. Summary of subwatershed management plans within the Kalamazoo River watershed

Title of management plan (and citation)	Land area covered by management plan	Land use covered by management plan	Management goals
Allegan State Game Area Master Plan (MDNR, 2012)	Approximately 50,000 acres in Allegan County. Size expected to increase with new acquisitions.	Conserved land managed for wildlife resources.	Responsible management of the area's wildlife resources by: <ul style="list-style-type: none"> ▶ Managing habitats to support appropriate plant communities and enable ecological processes for overall ecosystem health ▶ Creating recreational opportunities that foster appreciation for the area and conservation of wildlife
Rabbit River Watershed Management Plan (FTC&H, 2009)	Approximately 187,000 acres located primarily in Allegan County, with parts extending into Barry, Ottawa, and Kent counties.	Primarily agricultural land (63%), with some forested and urban land.	Goals are to reduce or eliminate the impacts of nonpoint source pollutants and restoring or maintaining designated uses; these goals include: <ul style="list-style-type: none"> ▶ Restoring and maintaining impaired designated uses (i.e., indigenous aquatic life and wildlife and warmwater fishery) ▶ Protecting and preserving threatened designated uses (i.e., coldwater fishery and body contact recreation) ▶ Educating stakeholders about the watershed and its impact on stakeholders ▶ Creating a sustainable strategy for implementing this plan
Upper Rabbit River Watershed Management Plan (Allegan Conservation District, 2012)	Approximately 96,500 acres in upper Rabbit River Watershed.	Primarily agricultural land (60%), with some forested and urban land.	The goals of this plan include: <ul style="list-style-type: none"> ▶ Reducing nonpoint source pollution ▶ Implementing information and education strategies ▶ Protecting high-quality areas ▶ Improving recreational opportunities

Table C.3. Summary of subwatershed management plans within the Kalamazoo River watershed (cont.)

Title of management plan (and citation)	Land area covered by management plan	Land use covered by management plan	Management goals
Gun River Watershed Management Plan (FTC&H, 2004)	Approximately 73,000 acres in Allegan and Barry counties.	Primarily agricultural land (60%), with some forested and urban land.	<p>The following goals are based on protecting desired uses:</p> <ul style="list-style-type: none"> ▶ Ensuring safe and reliable groundwater for drinking ▶ Adding public access sites in Gun River watershed ▶ Using planning techniques to manage growth ▶ Building a trail along Gun River for recreational and informational uses ▶ Protecting prime farmland and agricultural way of life for future generations ▶ Maintaining diversity in watershed ▶ Assisting landowners in enhancing properties for wildlife habitat <p>See plan for goals outlined for designated uses.</p>
Four Townships Area Watershed Management Plan (Four Townships Water Resources Council, 2010)	Four townships (i.e., Prairieville, Barry, Ross, and Richland townships) plus the watersheds of streams that originate in the four townships.	Primarily agricultural land (44%) and forested land (25%).	<p>The following goals are based on protecting the designated uses:</p> <ul style="list-style-type: none"> ▶ Preserving or managing natural and working lands within riparian areas to prevent an increase in pollutants that threaten water quality ▶ Mitigating nonpoint source pollutants in storm-sewer and riparian areas ▶ Restoring natural hydrological regimes in streams and natural ecosystems within riparian areas
Portage and Arcadia Creeks Watershed Management Plan (The Forum of Greater Kalamazoo, 2006)	Approximately 43,700 acres; includes Arcadia Creek, Portage Creek, the West Fork of Portage Creek, and Axtell Creek.	Primarily open space, forested, and urban land, with some agricultural land and water and wetlands.	Subwatershed goals not available

Table C.3. Summary of subwatershed management plans within the Kalamazoo River watershed (cont.)

Title of management plan (and citation)	Land area covered by management plan	Land use covered by management plan	Management goals
Davis Creek Watershed Management Plan (The Forum of Greater Kalamazoo, 1996); and Davis Creek Phosphorus Reduction Study (FTC&H, 2011)	Approximately 9,500 acres in portions of Comstock, Pavilion, and Kalamazoo townships and portions of the Cities of Portage and Kalamazoo.	Primarily residential and industrial areas with some urban parks. Contains two Superfund Sites. Approximately 20% of the watershed contains wetlands.	Principal water quality goals from the watershed management plan (The Forum of Greater Kalamazoo, 2006) include: <ul style="list-style-type: none"> ▶ Creek safe for children ▶ Clean water ▶ Improved habitat ▶ Restored biodiversity ▶ Viable fisheries
Kalamazoo Mainstem 3 Corridor Watershed Management Plan (Kalamazoo River Mainstem 3 Corridor Steering Committee, 2006)	Approximately 66,000 acres in Kalamazoo County.	Largely urban land along the river corridor with some rural and agricultural land in the headwaters.	Long-term goals for protecting and restoring designated uses include: <ul style="list-style-type: none"> ▶ Educating public about their role in protecting the watershed ▶ Managing flow regimes and reducing pollutant loadings ▶ Minimizing impacts on drinking water, natural features, unique/critical habitats, community amenities, and native species ▶ Promoting and encouraging passive outdoor recreational with suitable public access ▶ Supporting a community-based mechanism to implement and sustain the plan
Battle Creek Watershed Management Plan (Battle Creek River Watershed Project, 2004)	Approximately 196,750 acres in northern Calhoun, southeastern Barry, and southern Eaton counties.	Primarily agricultural land (68%) with some forested land, wetlands, and urban, rural, and non-farm lands.	The goals of this plan include: <ul style="list-style-type: none"> ▶ Reducing nonpoint source pollution in the watershed ▶ Restoring Battle Creek River into a natural functioning system using the Rosgen Methodology by implementing a natural channel design ▶ Protecting and enhancing critical natural resources ▶ Increasing public awareness and protection of watershed by providing public recreational opportunities ▶ Implementing information and education program to increase awareness

Table C.3. Summary of subwatershed management plans within the Kalamazoo River watershed (cont.)

Title of management plan (and citation)	Land area covered by management plan	Land use covered by management plan	Management goals
Kalamazoo River Ceresco Reach Watershed Management Plan (MDEQ, 2009)	Approximately 13,800 acres in west-central Calhoun County; includes Crooked Creek (Stiles Drain), Pigeon Creek, an unnamed tributary, and the Easterly and Dibble drains.	Primarily agricultural land (63%) with some forest lands (16%); wooded wetlands (7%); herbaceous open field (4%); residential (3%); transportation, communication, and utilities (1%); and pasture (1%).	<p>The goals of this plan include:</p> <ul style="list-style-type: none"> ▶ Reducing nonpoint source pollution through best management practice implementation in agricultural areas ▶ Restoring, enhancing, and maintaining natural hydrology through culvert replacement, dam removal, and wetland protection, enhancement, and restoration ▶ Implementing information and education program to increase awareness of nonpoint source pollution through demonstration sites, workshops, partnerships, websites, etc.
Rice Creek Watershed Management Plan (Calhoun Conservation District, 2003)	Approximately 58,200 acres in western Jackson and eastern Calhoun County.	Primarily agricultural land (63%) with some forest land (18%), wetlands (9%), urban and built up land (5%), and pasture lands (4%).	<p>The goals of this plan include:</p> <ul style="list-style-type: none"> ▶ Where appropriate, restoring and improving or reducing and eliminating the pollutants affecting or threatening the designated and desired uses of the watershed ▶ Reaching a balance between the need for drainage and the increase of peak flows and flashy (i.e., short, high-volume flow) conditions in the creek ▶ Reconnecting Rice Creek to the natural wetlands/ floodplains would reduce and/or eliminate many of the pollutants negatively affecting the water quality of Rice Creek

Table C.4. Example list of local plans in the Kalamazoo River watershed

Location	Title of plan	Citation
Allegan County	Parks and Recreation Master Plan, 2010–2015	Allegan County Parks Commission, Undated
City of Allegan	A Community Master Plan	City of Allegan, 2010
City of Allegan and Allegan Township	City of Allegan & Allegan Township Joint Recreation Plan 2014–2018	City of Allegan Parks Commission and Allegan Township Planning Commission, Undated
City of Battle Creek	Comprehensive Plan, Planning and Zoning	City of Battle Creek, Undated
City of Battle Creek Parks and Recreation	Master Plan, 2014–2018	City of Battle Creek, 2014
City of Otsego	Community 5-Year Recreation Plan	City of Otsego, 2010
City of Otsego	Master Plan	City of Otsego, 2014
City of Plainwell	Land Use Plan 2002	City of Plainwell, 2003

D. Public Comments

D.1 Responses to Public Comments

Comment number	Commenter	Comment	Response
1	Georgia Pacific	The executive summary notes that funding may come from existing settlements with bankrupt responsible parties (RPs) or with future companies that have liability. The Trustees should describe the process that is intended to be employed to identify those RPs. This process description may help in assuring that any/all available RPs are identified. If there are other potential RPs, how have these RPs been identified, and how will the Trustees get the RPs to participate in the NRDA process?	The identification of RPs is beyond the scope of this report.
2	Georgia Pacific	The document refers to assessment I and II as detailing estimates of release-related injury. Not all of these assessment documents have been completed and been made publically available at this time. Therefore, Georgia-Pacific LLC (GP) reserves the right to comment on these in the future. It is not possible to evaluate the effectiveness with which the proposed restoration alternatives may compensate for an injury absent the assumptions and framework used to estimate injury. GP therefore also reserves the right to make future comments on and as necessary dispute any and all restoration scaling and/or costing.	The trustees have made the Stage I Assessment documents available at this website: http://www.fws.gov/midwest/es/ec/nrda/KalamazooRiver/StageIAssessment.html . Additionally, an update to the recreational fishing damages is available at http://www.fws.gov/midwest/es/ec/nrda/KalamazooRiver/documents/KalamazooRecFishingUpdate16July2009.pdf . The RP/PEIS is not intended to document scaling of restoration to injury and therefore no comments on restoration scaling are needed at this time.

Comment number	Commenter	Comment	Response
3	Georgia Pacific	In some circumstances, cost savings are achieved when compensatory restoration is integrated into remedial activities. For the sake of efficiency, designers should consider such opportunities when designing and implementing remedial action. Remedial Alternatives which include restoration along with compensatory Natural Resource Damage Assessment (NRDA) credits is an extremely difficult process to achieve simultaneously. This difficulty is typically related to a lag time for the NRDA process, and Trustees do not typically have a complete understanding of the level of NRDA damages at the time of remediation. This process makes decision making cumbersome and piecemeal at best. The potential for inefficiencies and lack of cost effectiveness are high in this process and a mechanism needs to be in place to bridge the gap between the remedial investigation/feasibility study (RI/FS) and remedial design Superfund process and NRDA upfront. The environmental impact statement (EIS) should elaborate on what this mechanism is and how this mechanism will be used to bridge the gap between the Superfund and NRDA processes.	We agree that cost savings can be achieved when integrating compensatory restoration into remedial activities. This, in large part, is why the Trustees have prepared this RP/PEIS at this time and why the Trustees are proposing two specific projects that would be conducted in conjunction with the remedial actions in the Kalamazoo River (removal of Otsego City Dam and Otsego Dam). Specifics as to how the dam removals would be conducted in collaboration with the remedial process are provided in Section 3.1.3.1 of the RP/PEIS. The Trustees have collaborated with the response agencies (as described in Section 1.2.2.3 of the RP/PEIS) in the past and would do so in the future.
4	Georgia Pacific	The EIS proposes several different project types allowed for restoration. There are project ownership and maintenance concerns which are not directly addressed in the EIS. For example, RPs do not own Otsego City Dam (constructed 1886) or Otsego Dam (constructed 1904). While the measures called for are feasible, long term maintenance will require partnerships with the private and public sector to achieve and keep the stated goals. Selection of projects located on public lands with improvements that require little or no maintenance or long term ownership by environmental stewards is preferred.	The Otsego City Dam is owned by the City of Otsego and the Otsego Dam is owned by MDNR (a Trustee). As described in Sections 3.1.3.1.1 and 3.1.3.1.2 of the RP/PEIS, the City of Otsego and MDNR have proposed that these dams be removed. Maintenance is important for any restoration project, and is not expected to differ significantly for these dam removal projects than for comparable instream and riparian restoration projects.

Comment number	Commenter	Comment	Response
5	Georgia Pacific	The EIS does not clarify if part of the projects are proposed as purely remediation projects or purely restoration projects? The Trustees should clarify their stance on this question. Dam removal is not an essential component of remediation but is a component of NRDA. If contamination exists, one does not remove a dam to resolve the issue. Instead, one remediates the contaminated media. Dam removal is not a component of remediation.	Dam removal could be, but is not necessarily, a component of remediation, depending on the needs of the specific remediation. Dam removal could be a restoration action that would benefit the natural resources as described in the draft RP/PEIS. If performed as a restoration action, dam removal would be most cost-effective if conducted in conjunction with a sediment removal action (which is part of the remediation). Sections 3.1.3.1.1 and 3.1.3.1.2 of the RP/PEIS describe how the sediment remediation is “EPA-directed” whereas the dam removal itself would be considered a restoration project.

Comment number	Commenter	Comment	Response
6	Georgia Pacific	<p>This section of the document focuses on regulations, laws, and reports, but the introduction is missing a thorough discussion of Kalamazoo River history. The earliest date mentioned in this section is 1954. By this time, the river had several dams installed by numerous governmental and non-governmental factions, which were unrelated to the use of PCBs or the mills. Many of these dams were initially installed at the turn of the century. A clear discussion of the installation dates or ownership of the dams is not provided in the Introduction and are primarily only discussed in Section 3 under the context of “Barrier Removal.” Additionally, sections of the Kalamazoo River have been straightened by the Corp of Engineers. There have been numerous installations such as bridge projects, buildings, publically owned treatment works for solid waste (POTWs), and other industries which had an impact to the river and are unrelated to PCBs or the mills. There are also other Superfund and remediation sites located along the Kalamazoo River, unrelated to the mills, that have impacted the river and these are not discussed in any detail. Reading through the EIS, a reader could be left with the misunderstanding that if it were not for the PCBs or the mills, the Kalamazoo River would be un-impacted from anthropogenic activities. The impact from these various anthropogenic activities apart from PCB sources should also be documented in the EIS. A more complete history of the Kalamazoo River should be added to the Introduction in order to clarify the river’s past and present flow regime in order for the reader to understand baseline conditions. The term “baseline condition” meaning the level of the services that would be provided by the resource(s) if the contaminant (PCBs) were not present.</p>	<p>Chapter 4 of the RP/PEIS describes the Environmental Setting/Affected Environment of the Kalamazoo River that would be impacted by the proposed restoration program. The various anthropogenic activities that influence the river are described in detail there, including the presence of 110 dams in the watershed (Section 4.1.1) as well as impacts to water quality, including PCBs, municipal and industrial discharges, and the Enbridge Oil spill (Section 4.1.2). Additionally, Section 2.1 describes the range of factors that have contributed to the degradation of aquatic, riparian, and upland habitat in the Kalamazoo River watershed.</p> <p>The term “baseline” refers generally to a condition used for comparisons – The intent of the RP/PEIS is to describe the baseline condition of the environmental setting that would be affected by the proposed restoration action, not the NRDA baseline used to quantify injuries (which is the level of services that would be provided by the resource(s) absent the PCB contamination).</p>

Comment number	Commenter	Comment	Response
7	Georgia Pacific	Page 1-1 alludes to two alternative geographic scales for restoration: Kalamazoo River Environment (KRE) or Kalamazoo watershed; these options are rather limiting. Kalamazoo watershed projects may be given preference. However, out-of-watershed compensatory restoration opportunities should not be eliminated from consideration; this preserves future options.	The Trustees use the term “Kalamazoo River Environment (KRE)” to refer to the NRDA assessment area, which includes the Kalamazoo River Superfund Site along with any area where hazardous substances released from the Kalamazoo River Superfund Site have come to be located (Section 1.1 of the RP/PEIS). The KRE is not proposed as a geographic scope of restoration, in part because the complete extent of PCB releases includes portions of Lake Michigan. The two alternative geographic scales proposed for restoration are the corridor of the Kalamazoo River and Portage Creek within the Kalamazoo River Superfund Site (Alternative B; Section 3.2.2) and throughout the Kalamazoo River watershed (Alternative C; Section 3.2.3). The Trustees are not proposing out-of-watershed compensatory restoration opportunities because there are sufficient opportunities for restoration within either of the two proposed geographic scales and because out-of-watershed actions would not directly benefit the resources most affected by the PCB contamination.

Comment number	Commenter	Comment	Response
8	Georgia Pacific	Page 1-1: The EIS is soliciting input on a proposed dam removal. The dams are not owned by the RPs nor are the RPs responsible for the dams or the build-up of sediment behind the dams. Generally, a dam owner is responsible for managing the sediments deposited behind a dam if and when a dam is removed. While an entity that released PCBs into those sediments may be responsible for extra costs incurred by a dam owner because PCBs are present in the sediment, the RPs are not responsible for managing the sediments themselves. This should be made clear in the EIS document.	The removal of PCB-contaminated sediments from the Kalamazoo River is more appropriately discussed in the context of the Superfund cleanup. The removal of the dams is an opportunity for a restoration action that generates NRDA credit.
9	Georgia Pacific	Page 1-1: Preliminary review of the ecological injury assessment suggests dam removal should provide substantial NRDA credits because the restoration benefit is that a dam removal stabilizes an entire reach of stream and restores fish passage within the upper watershed.	The Trustees agree that dam removals would provide many benefits to the stream, as described in Chapter 5. Scaling of NRDA credits is beyond the scope of the RP/PEIS and would be conducted on a project-by-project basis.
10	Georgia Pacific	Page 1-10, Table 1.2: The work on the Former Plainwell Impoundment and the Plainwell #2 Dam Time-Critical Removal Actions should be added to Table 1.2 for Area 1.	These actions are described in the text and have not been added to Table 1.2, which is intended only to summarize the status of the remedial actions. Section 1.2.2.1 has been updated to reflect the release of the Area 1 OU5 and the OU7 RODs, and a Proposed Plan for OU1 in September 2015.
11	Georgia Pacific	Page 1-12, Second Bullet, 10th Sentence: "The remedy includes excavation of PCB residuals that have migrated from the Willow Boulevard/A-Site Landfill...." This sentence is referencing the incorrect landfill for OU4. "Willow Boulevard/A-Site Landfill" should be replaced with "12th Street Landfill" in the sentence. The second bullet on Page 1-12 is over half a page and mentions three separate OUs. The text should be broken into separate smaller bullets by OU for clarity.	The bullet has been broken out into separate sections and the error has been corrected.

Comment number	Commenter	Comment	Response
12	Georgia Pacific	Page 1-13 (Section 1.2.2.2) refers to Stage I injury assessment and a Stage I economic assessment. GP is conducting a rigorous review of these documents as well as other NRDA associated documents and, pending additional information, is not in agreement with many of the underlying assumptions and analyses embedded in those assessments. Review will continue on these reports and comments will be provided, as appropriate, in the future.	This comment has been noted.
13	Georgia Pacific	Page 1-14: A preliminary review of the injury assessments suggests they do not incorporate data and activity after 2003. Thus, injury assessments would need to be updated in the future or credit estimates would need to account for information not integrated into the injury. The need to account for more recent data/information should be made clear in the EIS.	The injury assessments included projections of future injuries when they were developed. The RP/PEIS is not the appropriate place to discuss injury quantification.
14	Georgia Pacific	Page 1-14: The sheet pile wall cut off and controlled the potential migration of contaminants moving toward the river and provided measureable ecological benefit to the surrounding environment. The assumption of no NRD values gained from sheet pile usage should include data sheets and calculations documenting the level of injuries and services lost from this action and a description of what was protected due to the installation of the sheet pile wall. The benefits of the installation should be described to the general public as well.	Injuries under NRDA can include changes in the physical quality of a natural resource resulting indirectly from the release of a hazardous substance, including the effects of any response actions. The section on page 1-14 summarizes the range of injuries included in the Stage I injury assessment report – A complete description of indirect injuries to habitat caused by remedial actions is provided in the Stage I injury assessment report (MDEQ et al., 2005). Benefits of remediation are described in Section 1.2.2.

Comment number	Commenter	Comment	Response
15	Georgia Pacific	Page 1-17: The Plainwell Dam Impoundment Area was remediated, the dam removed, and the river channel returned to its original path between 2007 and 2009. Available post removal biological community and chemistry data should be used to demonstrate the benefits of removing a dam, which should be included in Section 2.1, to justify the removal of the Otsego and Otsego City dams. These lessons learned including the level of biological improvement (e.g., the former Plainwell Dam removal) should be considered for inclusion in the EIS development in the Section on adaptive management and should be provided as guidance (see Specific Comment 2).	Information from the removal of the Plainwell Dam and subsequent remediation of the impoundment area was used to develop the techniques for dam removal (Section 3.1.3.1), and the environmental consequences of dam removal (Chapter 5, subsections titled “Barrier removal”). This information is not germane to Section 2.1, which provides a broad summary of the Proposed Action (the restoration program).
16	Georgia Pacific	Page 2-4, Table 2.1: There is no discussion of how the benefits will be measured and applied to the NRDA process. This information should be provided.	Table 2.1 provides preliminary objectives for the restoration program as a whole. Measurement of benefits and scaling of NRDA restoration is beyond the scope of this document.
17	Georgia Pacific	Page 2-4: Table 2.1 lays out restoration objectives. These objectives appear unnecessarily narrow. For example: <ul style="list-style-type: none"> ▶ The only recreational remedy is to “increase public access.” Trustees should also consider improving the recreational/educational experience at existing access points. This objective is consistent with education programs that the Trustees cite as supportable. ▶ Goals specify increasing mussels and mussel host fish species. Recommend that this goal be broadened to restoring the “services” provided by the benthic invertebrate community. 	Table 2.1 provides preliminary objectives for the restoration program as a whole. This does not exclude the possibility of enhancing the recreational/educational experience at existing access points. However, restoration actions should focus on restoring natural resources and services, not solely human use services. Services provided by the benthic invertebrate community are covered under the first, very broad, ecological restoration objective “Create a diverse healthy ecosystem dominated by native or naturalized species.”

Comment number	Commenter	Comment	Response
18	Georgia Pacific	Pages 2-4 and 2-5: Table 2.1 lays out Restoration Objectives. The portion of the table at the top of Page 2-5 should be modified to remove bullets 1 and 2. These first two bullets are actually “remedial” objectives and should not be included in the table.	These two objectives refer to restoration actions that may be taken to enhance the remedial process, often called “primary restoration.” The Trustees may elect to conduct primary restoration actions if the remedy does not restore the natural resources to baseline condition. For clarity, the Trustees have changed this section of the table from “Other remediation goals” to “Other restoration goals.”
19	Georgia Pacific	Page 2-5: Trustees will not consider “Projects that are solely focused on human-use services and do not include ecological benefits.” This statement is not consistent with the intent of CERCLA nor the underlying principles of compensation. If a project cost effectively compensates for lost human use services, the project should be considered even, if the project provides no ecological benefits. This also contradicts the third bullet on Page 2-6 which notes “Enhanced recreational access...” is an anticipated human-use component to restoration. The last bullet on Page 2-5 should be removed from the document and the third bullet on Page 2-6 should remain.	The NRDA restoration program is focused on restoring the natural resources and the services they provide, not solely services. Natural resource restoration to baseline levels is expected to also restore services to baseline levels. This does not contradict the third bullet on Page 2-6, because the set of bullets on Page 2-6 is describing how natural resource restoration projects include components that address human-use services.

Comment number	Commenter	Comment	Response
20	Georgia Pacific	<p>Page 2-7 Table 2.2:</p> <ul style="list-style-type: none"> ▶ Recommend removing Criteria F3. A project should not be discounted because the project relates to a resource that is important and, therefore, often addressed under existing programs, provided that the project would not be implemented under baseline conditions. ▶ Criteria B1 (affects largest area) and B4 (effects persist for greatest amount of time) may be at odds with criteria I2 (cost effectiveness) and each other; B1, B4, and I2 should be evaluated in combination instead of separately. 	<p>Criterion F3 is intended to focus the Trustees' actions on projects that would not otherwise be implemented. The description of the criterion has been revised to clarify this.</p> <p>Criterion B1 does not address the "largest area" but rather maximizing benefits, which would be reflected in the NRDA credit provided. Criterion B4 also reflects that projects that generate more benefit over time are preferred over those that do not – this would also be reflected in the NRDA credit provided. These two criteria are not at all inconsistent with Criterion I2, which addresses cost-effectiveness. The Trustees would evaluate each project based on consideration of all of the criteria in combination.</p>
21	Georgia Pacific	<p>Page 2-7, Table 2.2: Summary of Trustee criteria for evaluating restoration projects – the criteria states that "Projects that restore or enhance habitat impacted by response actions will be preferred..." Based on our understanding of the views of USE PA, MDEQ, and USFWS personnel concerning remedial alternatives for evaluation in an FS and NRDA credits, this EIS should serve as a mechanism to meet the mutual objectives of the RI/FS and NRDA process. The mechanism should be considered for inclusion within the EIS document.</p>	<p>This RP/PEIS is intended to present the Trustees overall restoration program and provide a programmatic evaluation of the impacts of that program. The specific mechanisms for coordinating the RI/FS and the NRDA process are beyond the scope of this document, and would likely be developed on a case-by-case basis.</p>

Comment number	Commenter	Comment	Response
22	Georgia Pacific	Section 2.4.1 Performance criteria: “The selection of performance criteria may be based either on desired conditions of the restoration site, conditions at an appropriate reference site, or on literature values.” Due to multiple removal actions and emergency responses actions, the Kalamazoo River is in a constant state of flux so that reference sites may be difficult to find and historical literature values of background or baseline conditions may not be appropriate/relevant for comparisons today or in the future. This should be acknowledged in the document.	As stated in Section 2.4.1, performance criteria may be based on a range of appropriate factors. If a reference site is not appropriate, an alternative method may be used.
23	Georgia Pacific	Page 2-9: Section 2.4.2: Adaptive management should be recommended (not required) based upon the type of project selected. If an adaptive management plan is adopted and if the plan includes specific performance criteria, then credit for any project should reflect those criteria.	As stated in Section 2.4.2, planning for adaptive management is critical because all restoration projects have some degree of uncertainty. Credit for restoration projects is typically granted based on anticipated benefits and adaptive management is necessary to ensure that the project is able to provide the appropriate level of benefits and not cause unanticipated adverse effects.
24	Georgia Pacific	Page 2-11, Section 2.4.3 Monitoring parameters: Functional parameters should include indicator species.	The monitoring parameters provided in Section 2.4.3 are described as potential parameters and are intended to be illustrative, not prescriptive. Parameters like “fish abundance” and “macro-invertebrate abundance” could rely on indicator species.
25	Georgia Pacific	Page 2-11, Section 2.4.4 Reporting requirements: Requirement for annual reports may not always be appropriate and should not be specified.	The bullet has been modified in response to this comment.
26	Georgia Pacific	Page 3-1, Section 3: The discussion of the alternatives in Section 3 identifies general aquatic habitat restoration approaches, specific assumptions and methods used to determine the extent to which the projects offset losses is lacking. Additional clarification would be helpful and GP reserves the right to comment on all restoration scaling assumptions and methods.	Scaling of NRDA credit is beyond the scope of the RP/PEIS.

Comment number	Commenter	Comment	Response
27	Georgia Pacific	Page 3-2, Section 3.1.1.3: Techniques for reintroduction and enhancement of native aquatic species can be challenging. Often there are anthropogenic stressors unrelated to PCBs. Restoration activities must consider these stressors in restoration planning activities. For example, the loss of mussel species may be primarily due to habitat alteration and invasive species introduction. Restoration of species populations may not be possible under these conditions. The EIS should recognize that some services cannot be cost effectively restored and specifically acknowledge that “out-of-kind” restoration is a practical and often socially desirable approach to restoration compensation.	All projects, including those related to reintroduction and enhancement of native aquatic species, would be evaluated using the project evaluation criteria in Table 2.2, including looking at feasibility (Criterion A3), cost-effectiveness (Criterion I2), and likelihood of success (Criterion I3). The Trustees' preferred restoration is on-site and in-kind, but alternatives can be considered under the Trustees' restoration criteria, though they would be less preferred.
28	Georgia Pacific	Page 3-36, Section 3.2.2 Alternative B: Restoration within the Kalamazoo River Superfund Site: This alternative limits the actions to those areas that were directly impacted by the discharge and subsequent remediation. Given the impacts due to other variables (anthropogenic changes) such as urban water runoff, filled floodplains, lack of riparian buffer, and a host of other problems, the objectives stated at the beginning of the document are unlikely to be met because of these additional stressors. Existing conditions must be considered in the selection of possible restoration activities.	This comment has been noted. As described in Section 3.3, the Trustees prefer Alternative C because it allows more flexibility to meet the restoration objectives.
29	Georgia Pacific	Section 3.2.3 Alternative C: Restoration within the Kalamazoo River Watershed: If an area is severely impaired for reasons other than PCBs, compensatory restoration located in these areas will not be effective. As such, in evaluating alternatives, the EIS should explicitly acknowledge the practical limitations of strictly defining in-kind and in-place restoration and allow for flexibility in its definition of compensatory restoration.	The Trustees disagree – projects in areas that are severely impaired for reasons other than PCBs can have the potential to be successful restoration projects that generate a larger amount of credit than projects in areas that are less severely impaired. The Trustees have proposed a broad range of compensatory restoration project categories and are proposing to conduct restoration in a very large geographic area with many restoration opportunities.

Comment number	Commenter	Comment	Response
30	Georgia Pacific	Page 3-39: The Trustees did not evaluate stocking because stocking was not consistent with “their goals.” No project types should be eliminated from potential future consideration as goals and circumstances may change.	As stated on page 3-39, the Trustees did not elect to evaluate stocking <u>alone</u> as an alternative, not because it was inconsistent with the Trustees goals but because it would be insufficient to achieve them by itself. However, as also stated on page 3-39, the Trustees may incorporate stocking as a component of certain restoration projects. Techniques for reintroduction and enhancement of native plants and animals are provided in Sections 3.1.2.2 and 3.1.2.3.
31	Georgia Pacific	Section 4: The EIS does not establish the linkage between assumptions and analysis used to calculate PCB-related injury and those assumptions and methods used to quantify restoration credit. This EIS should make these linkages explicate and GP reserves the right to comment when that occurs.	This comment has been noted. Scaling restoration is beyond the scope of this RP/PEIS.
32	Georgia Pacific	Page 5-1: Given the current state of remediation and injury assessment, these projects are by definition piece-meal. It is not clear that this piece-meal approach will ultimately be efficient or effective. The Trustees cite that the entirety of the potential RPs NRD liability has not been determined. The Trustees need to have a more comprehensive understanding of injuries and lost services related to actual damages before embarking on this evaluation. A comprehensive understanding of the damages would preclude a piecemeal approach to the process, which would allow for more pragmatic and effective planning/implementation of restoration projects. The potential for inefficiencies and lack of cost effectiveness are high in this process, and a mechanism needs to be in place to bridge the gap between the Superfund and NRDA processes upfront. The EIS should elaborate on what this mechanism is and how this mechanism will be used to bridge the gap between the Superfund and NRDA processes.	The Trustees are aware of the current state of remediation and injury assessment and appreciate your perspective. However, the Trustees see potential for some early restoration actions, such as the proposed dam removals, that maximize efficiency and reduce costs by collaborating with the remedial process. Additionally, by conducting these projects earlier, they generate more restoration credit and may reduce the accrual of additional damages.

Comment number	Commenter	Comment	Response
33	Georgia Pacific	Section 5: This section outlines the potential environmental consequences of the implementation of the alternatives. This section is a very general, literature discussion and does not provide the level of detail to address the benefits (or detriments) that these alternatives would have. This section should be oriented on a service basis so that the understanding of how the alternatives relate to an NRD oriented feature is adequately communicated. The section is currently written at a very high level and lacks the detail to support an informed evaluation. More detail should be provided and GP reserves the right to review and provide comments when sufficient details become available in the future.	As stated in the introduction to Section 5, this section is intended to “describe the reasonably foreseeable consequences of implementing the alternatives” in the context of NEPA. As described in Section 1.2.1, “the NEPA process is intended to help federal agencies make decisions that appropriately consider environmental consequences of actions that may affect the environment.” It is not intended to be an evaluation of the potential NRDA credit associated with any restoration projects or with the restoration program – this is beyond the scope of this document.
34	International Paper	The RP/PEIS does not demonstrate coordination between the Trustees and the U.S. Environmental Protection Agency (EPA) or with concurrent restoration planning efforts for the KRE.	This comment is addressed in the responses to comments number 34(a) through 34(e).

Comment number	Commenter	Comment	Response
34(a)	International Paper	Trustee activities should be coordinated with EPA's ongoing remediation efforts to avoid inefficiencies, prevent unnecessary costs, and maximize opportunities for cost-effective restoration. The RP/PEIS should therefore present mechanisms for linking restoration projects with remediation required by EPA. This will ensure selection of projects that can simultaneously meet both restoration and remediation goals. The RP/PEIS as drafted does not clearly define the linkage between restoration and remediation, even though the Trustees support the concept of integrated efforts (Stratus Consulting 2013; Abt Associates/Stratus Consulting 2015).	The Trustees agree that coordination with EPA's remediation efforts will avoid inefficiencies, prevent unnecessary costs, and maximize opportunities for cost-effective restoration. EPA reviewed and provided input on the RP/PEIS during its development. Coordination with the response is discussed in Section 1.2.2.3 of the RP/PEIS in general, in the project evaluation criteria in Table 2.2, and for the two proposed dam removal projects in more detail in Sections 3.1.3.1.1 and 3.1.3.1.2. Additional detail on the specifics of coordination with response agencies is not possible at this time as not all response actions or specific restoration project details have been determined.
34(b)	International Paper	The RP/PEIS should also clarify the ties between proposed restoration projects and the remediation plans described in the recent record of decision for OU5, Area 1 (USEPA 2015a) and in the proposed plan for OU1 (USEPA 2015b). Although there is a list of prior remedial actions in Section 1.2.2.1, the RP/PEIS does not describe how the Trustees' restoration objectives were met or how future restoration projects have been planned in light of these actions. For example, there is one sentence in Section 1.2.2.4 stating that "Trustees coordinated with EPA and two paper companies" to plan the Plainwell Impoundment cleanup, and that the state and Trustees "provided input" that led to dam removal. These statements are not sufficient to establish for stakeholders the method and extent to which the agencies work collaboratively to maximize the efficiency and extent of ecological restoration. As presented, it appears that the cleanup efforts being led by EPA are not occurring in coordination with the Trustees.	NRDA restoration compensates for past and future damages to natural resources and services. Remedial actions influence the trajectory of natural resource recovery and therefore affect the quantification of necessary restoration; however, remedial actions themselves cannot serve as compensatory restoration. The quantification of NRDA restoration is beyond the scope of this document. As described in Section 1.2.2.3 of the RP/PEIS, the Trustees do provide comment to EPA on the remedial process and how it influences the NRDA damages and do seek EPA's input.

Comment number	Commenter	Comment	Response
34(c)	International Paper	The RP/PEIS should also clearly explain its relationship to the conceptual restoration alternatives presented by the RP/EA for OU1 (Stratus Consulting 2013) and any additional planning and implementation under way following the completion of that document. This information is necessary under either Alternative B or Alternative C presented in the RP/PEIS.	The RP/EA for OU1 was developed specifically to coordinate restoration with time-critical removal actions for OU1 and to direct the use of NRDA funding from a bankruptcy. It contains the same restoration objectives and project evaluation criteria as the RP/PEIS for the entire Kalamazoo River NRDA, and the proposed restoration actions for OU1 are consistent with the types of restoration proposed under the RP/PEIS.
34(d)	International Paper	Without a transparent and effective coordination effort, the NRDAR process will be inefficient and could lead to unnecessary costs and missed opportunities for cost-effective restoration. Moreover, a transparent and structured coordination effort can help to avoid indirect injuries resulting from remediation, a problem resulting from past remediation efforts and noted by the Trustees on p. 1-14 of the RP/PEIS. Failing to prevent indirect injury during remediation will complicate the Trustees efforts, waste funds, and prolong any injury that may have occurred.	The Trustees agree with each of the statements; however, EPA is responsible for determining the remediation for the Kalamazoo River Superfund site. In addition, see response to comment number 34(a).
34(e)	International Paper	To address the need for transparent coordination between the NRDAR process and remediation, the RP/PEIS should provide a road map describing how remediation efforts in OU1 and OU5, Area 1 are being coordinated with Trustees' restoration planning efforts as described in the RP/EA for OU1 and the RP/PEIS. Even if there is no coordination at all, discussion should be added to acknowledge that the two processes are under way independently. This will better inform stakeholders on the process and tradeoffs that may already be occurring.	The RP/PEIS accurately describes the extent of coordination between EPA and the Trustees. The remedial and NRDA processes are related but separate. As described in Section 1.2.2.3, the Trustees can provide input to EPA on the remedial process, and are committed to working with EPA to maximize benefits to natural resources and services. The Trustees will also account for the effects of the remedial actions on natural resource recovery in the quantification of NRDA damages.

Comment number	Commenter	Comment	Response
35	International Paper	The RP/PEIS does not provide a systematic approach for application of the criteria to evaluate proposed restoration projects, both within operable units and across the entire KRE. The RP/PEIS should more thoroughly integrate the NRDA regulations and encourage a more systematic approach to evaluation of restoration project proposals. The RP/PEIS should also demonstrate the consistent application of the project evaluation criteria.	This comment is addressed in the responses to comments number 35(a) through 35(c).
35(a)	International Paper	RP/PEIS Table 2.2 presents criteria for evaluating restoration projects. Criterion I2 in this table is “benefits achieved at reasonable cost (i.e., project is cost-effective)” (p. 2-7). This is appropriate because the regulations governing the NRDAR process identify cost-effectiveness as one of 10 factors to consider when selecting a restoration alternative (43 CFR Part 11.82 (d)). Another factor for consideration specified by the regulations is the relationship of the expected costs of the proposed actions to the expected benefits from the restoration.	Criterion I2 in Table 2.2 also includes discussion of cost-effectiveness relative to benefits.
35(b)	International Paper	The RP/PEIS should therefore emphasize the need for a rigorous evaluation of each proposed restoration project according to the criteria provided. The RP/PEIS defines the criteria for evaluating restoration proposals, but should also demonstrate the consistent application of these criteria and the process that will ensure that they are consistently applied. This will ensure that the cost-effectiveness and other considerations specified by the NRDA regulations will be addressed consistently as projects are proposed during future steps in the NRDAR process, and will more closely align the RP/PEIS with requirements of the NRDAR regulations.	As described in Section 2.3, the Trustees first evaluate any project using the threshold acceptance criteria, and then consider the rest of the criteria to determine whether and to what extent projects meet those criteria and then decide whether a project should be funded. The Trustees have evaluated the two projects and have determined that they meet the threshold criteria; after considering the remaining criteria, the Trustees have determined that the projects warrant project funding.
35(c)	International Paper	Establishing an appropriate basis for comparisons between restoration actions also provides a scale for use by stakeholders in prioritizing restoration efforts, and a better basis for accounting for ecological benefits to be gained by any restoration alternative.	This comment has been noted.

Comment number	Commenter	Comment	Response
36	International Paper	The RP/PEIS should more thoroughly discuss the well-established concepts and principles that guide the NRDAR process to provide the environmental context in which the restoration program will take place. It should apply the concept of “baseline” as contemplated by the NRDAR process.	This comment is addressed in the responses to comments number 36(a) through 36(e).
36(a)	International Paper	The RP/PEIS is an important means of communicating the Trustees’ restoration plans and their intended purpose to stakeholders. To do this effectively, the RP/PEIS must explain the NRDAR process, including its overarching goal to address loss of natural resource services due to releases of hazardous substances by undertaking restoration actions. In addition, it should explain the key concepts of baseline, debits, and credits for the purposes of NRDAR.	The draft RP/PEIS was designed to solicit public opinion on proposed restoration alternatives and the environmental impacts of those alternatives. Please see reference to use of “restoration baseline” above in response to comment number 6 and in Section 3.2.

Comment number	Commenter	Comment	Response
36(b)	International Paper	As the Trustees are aware, the term baseline has a specific meaning in the NRDAR context: “the condition or conditions that would have existed at the assessment area had the discharge of oil or release of the hazardous substance under investigation not occurred” (43 CFR 11.14(e)). In its current form, the RP/PEIS uses this term in two different ways, and more frequently uses it to define the condition prior to restoration. For the concept of pre-restoration conditions, the RP/PEIS should refer to the “no action alternative.” “Baseline” should only be used in the manner defined by the NRDA regulations.	The term “baseline” does have a particular meaning for injury quantification, as presented in Section 1.2.2.2 of the RP/PEIS when discussing baseline levels of services and restoring to baseline conditions as well as in Section 2.1 (“Restoration actions can contribute both to restoring injured resources to baseline condition, defined as the condition that the resources would be in absent the release of PCBs, and to compensating the public for interim losses to the resources and services that have occurred in the past and that will continue to occur in the future until resources are restored to baseline condition.”). The use of the term baseline is also appropriate for NEPA analysis of impacts of a program, in this case the restoration alternatives. In this use, baseline relates to the conditions prior to restoration rather than the condition that natural resources would have been in absent the release of hazardous substance. The RP/PEIS has been revised to clarify the context where appropriate.

Comment number	Commenter	Comment	Response
36(c)	International Paper	Moreover, the RP/PEIS must help stakeholders understand that baseline consists of the condition in the KRE but for the release of hazardous substances, particularly in Section 4. This section describes the environmental setting, including many environmental problems that are entirely separate from those caused by releases of hazardous substances. This gives the mistaken impression that the wide range of issues described are to be addressed by the NRDAR program. Because the RP/PEIS is presented in the context of both the National Environmental Policy Act and the NRDA regulations, it is appropriate that Section 4 also clearly state that the poor water quality, the Enbridge oil spill, invasive species, etc., all contribute to the baseline condition. More consistent presentation of this important context is necessary for stakeholders to understand the scope and goals of restoration actions pursued under the NRDAR process.	As stated in the first sentence of Section 4, Section 4 describes the baseline condition that could be affected by the alternatives (not the baseline condition of resources absent the releases of PCBs).
36(d)	International Paper	As written, the RP/PEIS conveys a sense of limitless restoration projects that may be undertaken to address the many environmental problems in the watershed. Better explanation and incorporation of the fundamental NRDAR concepts will improve efforts to prioritize restoration projects and to maximize overall benefits of the restoration program relative to dollars spent and the programs limits. Clarification of these concepts will also improve the linkage between the RP/PEIS and the Superfund program.	The RP/PEIS provides the range of possible restoration projects that may be undertaken in the Kalamazoo River Watershed to compensate for the injuries associated with PCB releases to the KRE. Quantification of injuries and restoration scaling is beyond the scope of this document.
36(e)	International Paper	Given the extent and complexity of restoration envisioned by the RP/PEIS, there should be a careful accounting of projects across the KRE, and this process for accounting should be clearly described to stakeholders. Resource debits, restoration credits, and the specific baseline condition of the KRE for the NRDAR should be clarified and incorporated throughout the document.	Quantification of injuries and restoration scaling is beyond the scope of this document.

Comment number	Commenter	Comment	Response
37	International Paper	Inconsistencies between the RP/PEIS and the RP/EA for OU1 should be corrected.	The Trustees do not believe that the RP/PEIS, which is a programmatic restoration program guidance document, is inconsistent with the OU1 RP/EA. This comment is addressed in the responses to comments number 37(a) through 37(c).
37(a)	International Paper	The RP/PEIS should provide additional detail on the application of project selection criteria presented in Table 2.2. Inconsistencies in the application of the criteria and in statements of priorities of the restoration program can be avoided if the RP/PEIS demonstrates a more rigorous application of the criteria in the evaluation of proposed projects.	This comment has been addressed in the response to comment number 35(b).

Comment number	Commenter	Comment	Response
37(b)	International Paper	The 2013 RP/EA for OU1 (Stratus Consulting 2013) presents project evaluation criteria in Table 2 that are also presented in Table 2.2 of the RP/PEIS. Criterion F1 is “Onsite Restoration,” described as “Projects most directly benefiting resources associated with the Kalamazoo River and Portage Creek are preferred over projects with less direct or more distant benefits.” However, three of the nine proposed projects in the 2013 RP/EA are not within the KRE. The 2013 document describes the Trustees’ preference for projects in the “Kalamazoo River Watershed,” but does not mention the KRE. In addition to this inconsistency, the 2013 document does not report how the projects were selected using the criteria described in Table 2, and why several candidate projects are outside the KRE.	<p>The Trustees use the term “Kalamazoo River Environment (KRE)” to refer to the NRDA assessment area, which includes the Kalamazoo River Superfund Site along with any area where hazardous substances released from the Kalamazoo River Superfund Site have come to be located (Section 1.1 of the RP/PEIS). The KRE is not proposed as a geographic scope of restoration, in part because the complete extent of PCB releases includes portions of Lake Michigan. The two alternative geographic scales proposed for restoration are the corridor of the Kalamazoo River and Portage Creek within the Kalamazoo River Superfund Site (Alternative B; Section 3.2.2) and throughout the Kalamazoo River watershed (Alternative C; Section 3.2.3).</p> <p>The 2013 RP/EA proposed a suite of restoration projects to be considered for compensation for injuries related to OU1. All of these projects are located within the Kalamazoo River watershed and therefore are consistent with the geographic scope of the preferred alternative in the RP/PEIS. Projects that are located farther from the injured resources were placed in a lower priority tier in the RP/EA.</p>

Comment number	Commenter	Comment	Response
37(c)	International Paper	The final RP/PEIS should avoid this type of ambiguity by confirming and clearly defining how each proposed project will be evaluated using the criteria in Table 2.2, how these comparisons will be documented, and how the objective of attaining these criteria will be met. For example, the summary of each proposed project should be accompanied by a table listing the criteria in Table 2.2, and a column indicating the extent to which the proposed project meets the criteria. Based on the 2013 RP/EA for OU1, this aspect of the restoration project planning should be performed more rigorously in future planning efforts.	This comment has been addressed in the response to comment number 35(b).
38	Several	Please consider selecting Alternative C and consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek.	The Trustees have carefully reviewed this proposed project in Battle Creek and agree that this project could provide significant benefits to restoring or enhancing ecological services in aquatic and riparian habitats. Trustees support partner organizations to continue to conduct necessary studies to determine the feasibility of this proposed project. All projects will be evaluated using the evaluation criteria summarized in Table 2.2 of the RP/PEIS, including the cost-effectiveness of the project relative to other projects. Once feasibility is determined using alternatives suggested by the commenter, the Trustees will determine if this is a preferred project to implement. However, if other projects are identified that fit the Trustees' restoration criteria better (e.g., benefits to the natural resources that were injured by PCBs; cost-effectiveness), the Trustees may not select the Battle Creek concrete channel restoration project.

Comment number	Commenter	Comment	Response
39	U.S. EPA	<p>Recommendations: The Final Programmatic EIS should be updated to include specific narrative information in Section 5 – Environmental Consequences on expected direct and indirect impacts to wetlands and aquatic resources from the two proposed dam removal projects. This should include adding information on sources for “clean material” to be utilized as fill in any aquatic environments. Knowing that these areas are to be remediated as part of the Kalamazoo River Superfund Site, the discussion of clean fill sources should be developed further in the Final Programmatic EIS. Discussion of haul roads and construction staging areas as proposed in the Dam Removal and Channel Restoration Documents should also be further clarified with regard to entities responsible for their construction and their purpose (solely for restoration, or for remediation and also to be utilized during restoration), and their expected impacts (both temporary and permanent) to wetlands and aquatic resources.</p> <p>The use of “emergent wetland seed mix” is proposed for areas to be disturbed or that were open water areas; the DPEIS is not clear if these areas are currently wetland. Additionally, many of these areas appear to currently be forested. Proposed mitigation for direct and indirect wetland impacts permanent and temporary impacts should be discussed in the Final Programmatic EIS. Additionally, should mitigation be required for any wetland impacts associated with dam removals or proposed river thalweg adjustments/relocation/redirection, EPA recommends that the Trustees work to develop an acceptable mitigation ratio and mitigation plan to compensate for both direct and indirect wetland impacts that meets requirements of the 2008 Mitigation rule (40 CFR 230) as well as state requirements. Details on mitigation for both direct and indirect wetland impacts (including mitigation ratios, mitigation type, mitigation location(s), etc.), should be included in the Final Programmatic EIS.</p> <p>Upland areas that are currently forested that will be disturbed should be restored as forested areas. Specifically, the Trustees should also commit to reforesting areas where trees may be required to be removed to install haul roads, staging areas, or other temporary containment or construction areas.</p>	<p>Sections 3.1.3.1.1 and 3.1.3.1.2 have been clarified to indicate that the dam removals are the only specific restoration projects proposed at this time. The dam removal actions proposed by the Trustees include reference to the “design reports” cited; however, the Trustees are not proposing to conduct all of the work described in these reports. The Trustees have also added more specific discussion of wetlands in the affected environment chapter (Section 4.3.4) and in the environmental consequences discussion (Section 5.4.4.1.3). As described in Sections 3.1.3.1.1, 3.1.3.1.2, and Section 7.2, any necessary permits would be obtained for restoration projects, including the proposed dam removal actions. DEQ does not require wetland mitigation for wetlands impacted or lost due to dam removal.</p>

Comment number	Commenter	Comment	Response
40	U.S. EPA	<p>Recommendations: The Final Programmatic EIS should compare and contrast impacts associated with the three alternatives under consideration for the removal of the Otsego City Dam, and specify if a preferred alternative has been selected. The Final Programmatic EIS should be updated to include specific narrative information on expected direct and indirect impacts to wetlands and aquatic resources expected from each sub-alternative of the proposed Otsego City dam removal in Section 5 – Environmental Consequences. Impacts to wetlands, both temporary and permanent, should be discussed. Proposed mitigation for direct and indirect wetland impacts, both permanent and temporary, should be discussed in the Final Programmatic EIS. Additionally, should mitigation be required for any wetland impacts associated with dam removals or proposed river thalweg adjustments/redirection and/or tributary relocation, EPA recommends that the Trustees work to develop an acceptable mitigation ratio and mitigation plan to compensate for both direct and indirect wetland impacts that meets requirements of the 2008 Mitigation rule (40 CFR 230) as well as state requirements. Details on mitigation for both direct and indirect wetland impacts (including mitigation ratios, mitigation type, mitigation location(s), etc.), should be included in the Final Programmatic EIS.</p> <p>Upland areas that are currently forested that will be disturbed should be restored as forested areas. Specifically, the Trustees should also commit to reforesting areas where trees may be required to be removed to install haul roads, staging areas, or other temporary containment or construction areas.</p>	<p>The three “restoration” alternatives in the Otsego City Dam – Dam Removal and Channel Restoration Document (October 21, 2011) document are not part of the Trustees’ restoration project and are not alternatives for the proposed dam removal. Rather, they reflect different levels of sediment removal to be evaluated as a component of the remedial action. A comparison of these alternatives is not required in this RP/PEIS.</p>

Comment number	Commenter	Comment	Response
41	U.S. EPA	Recommendations: The Final Programmatic EIS should include a robust discussion on how the proposed dam removal activities as proposed in the Dam Removal and Channel Restoration Documents have been coordinated with EPA remediation activities. The Final Programmatic EIS should also provide assurances on how the dam removals, as proposed, would be conducted in areas where PCB remediation has already occurred, or how they will be undertaken in conjunction with EPA remediation and removal actions.	The RP/PEIS describes the overall general sequencing of the proposed dam removal restoration projects in the context of the remedial actions anticipated by EPA. If EPA does not remove the dams as part of the remedial actions, the Trustees are proposing to do so as a restoration project. The Trustees would collaborate with EPA remediation activities by conducting the dam removals after the PCB sediment remediation has been conducted, using the same haul roads and water control structures already in place for the remedial action.
42	U.S. EPA	Recommendations: EPA supports adaptive management as a strategy to implement both remediation efforts and ecosystem restoration activities. A key feature of adaptive management is planning and implementing monitoring programs. Three types of environmental monitoring appear to be warranted, including baseline, impact, and compliance monitoring. The Final Programmatic EIS should attempt to group restoration activities by type or kind, and should define a minimum expected monitoring period for such groups of projects. Monitoring lengths and baseline monitoring required for specific types of projects may be driven by regulatory monitoring requirements (from necessary wetland or water permits), or from agency experience in long-term management. This should be further discussed in the Final Programmatic EIS. EPA recommends that the Trustees continue to identify and clarify the processes, data needs, key steps, and monitoring types to be utilized and undertaken to adaptively managing ecosystem restoration efforts in the future.	The Trustees have included a general description of required monitoring in this RP/PEIS and intend to develop appropriate monitoring protocols on a project-specific basis. Section 2.4.3 has been revised to identify the three types of monitoring recommended by EPA.

Comment number	Commenter	Comment	Response
43	U.S. EPA	EPA understands that Superfund remediation activities, though necessary, may cause temporary detrimental impacts to the chemical, physical, and biological processes of ecosystems within the KRE. EPA supports remediation activities, and restoration activities, that are able to balance short-term habitat losses with overall restoration objectives. Additionally, EPA reiterates our support for a mixture of restoration project types that, when combined, will generate a broad suite of ecological benefits associated with the range of natural resource injuries within the KRE. The DPEIS notes that the Trustees prefer ecological restoration projects that include a water-related recreational or other human-use component over projects that are solely focused on improving human uses. It also notes that projects that incorporate resiliency to the impacts of climate change, and therefore provide longer-term benefits, are preferred. EPA supports these objectives and is in full support of the project.	The Trustees thank you for your comment.

D.2 Comments Received on Draft RP/PEIS

Public Comments on Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment

Compiled by Lisa L. Williams, USFWS

November 20, 2015

Comment #1

From: **Abid, Joseph A** <joseph.abid@amecfw.com>

Date: Thu, Oct 29, 2015 at 3:59 PM

Subject: Kzoo RP/PEIS

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Cc: "lcforten@gapac.com" <lcforten@gapac.com>, "Draper, Cynthia E" <cynthia.draper@amecfw.com>, James Saric <saric.james@epa.gov>, "Paul Bucholtz (bucholtzp@michigan.gov)" <bucholtzp@michigan.gov>

Ms. Williams,

On behalf of Chase Fortenberry and Georgia-Pacific LLC, the attached comments are being submitted for the Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment.

Please contact Chase Fortenberry with any questions you may have regarding this submittal.

Sincerely,

Joe Abid

Project Manager, Environment & Infrastructure, Amec Foster Wheeler

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October 29, 2015

Ms. Lisa Williams

USFWS

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East Lansing, Michigan 48823

**Subject: Comments on Public Release Draft Restoration Plan and
Programmatic Environmental Impact Statement for Restoration
Resulting from the Kalamazoo River Natural Resource Damage
Assessment dated August 2015
OU-5 Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund
Site**

Dear Ms. Williams:

The comments provided on the Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment dated August 2015 have been submitted electronically by email in accordance with Page 1-9 of the Public Release Draft, which notes email submissions can be made to kzoorivernrda@fws.gov.

The strategic approach used to develop the comments are described below. Generally, the comments focus on four areas or four distinct categories. The goal was to:

1. Encourage the Trustees to focus on process (identifying RPs, sequencing Superfund and NRDA activities, evaluating trade-offs between integrating Superfund and NRDA issues) before the Trustees proceed with compensatory restoration. Experience has shown that establishing a process up-front reduces conflicts and associated costs in the future.
2. Preserve Georgia-Pacific LLC's (GP) right to comment further on: assumptions/methods used to quantify NRD injury, restoration screening criteria, assumptions/methods used to quantify NRD credit, and restoration costing. Furthermore, the current comments do not represent the all specific scientific or engineering concerns.
3. Preserve compensatory restoration options by (a) having the Trustees avoid absolute statements like "will not" or "must" and (b) highlighting the need to consider compensatory restoration that may not be perceived as in-kind and in-place. By preserving these restoration options, we maximize the number of potential compensatory projects and maximize the cost effectiveness of the selected compensatory restoration projects.

4. Embed select strategic details in the NRD injury and NRD credit analysis. Once these details are made explicit, RPs can start to (1) use data to evaluate the validity of the approach and (2) evaluate for internal consistency. Requiring the NRD assessments to be detailed and consistent often bolsters the cost effectiveness of the restoration activity.

Specific comments are provided for clarification.

If you have any questions, please do not hesitate to contact me.



L. Chase Fortenberry, PG
Senior Remediation Project Manager
Environmental Engineering, Environmental Affairs
Georgia-Pacific LLC

Copies:

Jim Saric, USEPA
Paul Bucholtz, MDEQ
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**Comments on
“Public Release Draft Restoration Plan and Programmatic Environmental Impact
Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage
Assessment (August 2015)”**

General Comments

General Comment 1

The executive summary notes that funding may come from existing settlements with bankrupt responsible parties (RPs) or with future companies that have liability. The Trustees should describe the process that is intended to be employed to identify those RPs. This process description may help in assuring that any/all available RPs are identified. If there are other potential RPs, how have these RPs been identified, and how will the Trustees get the RPs to participate in the NRDA process?

General Comment 2

The document refers to assessment I and II as detailing estimates of release-related injury. Not all of these assessment documents have been completed and been made publically available at this time. Therefore, Georgia-Pacific LLC (GP) reserves the right to comment on these in the future. It is not possible to evaluate the effectiveness with which the proposed restoration alternatives may compensate for an injury absent the assumptions and framework used to estimate injury. GP therefore also reserves the right to make future comments on and as necessary dispute any and all restoration scaling and/or costing.

General Comment 3

In some circumstances, cost savings are achieved when compensatory restoration is integrated into remedial activities. For the sake of efficiency, designers should consider such opportunities when designing and implementing remedial action. Remedial Alternatives which include restoration along with compensatory Natural Resource Damage Assessment (NRDA) credits is an extremely difficult process to achieve simultaneously. This difficulty is typically related to a lag time for the NRDA process, and Trustees do not typically have a complete understanding of the level of NRDA damages at the time of remediation. This process makes decision making cumbersome and piecemeal at best. The potential for inefficiencies and lack of cost effectiveness are high in this process and a mechanism needs to be in place to bridge the gap between the remedial investigation/feasibility study (RI/FS) and remedial design Superfund process and NRDA upfront. The environmental impact statement (EIS) should elaborate on what this mechanism is and how this mechanism will be used to bridge the gap between the Superfund and NRDA processes.

General Comment 4

The EIS proposes several different project types allowed for restoration. There are project ownership and maintenance concerns which are not directly addressed in the EIS. For example, RPs do not own Otsego City Dam (constructed 1886) or Otsego Dam (constructed 1904). While the measures called for are feasible, long term maintenance will require partnerships with the private and public sector to achieve and keep the stated goals. Selection

of projects located on public lands with improvements that require little or no maintenance or long term ownership by environmental stewards is preferred.

General Comment 5

The EIS does not clarify if part of the projects are proposed as purely remediation projects or purely restoration projects? The Trustees should clarify their stance on this question. Dam removal is not an essential component of remediation but is a component of NRDA. If contamination exists, one does not remove a dam to resolve the issue. Instead, one remediates the contaminated media. Dam removal is not a component of remediation.

Specific Comments

Specific Comment 1

Section 1 (Introduction): This section of the document focuses on regulations, laws, and reports, but the introduction is missing a thorough discussion of Kalamazoo River history. The earliest date mentioned in this section is 1954. By this time, the river had several dams installed by numerous governmental and non-governmental factions, which were unrelated to the use of PCBs or the mills. Many of these dams were initially installed at the turn of the century. A clear discussion of the installation dates or ownership of the dams is not provided in the Introduction and are primarily only discussed in Section 3 under the context of “Barrier Removal”. Additionally, sections of the Kalamazoo River have been straightened by the Corp of Engineers. There have been numerous installations such as bridge projects, buildings, publically owned treatment works for solid waste (POTWs), and other industries which had an impact to the river and are unrelated to PCBs or the mills. There are also other Superfund and remediation sites located along the Kalamazoo River, unrelated to the mills, that have impacted the river and these are not discussed in any detail. Reading through the EIS, a reader could be left with the misunderstanding that if it were not for the PCBs or the mills, the Kalamazoo River would be un-impacted from anthropogenic activities. The impact from these various anthropogenic activities apart from PCB sources should also be documented in the EIS. A more complete history of the Kalamazoo River should be added to the Introduction in order to clarify the river’s past and present flow regime in order for the reader to understand baseline conditions. The term “baseline condition” meaning the level of the services that would be provided by the resource(s) if the contaminant (PCBs) were not present.

Specific Comment 2

Page 1-1 alludes to two alternative geographic scales for restoration: Kalamazoo River Environment (KRE) or Kalamazoo watershed; these options are rather limiting. Kalamazoo watershed projects may be given preference. However, out-of-watershed compensatory restoration opportunities should not be eliminated from consideration; this preserves future options.

Specific Comment 3

Page 1-1: The EIS is soliciting input on a proposed dam removal. The dams are not owned by the RPs nor are the RPs responsible for the dams or the build-up of sediment behind the dams. Generally, a dam owner is responsible for managing the sediments deposited behind a dam if and when a dam is removed. While an entity that released PCBs into those sediments may be responsible for extra costs incurred by a dam owner because PCBs are present in the sediment,

the RPs are not responsible for managing the sediments themselves. This should be made clear in the EIS document.

Specific Comment 4

Page 1-1: Preliminary review of the ecological injury assessment suggests dam removal should provide substantial NRDA credits because the restoration benefit is that a dam removal stabilizes an entire reach of stream and restores fish passage within the upper watershed.

Specific Comment 5

Page 1-10, Table 1.2: The work on the Former Plainwell Impoundment and the Plainwell #2 Dam Time-Critical Removal Actions should be added to Table 1.2 for Area 1.

Specific Comment 6

Page 1-12, Second Bullet, 10th Sentence: "The remedy includes excavation of PCB residuals that have migrated from the Willow Boulevard/A-Site Landfill.....". This sentence is referencing the incorrect landfill for OU4. "Willow Boulevard/A-Site Landfill" should be replaced with "12th Street Landfill" in the sentence.

The second bullet on Page 1-12 is over half a page and mentions three separate OUs. The text should be broken into separate smaller bullets by OU for clarity.

Specific Comment 7

Page 1-13 (Section 1.2.2.2) refers to Stage I injury assessment and a Stage I economic assessment. GP is conducting a rigorous review of these documents as well as other NRDA associated documents and, pending additional information, is not in agreement with many of the underlying assumptions and analyses embedded in those assessments. Review will continue on these reports and comments will be provided, as appropriate, in the future.

Specific Comment 8

Page 1-14: A preliminary review of the injury assessments suggests they do not incorporate data and activity after 2003. Thus, injury assessments would need to be updated in the future or credit estimates would need to account for information not integrated into the injury. The need to account for more recent data/information should be made clear in the EIS.

Specific Comment 9

Page 1-14: The sheet pile wall cut off and controlled the potential migration of contaminants moving toward the river and provided measureable ecological benefit to the surrounding environment. The assumption of no NRD values gained from sheet pile usage should include data sheets and calculations documenting the level of injuries and services lost from this action and a description of what was protected due to the installation of the sheet pile wall. The benefits of the installation should be described to the general public as well.

Specific Comment 10

Page 1-17: The Plainwell Dam Impoundment Area was remediated, the dam removed, and the river channel returned to its original path between 2007 and 2009. Available post removal biological community and chemistry data should be used to demonstrate the benefits of removing a dam, which should be included in Section 2.1, to justify the removal of the Otsego and Otsego City dams. These lessons learned including the level of biological improvement (e.g., the former

Plainwell Dam removal) should be considered for inclusion in the EIS development in the Section on adaptive management and should be provided as guidance (see Specific Comment 2).

Specific Comment 11

Page 2-4, Table 2.1: There is no discussion of how the benefits will be measured and applied to the NRDA process. This information should be provided.

Specific Comment 12

Page 2-4: Table 2.1 lays out restoration objectives. These objectives appear unnecessarily narrow. For example:

- The only recreational remedy is to “increase public access.” Trustees should also consider improving the recreational/educational experience at existing access points. This objective is consistent with education programs that the Trustees cite as supportable.
- Goals specify increasing mussels and mussel host fish species. Recommend that this goal be broadened to restoring the “services” provided by the benthic invertebrate community.

Specific Comment 13

Pages 2-4 and 2-5: Table 2.1 lays out Restoration Objectives.

The portion of the table at the top of Page 2-5 should be modified to remove bullets 1 and 2.

These first two bullets are actually “remedial” objectives and should not be included in the table.

Specific Comment 14

Page 2-5: Trustees will not consider “Projects that are solely focused on human-use services and do not include ecological benefits.” This statement is not consistent with the intent of CERCLA nor the underlying principles of compensation. If a project cost effectively compensates for lost human use services, the project should be considered even, if the project provides no ecological benefits. This also contradicts the third bullet on Page 2-6 which notes “Enhanced recreational access...” is an anticipated human-use component to restoration. The last bullet on Page 2-5 should be removed from the document and the third bullet on Page 2-6 should remain.

Specific Comment 15

Page 2-7 Table 2.2:

- Recommend removing Criteria F3. A project should not be discounted because the project relates to a resource that is important and, therefore, often addressed under existing programs, provided that the project would not be implemented under baseline conditions..
- Criteria B1 (affects largest area) and B4 (effects persist for greatest amount of time) may be at odds with criteria I2 (cost effectiveness) and each other; B1, B4, and I2 should be evaluated in combination instead of separately.

Specific Comment 16

Page 2-7, Table 2.2: Summary of Trustee criteria for evaluating restoration projects - the criteria states that “*Projects that restore or enhance habitat impacted by response actions will be preferred...*”. Based on our understanding of the views of USEPA, MDEQ, and USFWS personnel concerning remedial alternatives for evaluation in an FS and NRDA credits, this EIS should serve as a mechanism to meet the mutual objectives of the RI/FS and NRDA process. The mechanism should be considered for inclusion within the EIS document.

Specific Comment 17

Section 2.4.1 Performance criteria: “*The selection of performance criteria may be based either on desired conditions of the restoration site, conditions at an appropriate reference site, or on literature values.*” Due to multiple removal actions and emergency responses actions, the Kalamazoo River is in a constant state of flux so that reference sites may be difficult to find and historical literature values of background or baseline conditions may not be appropriate/relevant for comparisons today or in the future. This should be acknowledged in the document.

Specific Comment 18

Page 2-9: Section 2.4.2: Adaptive management should be recommended (not required) based upon the type of project selected. If an adaptive management plan is adopted and if the plan includes specific performance criteria, then credit for any project should reflect those criteria.

Specific Comment 19

Page 2-11, Section 2.4.3 Monitoring parameters: Functional parameters should include *indicator species*.

Specific Comment 20

Page 2-11, Section 2.4.4 Reporting requirements: Requirement for annual reports may not always be appropriate and should not be specified.

Specific Comment 21

Page 3-1, Section 3: The discussion of the alternatives in Section 3 identifies general aquatic habitat restoration approaches, specific assumptions and methods used to determine the extent to which the projects offset losses is lacking. Additional clarification would be helpful and GP reserves the right to comment on all restoration scaling assumptions and methods.

Specific Comment 22

Page 3-2, Section 3.1.1.3: Techniques for reintroduction and enhancement of native aquatic species can be challenging. Often there are anthropogenic stressors unrelated to PCBs. Restoration activities must consider these stressors in restoration planning activities. For example, the loss of mussel species may be primarily due to habitat alteration and invasive species introduction. Restoration of species populations may not be possible under these conditions. The EIS should recognize that some services cannot be cost effectively restored and specifically acknowledge that “out-of-kind” restoration is a practical and often socially desirable approach to restoration compensation.

Specific Comment 23

Page 3-36, Section 3.2.2 Alternative B: Restoration within the Kalamazoo River Superfund Site: This alternative limits the actions to those areas that were directly impacted by the discharge

and subsequent remediation. Given the impacts due to other variables (anthropogenic changes) such as urban water runoff, filled floodplains, lack of riparian buffer, and a host of other problems, the objectives stated at the beginning of the document are unlikely to be met because of these additional stressors. Existing conditions must be considered in the selection of possible restoration activities.

Specific Comment 24

Section 3.2.3 Alternative C: Restoration within the Kalamazoo River Watershed: If an area is severely impaired for reasons other than PCBs, compensatory restoration located in these areas will not be effective. As such, in evaluating alternatives, the EIS should explicitly acknowledge the practical limitations of strictly defining in-kind and in-place restoration and allow for flexibility in its definition of compensatory restoration.

Specific Comment 25

Page 3-39: The Trustees did not evaluate stocking because stocking was not consistent with “their goals.” No project types should be eliminated from potential future consideration as goals and circumstances may change.

Specific Comment 26

Section 4: The EIS does not establish the linkage between assumptions and analysis used to calculate PCB-related injury and those assumptions and methods used to quantify restoration credit. This EIS should make these linkages explicate and GP reserves the right to comment when that occurs.

Specific Comment 27

Page 5-1: Given the current state of remediation and injury assessment, these projects are by definition piece-meal. It is not clear that this piece-meal approach will ultimately be efficient or effective. The Trustees cite that the entirety of the potential RPs NRD liability has not been determined. The Trustees need to have a more comprehensive understanding of injuries and lost services related to actual damages before embarking on this evaluation. A comprehensive understanding of the damages would preclude a piecemeal approach to the process, which would allow for more pragmatic and effective planning/implementation of restoration projects. The potential for inefficiencies and lack of cost effectiveness are high in this process, and a mechanism needs to be in place to bridge the gap between the Superfund and NRDA processes upfront. The EIS should elaborate on what this mechanism is and how this mechanism will be used to bridge the gap between the Superfund and NRDA processes.

Specific Comment 28

Section 5: This section outlines the potential environmental consequences of the implementation of the alternatives. This section is a very general, literature discussion and does not provide the level of detail to address the benefits (or detriments) that these alternatives would have. This section should be oriented on a service basis so that the understanding of how the alternatives relate to an NRD oriented feature is adequately communicated. The section is currently written at a very high level and lacks the detail to support an informed evaluation. More detail should be provided and GP reserves the right to review and provide comments when sufficient details become available in the future.

Comment #2

From: **Architects Incorporated** <architects.inc@prodigy.net>

Date: Wed, Oct 28, 2015 at 5:36 PM

Subject: Regarding Battle Creek Whitewater

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Cc: John Macfarlane <jmacfarlane@mumfordlaw.com>, Christine Kosmowski

<ckosmowski@calhouncountymi.gov>, Nancy Macfarlane <nancy.macfarlane54@gmail.com>

Please see the attached letter in support of Christine Kosmowski.

October 20, 2015

Lisa Williams, PhD.
U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road
East Lansing, MI 48823

Dear Dr. Williams:

I am a recently retired architect and am writing to urge the Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2. Very importantly, restoration of the channelized portion of the Kalamazoo River would also be consistent with restoration criteria B1 by providing the greatest scope of ecological, cultural, and economic benefit to the largest area or population.

As a resident and practicing architect in Battle Creek over the last 44 years I can attest to the fact that the concrete channel bordered by vacant and contaminated industrial sites has had a deteriorating effect on the community. The river needs restoration to revitalize the community for recreational and new mixed development opportunities.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek.

Sincerely,

Larry Rizer

Vice President Battle Creek Whitewater, Inc.

Larry L. Rizer, President
Architects Incorporated, P.C.
2407 Gethings Road
Battle Creek, Michigan 49015
Mobile: (269) 986-9966, Land: (269) 968-4300
e-mail: architects.inc@prodigy.net

Comment #3

From: **Nancy Macfarlane** <nancy.macfarlane54@gmail.com>

Date: Tue, Oct 27, 2015 at 4:50 PM

Subject: comments on the draft NRDA plan Kalamazoo River 2015

To: kzoorivernrda@fws.gov

This email is in support of the comments submitted by Chris Kosmowski, the Calhoun County Water Resources Commissioner, for the NRDA trustees to select Alternative C in the draft plan and to consider the removal of the channelized portion of the Kalamazoo River within the city of Battle Creek as a potential project.

Removal of the channel is essential to the aquatic habitat, and, would allow the community access to this resource.

Please consider both options.

Thank you,

Nancy Macfarlane
104 Lakewood Dr.
Battle Creek, MI 49015

Nancymac

Nancy Macfarlane
Nancy.macfarlane54@gmail.com
269 274 4648

Comment #4

From: **Pelloso, Elizabeth** <Pelloso.Elizabeth@epa.gov>

Date: Mon, Oct 26, 2015 at 2:03 PM

Subject: USEPA comments - DPEIS for Kalamazoo River NRDA

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>, "lisa_williams@fws.gov" <lisa_williams@fws.gov>

Cc: "Todd.Goeks@noaa.gov" <Todd.Goeks@noaa.gov>, "Julie.Sims@noaa.gov" <Julie.Sims@noaa.gov>, "Alfano, Judith (DEQ)" <ALFANOJ@michigan.gov>, Paul Bucholtz <bucholtzp@michigan.gov>, "Larry Poynter (POYNTERL@michigan.gov)" <POYNTERL@michigan.gov>, "Mark Schieber (SchieberM@michigan.gov)" <SchieberM@michigan.gov>, "mistakj@michigan.gov" <mistakj@michigan.gov>

Greetings,

Attached to this email are USEPA's comments concerning the Programmatic Draft Environmental Impact Statement and Draft Restoration Plan released for the Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment in Allegan and Kalamazoo Counties, Michigan. A hard copy is in the mail to USFWS; all recipients via CC will only receive this electronic copy.

Please do not hesitate to contact me if you have questions or comments on USEPA's comment letter.

Regards,
Liz Pelloso

Liz Pelloso, PWS
Wetland/Environmental Scientist
NEPA Implementation Section
U.S. Environmental Protection Agency - Region 5
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DRAFT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

OCT 26 2015

REPLY TO THE ATTENTION OF:

E-19J

Lisa Williams
U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road East
East Lansing, Michigan 48823

**RE: Draft Restoration Plan and Programmatic Environmental Impact Statement:
Restoration Resulting from the Kalamazoo River Natural Resource Damage
Assessment; Allegan and Kalamazoo Counties, Michigan (CEQ # 20150251)**

Dear Ms. Williams:

The U.S. Environmental Protection Agency has reviewed a Draft Restoration Plan and Draft Programmatic Environmental Impact Statement (hereafter: DPEIS) for the Kalamazoo River Natural Resource Damage Assessment in Allegan and Kalamazoo Counties, Michigan. This letter provides EPA's comments on the DPEIS, pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

Natural resources in Michigan have been injured by releases of polychlorinated biphenyls (PCBs) from historic Kalamazoo-area paper mills that contaminated natural resources in and near Portage Creek and the Kalamazoo River. These PCBs have migrated downstream in surface waters and have contaminated sediments, the water column, and biota in and adjacent to the lower three miles of Portage Creek, approximately 80 miles of the Kalamazoo River, and Lake Michigan. PCBs are also present in paper residuals disposed of in landfills and lagoons and other areas associated with former mill operations along the river corridor. Due to the potential risks the PCB releases posed to the environment and to human health, the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Kalamazoo River Superfund Site) was added to the National Priorities List (NPL) on August 30, 1990. The Kalamazoo River Superfund Site was later expanded to include 80 miles of the Kalamazoo River (from Morrow Dam to Lake Michigan), including the river banks and formerly impounded floodplains, as well as a 3-mile stretch of Portage Creek and four paper residual landfills.

The Michigan Department of Natural Resources (MDNR), the Michigan Department of Environmental Quality (MDEQ), the Michigan Attorney General, the U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA),

collectively referred to as the Trustees, have been working to determine the extent of injuries to natural resources caused by these releases of PCBs. The Trustees have also been studying how to restore these injured natural resources and the services they provide to both other natural resources and the public. This evaluation is known as a natural resource damage assessment (NRDA), which is authorized under the Comprehensive Environmental Response, Compensation, and Liability Act (more commonly known as the federal “Superfund” law¹). An NRDA is conducted to calculate the monetary cost, or “damages,” of restoring natural resources that have been injured by releases of hazardous substances. Damages to natural resources are evaluated by identifying the functions or services provided by the resources, determining the baseline level of the services provided by the injured resources, and quantifying the reduction in service levels as a result of the contamination.

The Trustees use the term “Kalamazoo River Environment” (KRE) in the DPEIS to represent the entire NRDA assessment area. The KRE encompasses the Kalamazoo River Superfund Site along with any area where hazardous substances released from the Kalamazoo River Superfund Site have come to be located. Natural resources under the trusteeship of the Trustees that have been affected or potentially affected by releases of hazardous substances include, but are not limited to, surface water resources, including surface water and sediments (bed, bank, and shoreline) and adjacent floodplain soils of the Kalamazoo River and Portage Creek; groundwater resources; geologic resources; aquatic biota, including aquatic invertebrates and resident and migratory fish; and terrestrial biota, including terrestrial invertebrates, mammals, and birds.

The cleanup of PCBs at the Kalamazoo River Superfund Site has been underway for several years and is being coordinated by EPA. EPA’s approach to the river cleanup focuses on first controlling ongoing sources of PCBs to the Kalamazoo River, and then addressing in-stream sediments. EPA is also addressing PCB risks in the floodplain and formerly-impounded areas. The DPEIS was developed to solicit public opinion on a proposed restoration program that would enable the Trustees to implement restoration as opportunities arise during, and adjunct to, the remedial actions that will be continuing over many years.

The DPEIS provides a programmatic-level environmental analysis to support the Trustees’ proposed restoration program. As such, the programmatic analysis in the DPEIS studies broad issues and programmatic-level alternatives (as opposed to a document for a specific project or action) and provides guidance for future restoration activities to be carried out by, or conducted under the oversight of, the Trustees. In addition to providing a programmatic analysis, the Trustees intend to use the DPEIS to approve future site-specific actions, including two specific proposed restoration projects (Otsego City Dam Removal and Otsego Township Dam Removal).

The DPEIS analyzes three alternatives: a No Action alternative (Alternative A), and two restoration alternatives (Alternative B and Alternative C) that differ in geographic scope. Alternative B includes restoration projects conducted only on the Kalamazoo River and Portage Creek within the Kalamazoo River Superfund Site. Alternative C includes all the categories of projects outlined in Alternative B, but also includes restoration projects conducted in the broader Kalamazoo River watershed to create an alternative source for the ecological services lost or injured by the release of PCBs into the KRE. Alternatives B and C would likely include different amounts of each restoration project category and would likely differ as to when the majority of

¹ 42 United States Code (U.S.C.) §§ 9601–9675

the restoration would be conducted. Both Alternative B and Alternative C include the two proposed dam removal restoration projects (Otsego City Dam and Otsego Township Dam). The Trustees have identified Alternative C as their preferred alternative because it allows the most flexibility to meet the restoration objectives, both in terms of geographic locations and timing.

The sediments impounded behind Otsego City Dam and Otsego Township Dam contain PCBs. EPA's remediation and oversight of the Kalamazoo River Superfund Site includes these the location of these two dams. Contaminated sediments adjacent to each dam are located both in the river channel and adjacent floodplain areas, and must be removed before the retired dams can be removed. PCB-contaminated sediments impounded behind each dam would be removed or stabilized to achieve acceptable risk levels through the EPA sediment-remediation process, with the risk evaluation taking into account that the dam would be removed. As sediments are addressed during this process, the removal of these dams, and the restoration of the river and floodplains, becomes feasible. The removal of contaminated sediments and floodplain soils by EPA can be coordinated with the dam removals proposed by the Trustees.

The purpose of the proposed action and implementation of the Preferred Alternative is to restore or enhance ecological services in aquatic, riparian, and upland habitats of the KRE, which would benefit the types of natural resources injured by PCBs, and increase services provided to humans. The Federal actions are needed because the remediation response actions alone will not be sufficient to compensate the public for the ecological functions and natural resource services lost due to injuries from the PCB releases that began decades ago. The Trustees would conduct restoration only in any areas where remediation of PCBs has already occurred, or in conjunction with a removal action conducted by regulatory agencies (e.g., a dam removal following removal of contaminated sediments).

The Kalamazoo River NRDA was initiated nearly 15 years ago, and since that time, the Trustees have been directly engaging with the public, soliciting restoration project ideas, and working with local nonprofit and watershed groups. As restoration planning proceeds, the Trustees expect to have opportunities to settle natural resource damage claims with willing parties. The Trustees anticipate that most impacts associated with NRDA implementation would be the same or less than the impacts identified in this DPEIS, and that future project-specific NEPA documents (e.g., Environmental Assessments or Categorical Exclusions) could be developed that tier off of the final version of this DPEIS, as allowed.

Based on our analysis, EPA's rates the DPEIS as "**Environmental Concerns – Insufficient Information**" (EC-2). Please see the enclosed "*Summary of Rating Definitions.*" EPA recommends that the Final Programmatic EIS address the following comments, which generally relate to dam removals, wetlands, and adaptive management. Our comments on the DPEIS are as follows.

DAM REMOVAL

- The DPEIS is clear that the removal of PCB-contaminated sediments upstream of the Otsego City Dam and Otsego Township Dam would not be part of the proposed restoration actions themselves, but would be a precondition to the feasibility of removal of the dams. As such, the use of heavy equipment for the development of staging areas for sediment removal and handling of contaminated sediment waste would not be associated with dam removal

restoration actions. The Trustees would conduct the dam removals in conjunction with EPA-directed contaminated sediment removals and, as the DPEIS states, would not need to construct any additional water control structures, staging areas, or temporary roads. The DPEIS states that in some cases, natural channel restoration design might require removal of additional sediment or soil that is not contaminated with PCBs; however, this removal would be coordinated with the removal of contaminated sediments through the EPA-directed sediment remediation process and would likely not require any additional staging areas or temporary roads. It is possible the dams may be removed as part of the remedial actions themselves, but if not, the dams would be removed as a restoration project following EPA-directed remedial actions as described earlier.

While the DPEIS provided specific information on proposed dam removal techniques, the DPEIS was silent on the potential for both direct and indirect wetland impacts associated with potential drawdown, lowering of water levels, or narrowing of the river channel width upstream of each dam. Stabilization efforts and other in-water work, including the proposed installation of rock riffles, current river-channel fill (to move the location of the river's thalweg), bank stabilization measures, etc., that would require the placement of dredged or fill material into Waters of the U.S. were also not discussed in the DPEIS. These regulated impacts associated with the specific dam removals should have been specified in Section 5 - Environmental Consequences of the DPEIS. Section 5 of the DPEIS spoke in generalities regarding the programmatic-level restoration efforts that could be undertaken in the future, and broadly discussed programmatic-level impacts expected, but did not speak to specific impacts that would be expected with the proposed removals of the Otsego City Dam and Otsego Township Dam to be undertaken under both Alternative B and Alternative C.

Quantification of direct impacts to wetlands associated with the proposed dam removals was not provided in the DPEIS. Indirect wetland impacts were also not documented. Indirect wetland impacts would be attributed primarily to the loss of wetland hydrology associated with the drop in water level or loss of hydrology to adjacent wetlands following dam removal. In addition to the potential for direct wetland fill, the potential for loss of (via indirect impacts to) adjacent wetlands is of concern to EPA. Specific impacts and proposals are clearly known, as they are mentioned in the Otsego City Dam – Dam Removal and Channel Restoration Document (October 21, 2011) and Otsego Township Dam – Dam Removal and Channel Restoration (June 26, 2012). These Dam Removal and Channel Restoration Documents were mentioned in the Draft EA, but were not included as appendices to the DPEIS. These documents were mentioned in the DPEIS; however, the information provided within was not summarized and incorporated into the DPEIS, nor were these documents included as appendices to the DPEIS. EPA requested these documents during review of the DPEIS; they were received by EPA on September 29, 2015, and October 7, 2015. We have subsequently reviewed them.

Appendix B of the Otsego Township Dam – Dam Removal and Channel Restoration states, *“The project alternative requires creation of new riverbed and banks, floodplain excavation, draining and restoring impoundment areas, and impacts to the surrounding emergent wetlands. The project will involve draining the backwater areas and impacting approximately 1.4 miles of Kalamazoo River and its tributaries.”* Otsego Township Dam plans from the Dam Removal and Channel Restoration Document propose constructing haul

roads in the vicinity of potential wetland areas, filling several acres of river bottom to redirect the channel thalweg and modify the channel width, and relocating several unnamed tributaries that flow into the river within the project vicinity. This document does not clearly express if haul roads and construction staging areas are to be constructed solely for the dam removal and restoration projects, or if they will be constructed for Kalamazoo River Superfund Site remediation activities. Furthermore, these proposed impacts conflict with the DPEIS, which implies that some natural channel restoration design might be necessary, but does not explicitly describe that the proposal actually includes several miles of channel work along with 50+ acres of work in adjacent wetland and floodplain areas.

The DPEIS did not discuss any compensatory wetland mitigation, and appears to view the Preferred Alternative as “self-mitigating” and that no off-site compensatory mitigation for impacts (either direct or indirect) to wetlands would be expected or required. The DPEIS does not indicate whether project implementation will result in no net loss of wetlands. It also does not acknowledge that temporary wetland impacts will occur and will need to be restored, and does not provide any information on restoration or monitoring. EPA highlighted comparable comments on a 2014 EIS for the Ballville Dam Removal Project on the Sandusky River overseen by USFWS and the U.S. Army Corps of Engineers. That project proposed only one dam removal (versus the two dam removals proposed by the Trustees). Similar concerns were also raised by EPA for dam removals and modifications on the Boardman River near Traverse City, Michigan, in 2014. In the Ohio project, wetland mitigation under Sections 404 and 401 of the Clean Water Act was required for both direct and indirect wetland impacts associated with that dam removal by both U.S. Army Corps of Engineers and Ohio state regulatory agencies. While USFWS and NOAA are the Federal sponsors for this project, that does not preclude your agencies from following the same requirements and standards other agencies have been held to for similar projects.

Recommendations: The Final Programmatic EIS should be updated to include specific narrative information in Section 5 – Environmental Consequences on expected direct and indirect impacts to wetlands and aquatic resources from the two proposed dam removal projects. This should include adding information on sources for “*clean material*” to be utilized as fill in any aquatic environments². Knowing that these areas are to be remediated as part of the Kalamazoo River Superfund Site, the discussion of clean fill sources should be developed further in the Final Programmatic EIS. Discussion of haul roads and construction staging areas as proposed in the Dam Removal and Channel Restoration Documents should also be further clarified with regard to entities responsible for their construction and their purpose (solely for restoration, or for remediation and also to be utilized during restoration), and their expected impacts (both temporary and permanent) to wetlands and aquatic resources.

The use of “emergent wetland seed mix” is proposed for areas to be disturbed or that were open water areas; the DPEIS is not clear if these areas are currently wetland. Additionally, many of these areas appear to currently be forested. Proposed mitigation for direct and indirect wetland impacts permanent and temporary impacts should be

² Section C-C (Sheet DR 1.3 – Profile and Cross Sections for Otsego Township Dam, Otsego Township Dam – Dam Removal and Channel Restoration (June 26, 2012) shades areas of river bottom “*to be filled with clean material from existing earthen dam and floodplain excavation.*”

discussed in the Final Programmatic EIS. Additionally, should mitigation be required for any wetland impacts associated with dam removals or proposed river thalweg adjustments/relocation/redirection, EPA recommends that the Trustees work to develop an acceptable mitigation ratio and mitigation plan to compensate for both direct and indirect wetland impacts that meets requirements of the 2008 Mitigation rule (40 CFR 230) as well as state requirements. Details on mitigation for both direct and indirect wetland impacts (including mitigation ratios, mitigation type, mitigation location(s), etc.), should be included in the Final Programmatic EIS.

Upland areas that are currently forested that will be disturbed should be restored as forested areas. Specifically, the Trustees should also commit to reforesting areas where trees may be required to be removed to install haul roads, staging areas, or other temporary containment or construction areas.

- The Otsego City Dam – Dam Removal and Channel Restoration Document (October 21, 2011) document describes three channel restoration alternatives with varying extents of contaminated sediment removal. Each of the three alternatives also proposes construction of a water control structure with stoplogs and an ice boom. As such, all alternatives would require the installation of concrete, structural steel, H-piles and steel sheeting, timber, bar grating, and riprap below the Ordinary High Water Mark of the Kalamazoo River. Furthermore, the document states (p. 17) that temporary access roads will be constructed out into the river to allow the contractor access to remove the dam itself. The DPEIS is not clear if such an in-river haul road would be constructed by EPA for remediation activities or if it would be solely for the dam-removal contractor to undertake construction of the proposed water control structure and remove the dam. The document did not discuss how normal river flow would be accommodated during the time the haul road is in place, as there was no specification for installation of culverts within the in-river haul road or construction of a coffer dam. Additionally, the Otsego City Dam document is not clear if a selected sub-alternative (Alternative 1, 2, or 3) has been determined to be a preferred alternative.

The DPEIS did not discuss the three dam-removal alternatives under consideration for the Otsego City Dam, nor did it compare and contrast their impacts in Section 5 - Environmental Consequences. Again, Section 5 of the DPEIS spoke in generalities regarding the programmatic-level restoration efforts that could be undertaken in the future, and broadly discussed programmatic-level impacts expected, but did not speak to specific impacts that would be expected among the three sub-alternatives for removal of the Otsego City Dam. Page 18 of the 2011 document states, *“Currently, the three project alternatives all require creation of new riverbed and banks, floodplain excavation, draining and restoring impoundment areas, and impacts to the surrounding emergent, scrub-shrub, and forested wetlands...[and] will involve draining the impoundment and impacting between 12,174 and 14,472 feet of Kalamazoo River and its tributaries. Additionally, any...wetland habitat temporarily impacted by construction activities will need to be restored.”* However, Appendix B (plans) to the Otsego City Dam – Dam Removal and Channel Restoration Document (October 21, 2011) clearly shows channel and floodplain excavation along specific locations along several tributaries to the Kalamazoo River, including unnamed tributaries, the Gun River, and several oxbows to the Kalamazoo River. These plans show (varying location of) installation of engineered rock riffles, vegetated soil lifts, installation of

a rock toe or rock bank stabilization, and brush mattresses, all at specific locations and specific station numbers in very detailed proposed plans.

Furthermore, Appendix D to the Otsego City Dam – Dam Removal and Channel Restoration Document (October 21, 2011) is a copy of the Clean Water Act Section 404 joint permit application submitted to the U.S. Army Corps of Engineers and MDEQ for permitting; as such, specific impacts associated with the proposed dam removal are known and have been quantified. This means that a specific sub alternative (1, 2, or 3) has been selected for permitting approval, and as such, should have been included and discussed in detail in the DPEIS and appendices. Additionally, the summary of activities in the application mentions construction of temporary water control structures, temporary access roads, and cofferdams, which were not shown in the Appendix B plans. The application also does not discuss the nature of the sediments (PCB-contaminated) or that (or if) the proposal is being coordinated with EPA Superfund remediation efforts. The application does not propose any impacts to wetlands, although areas adjacent to the river and tributary channels are clearly wetland and are shown as wetland restoration and replanting areas in Appendix B plans.

Recommendations: The Final Programmatic EIS should compare and contrast impacts associated with the three alternatives under consideration for the removal of the Otsego City Dam, and specify if a preferred alternative has been selected. The Final Programmatic EIS should be updated to include specific narrative information on expected direct and indirect impacts to wetlands and aquatic resources expected from each sub-alternative of the proposed Otsego City dam removal in Section 5 – Environmental Consequences. Impacts to wetlands, both temporary and permanent, should be discussed. Proposed mitigation for direct and indirect wetland impacts, both permanent and temporary, should be discussed in the Final Programmatic EIS. Additionally, should mitigation be required for any wetland impacts associated with dam removals or proposed river thalweg adjustments/redirection and/or tributary relocation, EPA recommends that the Trustees work to develop an acceptable mitigation ratio and mitigation plan to compensate for both direct and indirect wetland impacts that meets requirements of the 2008 Mitigation rule (40 CFR 230) as well as state requirements. Details on mitigation for both direct and indirect wetland impacts (including mitigation ratios, mitigation type, mitigation location(s), etc.), should be included in the Final Programmatic EIS.

Upland areas that are currently forested that will be disturbed should be restored as forested areas. Specifically, the Trustees should also commit to reforesting areas where trees may be required to be removed to install haul roads, staging areas, or other temporary containment or construction areas.

- Both of the Dam Removal and Channel Restoration Documents show use of access roads and channel and floodplain excavation. The DPEIS states that the removal of contaminated sediments and floodplain soils by EPA can be coordinated with the dam removals proposed by the Trustees and that the Trustees would conduct restoration only in any areas where remediation of PCBs has already occurred, or in conjunction with a removal action conducted by regulatory agencies (e.g., a dam removal following removal of contaminated sediments). However, both of the Dam Removal and Channel Restoration Documents are

silent on coordination efforts with EPA for contaminated areas. Furthermore, no information was provided in the DPEIS or the Dam Removal and Channel Restoration Documents about how the Trustees are ensuring that they are “conducting restoration only in any areas where remediation of PCBs has already occurred, or in conjunction with a removal action conducted by regulatory agencies (e.g., a dam removal following removal of contaminated sediments).”

Recommendations: The Final Programmatic EIS should include a robust discussion on how the proposed dam removal activities as proposed in the Dam Removal and Channel Restoration Documents have been coordinated with EPA remediation activities. The Final Programmatic EIS should also provide assurances on how the dam removals, as proposed, would be conducted in areas where PCB remediation has already occurred, or how they will be undertaken in conjunction with EPA remediation and removal actions.

REPORTING ACTIVITIES

- The DPEIS states that the Trustees would require documentation of monitoring activities for all restoration projects, to include “*Annual monitoring reports and adaptive management actions that need to be taken.*” (Page 2-12). EPA acknowledges that the breadth and scope of specific restoration activities is not known at this time; however, the DPEIS did not propose a minimum length of monitoring for specific types or categories of restoration activities.

Recommendations: EPA supports adaptive management as a strategy to implement both remediation efforts and ecosystem restoration activities. A key feature of adaptive management is planning and implementing monitoring programs. Three types of environmental monitoring appear to be warranted, including baseline, impact, and compliance monitoring. The Final Programmatic EIS should attempt to group restoration activities by type or kind, and should define a minimum expected monitoring period for such groups of projects. Monitoring lengths and baseline monitoring required for specific types of projects may be driven by regulatory monitoring requirements (from necessary wetland or water permits), or from agency experience in long-term management. This should be further discussed in the Final Programmatic EIS. EPA recommends that the Trustees continue to identify and clarify the processes, data needs, key steps, and monitoring types to be utilized and undertaken to adaptively managing ecosystem restoration efforts in the future.

EPA understands that Superfund remediation activities, though necessary, may cause temporary detrimental impacts to the chemical, physical, and biological processes of ecosystems within the KRE. EPA supports remediation activities, and restoration activities, that are able to balance short-term habitat losses with overall restoration objectives. Additionally, EPA reiterates our support for a mixture of restoration project types that, when combined, will generate a broad suite of ecological benefits associated with the range of natural resource injuries within the KRE. The DPEIS notes that the Trustees prefer ecological restoration projects that include a water-related recreational or other human-use component over projects that are solely focused on improving human uses. It also notes that projects that incorporate resiliency to the impacts of climate change, and therefore provide longer-term benefits, are preferred. EPA supports these objectives and is in full support of the project.

Thank you for the opportunity to review and provide comments on this DPEIS. We are available to discuss our comments with you in further detail if requested. When the Final Programmatic EIS is released, please send one paper copy and one CD of the document to our office. If you have any questions about this letter, please contact the lead NEPA Reviewer, Ms. Liz Pelloso, PWS, of my staff at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosure: *Summary of Rating Definitions*

cc with enclosure (via email):

Todd Goeks, NOAA

Julie Sims, NOAA

Judith Alfano, MDEQ

Paul Bucholtz, MDEQ

Larry Poynter, MDEQ

Mark Schieber, MDEQ

Jessica Mistak, MDNR

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION¹

Environmental Impact of the Action

LO - Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO - Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1 - Adequate

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - Insufficient Information

The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3 - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

¹ From EPA Manual 1640: Policy and Procedures for the Review of Federal Actions Impacting the Environment

Comment #5

From: **Steve Hamilton** <hamilton@kbs.msu.edu>

Date: Wed, Oct 21, 2015 at 9:31 PM

Subject: Fwd: Invitation: Discuss potential natural resource restoration projects in the Kalamazoo River

To: Lisa Williams <Lisa_Williams@fws.gov>

Hi Lisa,

The KRWC has the attached brief comments on the NRDA plan. Thanks for all you do on this!

Best regards,

Steve

Comments on the Draft Restoration Plan and Programmatic Environmental Impact Statement

13 October 2015

Kalamazoo River Watershed Council (KRWC)

Contact: Dr. Steve Hamilton, hamilton@kbs.msu.edu or Jamie McCarthy, krwc@kalamazooriver.org

Several members of the Board of Directors attended an informational meeting at the Kalamazoo Nature Center on September 15th, and we have examined the draft report. The KRWC feels that the NRDA funds would best be invested to address the larger, more costly challenges of industrial legacies, such as old dams that remain on the main stem, and other major river restoration work. As the PCB-contaminated sediments retained behind aging and decrepit dams are dealt with under the Superfund process, additional NRDA funding can ensure that the river and floodplain are restored as best they can be.

The NRDA funds provide a unique opportunity to address these challenges, which are much harder to fund than smaller projects distributed throughout the watershed, and this kind of investment would provide permanent benefits. Therefore we feel that priority should be given to projects that involve the river and its floodplain, though not necessarily limited to the areas where Superfund remediation is being conducted.

The prioritization of projects that restore and enhance the Kalamazoo River is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

The KRWC deeply appreciates the years of service that the trustees have devoted to this process, and we look forward to the eventual benefits to the environment and people that the NRDA funds will bring.

Comment #6

From: **Mark Stuart** <snmstuart@hotmail.com>

Date: Wed, Oct 21, 2015 at 8:58 PM

Subject: comments on the Draft NRDA Plan Kalamazoo River 2015

To: kzoorivernrda@fws.gov

The undersigned is writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for the National Resource Damage Assessment (NRDA) Trustees to select Alternative C in the draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the city of Battle Creek as a potential project.

Removal of the concrete channel will help create a vastly better aquatic habitat, improve and restore riparian and wetland habitat and help reconnect the community and the entire area to this valuable water resource for recreation and riparian development. For far too long our river has been ignored. This natural resource needs to be celebrated! I further understand that restoration of the cement channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3 and B2.

Please consider selecting Alternative C and consider removal of the channelized portion of the river in the City of Battle Creek and return this valuable resource to the community for a productive use.

Thank you. Mark F. Stuart

Comment #7

From: **Christine Kosmowski** <ckosmowski@calhouncountymi.gov>

Date: Tue, Oct 20, 2015 at 2:24 PM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Dear Dr. Williams:

I am writing to urge the Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2. Attached is additional information about the removal of the concrete channel.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek. Please contact me with any questions.

Sincerely,

Christine Kosmowski
Water Resources Commissioner
Calhoun County
315 W. Green Street
Marshall, MI 49068
T: 269-781-0790
E: ckosmowski@calhouncountymi.gov

DRAFT



Calhoun County Water Resources Commissioner

"Building a Better County Through Responsive Leadership"

315 West Green Street
Marshall, MI 49068
269-781-0790
269-781-0647 - Fax

CHRISTINE KOSMOWSKI
Water Resources Commissioner

SHERRY TRADER
Deputy

October 20, 2015

Lisa Williams
U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road
East Lansing, MI 48823

Dear Dr. Williams:

I am writing to urge the Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek

Sincerely,

Christine Kosmowski

Cc: File

Restoration of the Channelized Portion of the Kalamazoo River in Battle Creek, Michigan

Project Description

The Kalamazoo River in downtown Battle Creek, Michigan was channelized with concrete by the United States Army Corp of Engineers (USACE) approximately fifty years ago for flood control. The channelization eliminates the potential for spawning, resting and feeding areas for a broad variety of fish, amphibians, plant life and other terrestrial organisms and thus acts as a deterrent to the establishment wildlife. In addition, the riparian buffer has been removed which has caused the water temperature to increase above the tolerance of some fish species. This segment of the Kalamazoo River is also inaccessible to the public for recreational purposes, affords poor water quality and has a very poor aesthetic character.



Restoration Objectives

This project is intended to provide compensatory restoration for the in-stream habitats and aquatic natural resources (like mussels and fish) that were injured as a result of the Enbridge Line 6B oil discharges by increasing the aquatic functions and values directly in the Kalamazoo River.

The proposed project is the modification of approximately 4,000 linear feet of concrete channel and the restoration of the channel to a natural setting by adding pools and riffles, a riparian buffer, and a fish passage at the dam upstream of the channel.

The proposed project includes creation of naturally landscaped park space along the river banks, together with a non-motorized pathway, in order to allow for access to and recreational use of the river.



Urban River Trails
- a familiar and successful concept in Battle Creek and other cities



Battle Creek



San Antonio



Los Angeles

Probability of Success and Monitoring

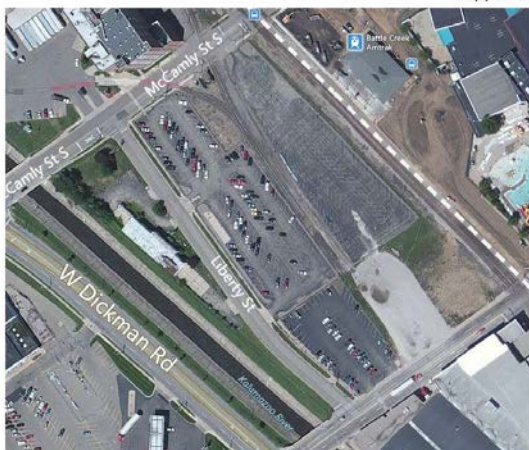
Removing the concrete armor along the stretch of the Kalamazoo River within the city limits of Battle Creek, Michigan, will be highly successful in restoring aquatic habitat, native riparian plant communities, fish migration and spawning areas. It will also improve water quality. The biggest barriers to the success of the project are the cost to remove the concrete, property acquisition, and the removal of contaminated sediment from a brownfield site adjacent to the river. A full hydrology study is also needed to adequately determine the engineering design.

The United States Army Corps of Engineers (USACE) developed a pre-feasibility model and rejected the removal of the channel. However, the model was based on limited data. Per the USACE report, “the accuracy and precision of the hydraulic model is uncertain and the output is only an approximation at best.” Therefore, a complete hydraulic model should be funded to be able to fully determine the feasibility of removing the channel. The Kalamazoo River Watershed Council supports the funding of such a study.

Environmental and Socio-Economic Impacts

No long-term adverse environmental or socio-economic impacts are expected from this project. In fact, positive benefits are expected. The project will have the added bonus of reconnecting the community to this water source that has been inaccessible for the past 50 years. The project ties in nicely with two recent statewide initiatives: *Michigan Blue Economy* and *Sustaining Michigan's Water Heritage* (Water Strategy). Both emphasize the importance of water and Placemaking for communities. The Water Strategy, for example, stresses the importance of protecting and restoring aquatic ecosystems and creating vibrant waterfronts and areas for water-based recreation.

Soapy's Car Wash Site



Soapy's Car Wash Site

- A Restored river with native boulders and plantings
- B Riverwalk
- C Drop-off
- D Conagra parking – reconfigured
- E Kayaker parking
- F Greenway connection to river
- G GPI parking – reconfigured
- H Capitol St. re-route / GPI loading

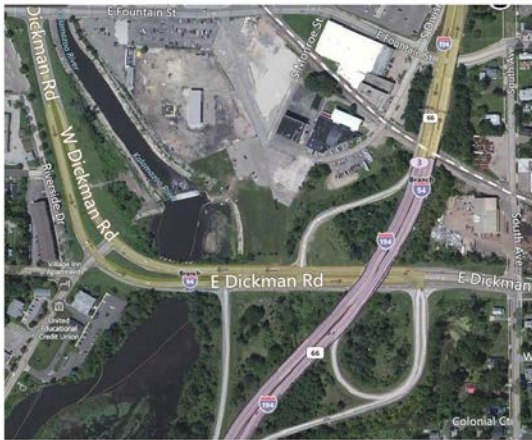


Chicago



New York

Mill Pond Site



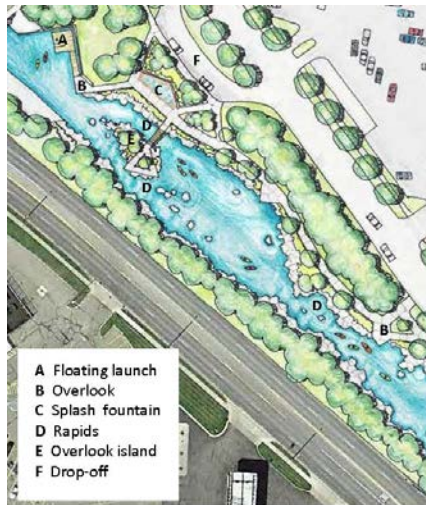
Adaptive Kayak Launch



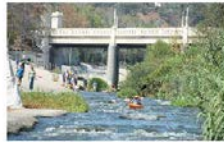
Floating platform with hinged approach will be required due to fluctuating river elevation.

Platform is equipped with electronic lift powered by solar voltaic cells.

Newly constructed launch on the Detroit River at Bishop Park in Wyandotte



Cherry Creek, Denver



LA River, Los Angeles



Confluence Park, where Cherry Creek meets the South Platte River, Denver



- A Riverwalk / overlook perches
- B Native boulders and bank plantings
- C Floating launch pad
- D Boardwalk to launch area
- E Fish ladder
- F Existing dam
- G Woodland planting/habitat



Natural fish pass, Williamston, MI



Rouge River, Detroit

Cost

\$30 to \$50M for the full restoration. \$100K to \$300K is anticipated for a full hydrology study of the system. This project is expected to be a partnership among the City of Battle Creek, Battle Creek Whitewater, Inc., the Battle Creek Community Foundation, the Calhoun County Water Resources Commissioner, and other community organizations.

Evaluation

Although the stretch of the channelized section of the Kalamazoo River is outside of the area affected by PCB sediment, it was directly impacted by the Enbridge Line 6B Oil Discharges from July 2010. The oil from the discharge flowed completely through this community of 53,000. One of the larger areas of submerged oil that resulted from the event is just upstream of the channel in the area known as the Mill Ponds. Submerged oil remains there and will need to be monitored for many years to come.

This project will have negative short-term impacts to natural resources, but will have overall long-term positive environmental impacts by restoring aquatic habitat, native riparian plant communities, fish migration and spawning areas, and improving water quality

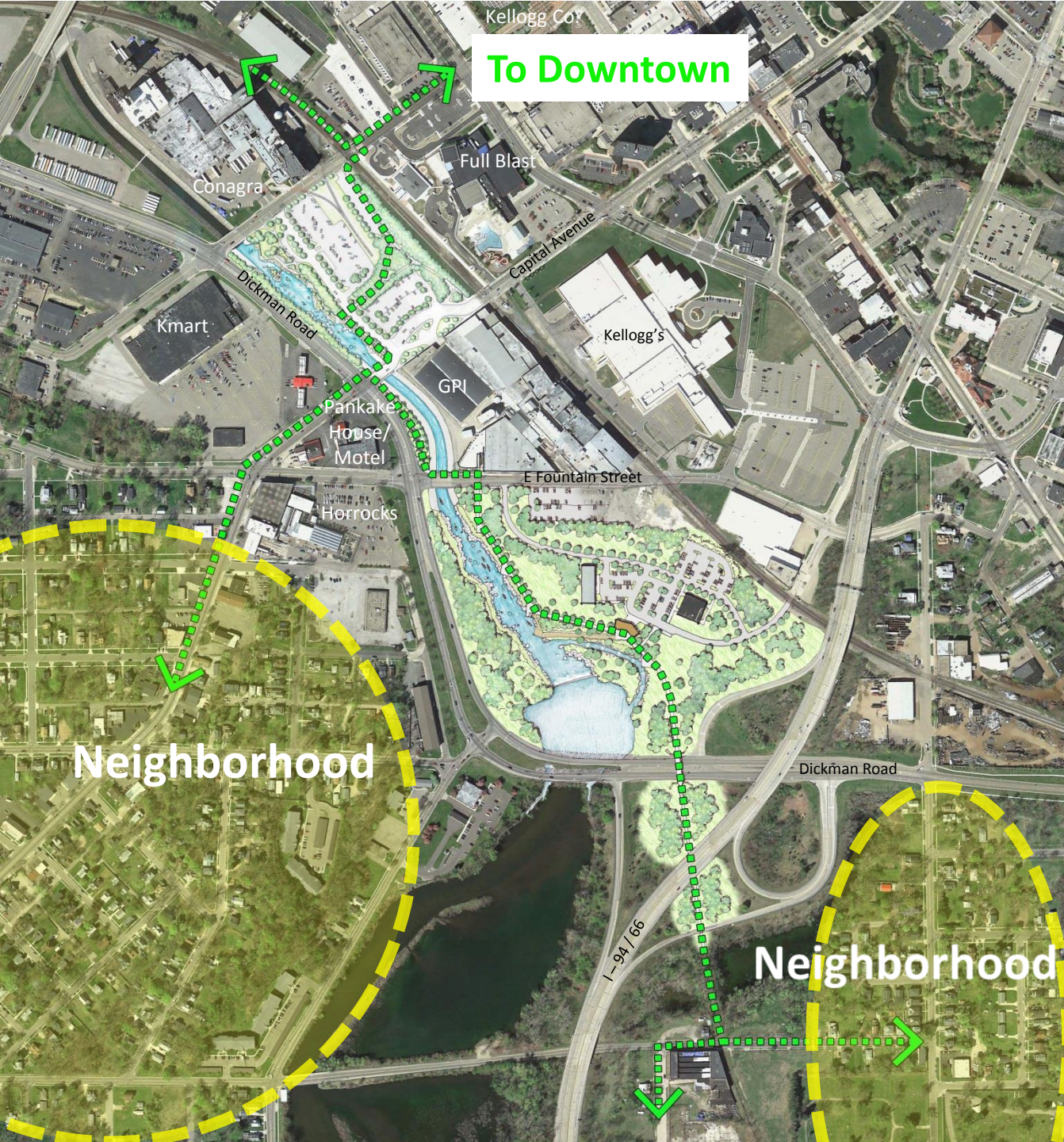


Rethinking the Kalamazoo River In Battle Creek

November 13, 2014







Urban River Trails

- a familiar and successful concept in Battle Creek and other cities



Battle Creek

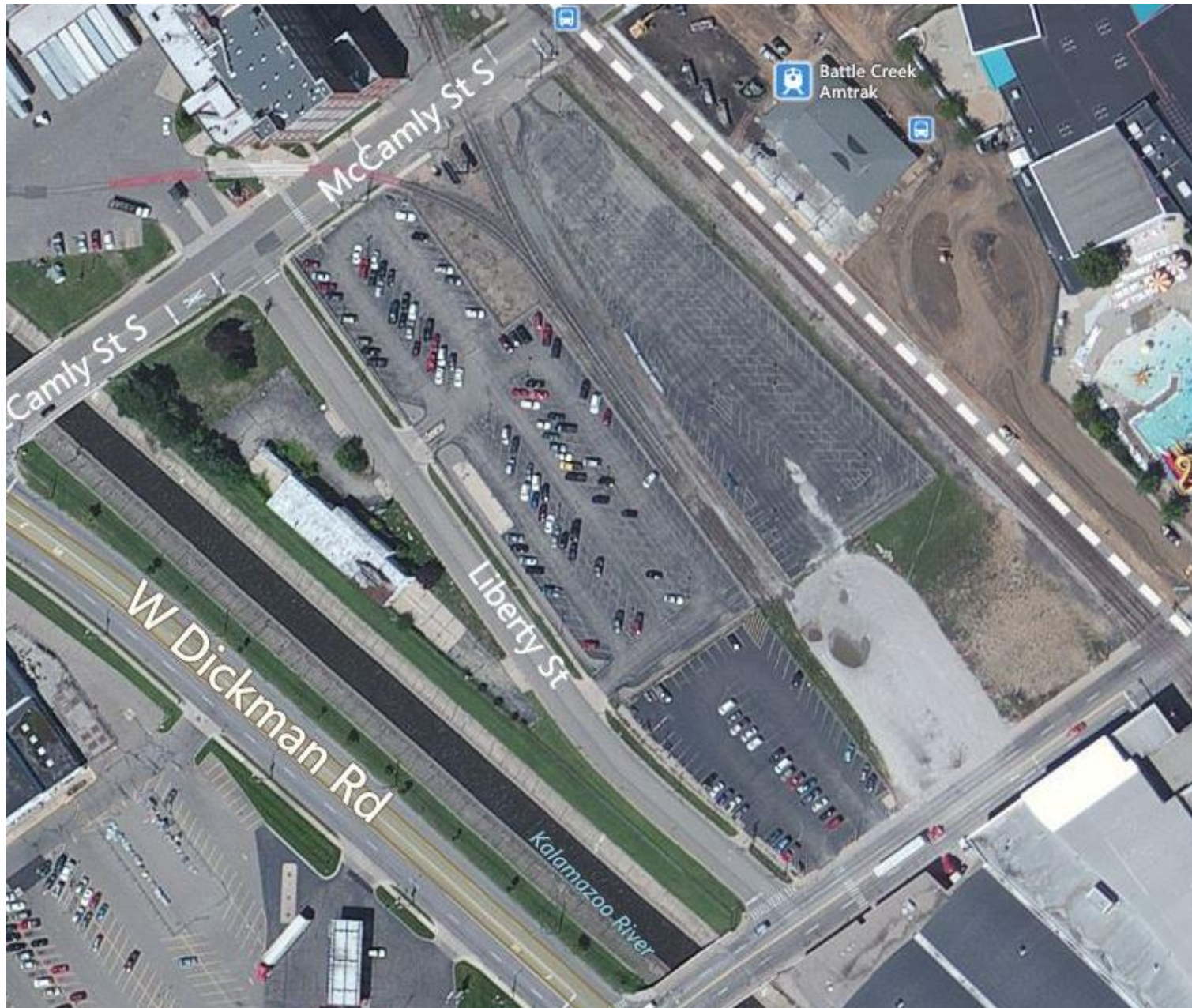


San Antonio



Los Angeles

Soapy's Car Wash Site





Soapy's Car Wash Site

- A Restored river with native boulders and plantings
- B Riverwalk
- C Drop-off
- D Conagra parking – reconfigured
- E Kayaker parking
- F Greenway connection to river
- G GPI parking – reconfigured
- H Capitol St. re-route / GPI loading



Chicago



New York



- A** Floating launch
- B** Overlook
- C** Splash fountain
- D** Rapids
- E** Overlook island
- F** Drop-off



Cherry Creek, Denver



LA River, Los Angeles

Adaptive Kayak Launch

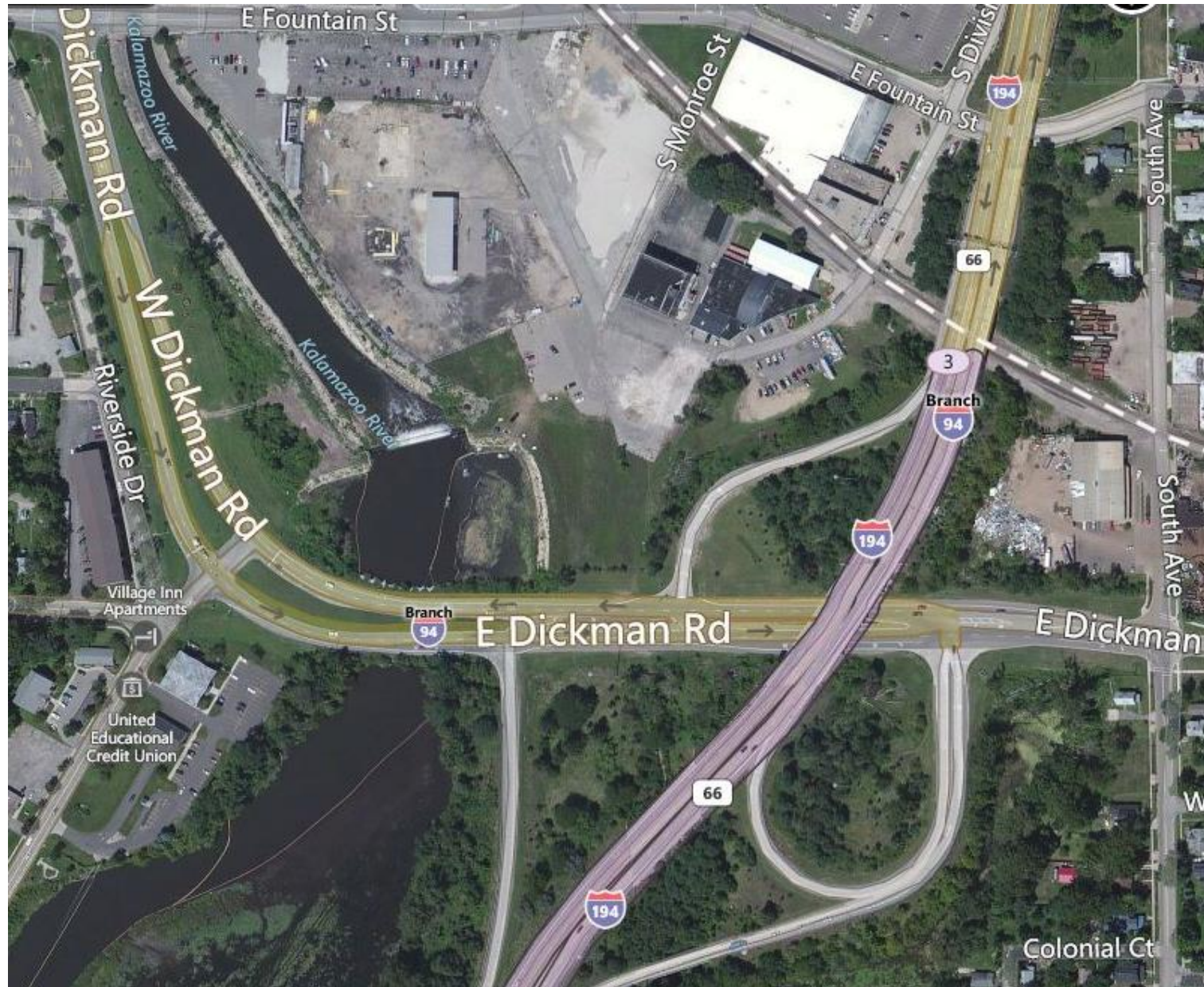


Floating platform with hinged approach will be required due to fluctuating river elevation.

Platform is equipped with electronic lift powered by solar voltaic cells.

Newly constructed launch on the Detroit River at Bishop Park in Wyandotte

Mill Pond Site



Mill Pond Site

- A Park Entry Drive
- B Riverwalk w/ overlook perches
- C Native boulders and bank plantings
- D Multi-purpose event space
- E Woodland planting
- F Boardwalk get-down to launch
- G Restored open-air shelter
- H Kayak / bicycle livery
- I Mixed use restoration
- J Fish Ladder
- K Pedestrian overpass
- L Trail using existing underpass



Rouge River, Detroit



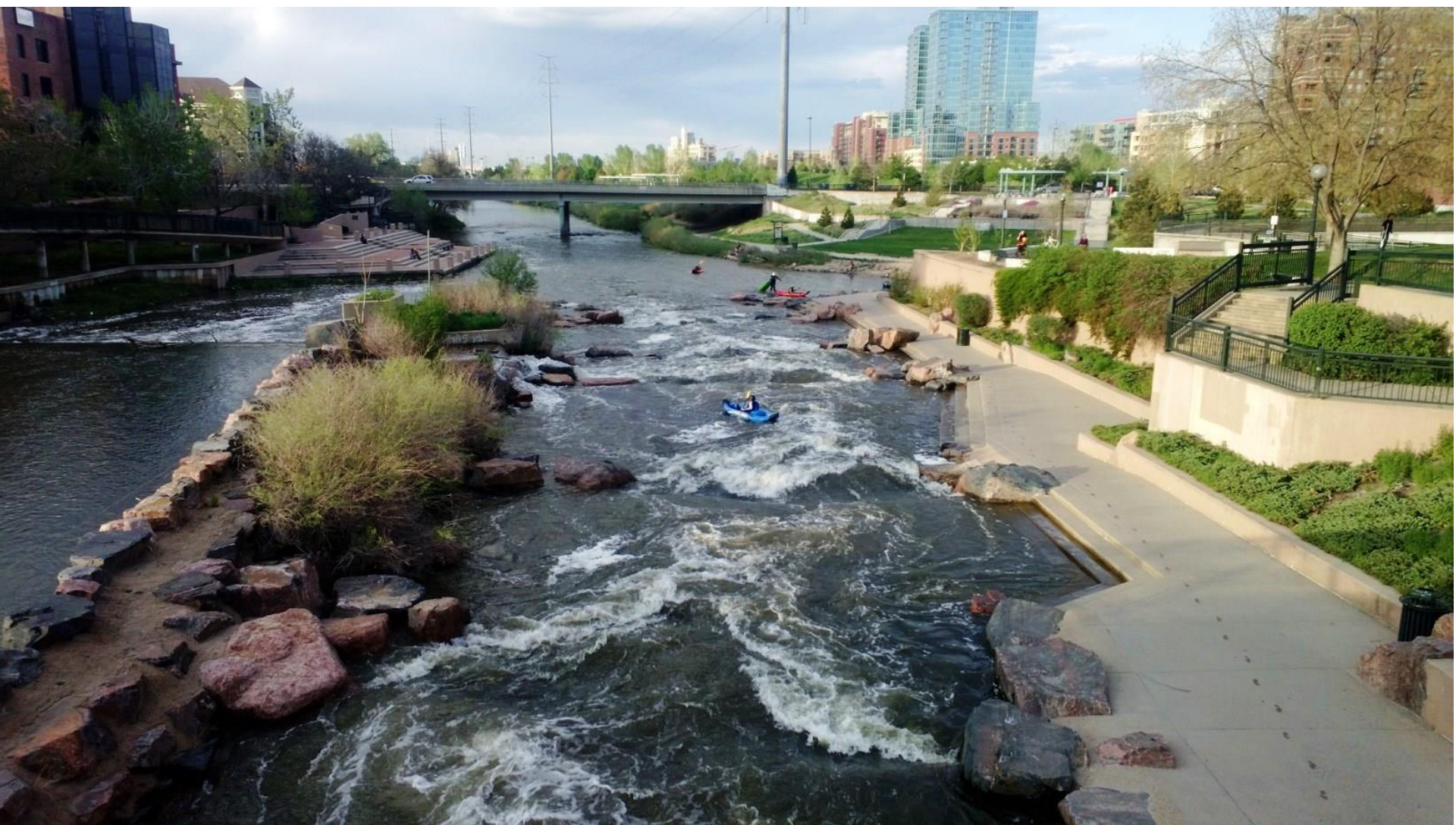
- A Riverwalk / overlook perches
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- C Floating launch pad
- D Boardwalk to launch area
- E Fish ladder
- F Existing dam
- G Woodland planting/habitat



Natural fish by-pass, Williamston, MI



Rouge River, Detroit



Confluence Park, where Cherry Creek meets the South Platte River, Denver



http://www.mlive.com/business/west-michigan/index.ssf/2014/09/grand_rapids_w-hitewater_projec.html

Comment #8

From: **Andy Helmboldt** <helmboldt4bc@gmail.com>

Date: Wed, Oct 21, 2015 at 11:39 AM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: kzoorivernrda@fws.gov

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek.

Thank you,
Andy Helmboldt
Battle Creek City Commissioner, At-Large
269-660-9659
helmboldt4bc@gmail.com

Comment #9

From: **John Macfarlane** <jmacfarlane@mumfordlaw.com>

Date: Thu, Oct 22, 2015 at 8:42 AM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Dear Dr. Williams:

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

Removal of the concrete channel would fulfill many criteria listed in the draft Restoration Plan. It will remove a significant barrier in the river, help create an aquatic habitat where none currently exists, improve riparian and wetland habitat, conserve habitat, and will reconnect the community to this

valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria and Table 2.2 of the draft report, particularly A2, F3, and B2. Very importantly, restoration of the channelized portion of the Kalamazoo River would also be consistent with restoration criteria B1 by providing the greatest scope of ecological, cultural, and economic benefit to the largest area or population.

Please consider selecting Alternative C and consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek. Thank you.

John H. Macfarlane
Mumford, Schubel, Macfarlane & Barnett
68 E. Michigan Ave.
Battle Creek, MI 49017
ph. 269-968-6146
fax 269-968-1147
jmacfarlane@mumfordlaw.com
www.westmichiganlawyers.com

Comment #10

From: **Conor Macfarlane** <csm@3eyetech.com>
Date: Fri, Oct 23, 2015 at 12:51 PM
Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015
To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Dear Dr. Williams,

As a local business owner, I am particularly interested in relocating my growing company headquarters and investing in downtown Battle Creek - along a renovated and more aesthetically pleasing river. I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please select Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek.

Thank you,
Conor Macfarlane
President & CEO
3Eye Technologies
www.3eyetech.com
csm@3eyetech.com

269-841-5064

Comment #11

From: **Mandi Weiss** <mandi@3eyetech.com>

Date: Fri, Oct 23, 2015 at 2:36 PM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

To Whom It May Concern:

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek

Thank you,

Mandi Weiss
3Eye Technologies
Corporate Account Manager
312-241-1482 (office)
269-753-2995 (cell)

Comment #12

From: **TJ Hagist** <tjhagist@3eyetech.com>

Date: Fri, Oct 23, 2015 at 3:14 PM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Dr. Williams,

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek

Thanks,

TJ Hagist
3Eye Technologies
Operations Manager
tjhagist@3eyetech.com
O: 269-841-5584

Comment #13

From: **Karen Parker** <kwpark1099@gmail.com>

Date: Sat, Oct 24, 2015 at 7:13 PM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: kzoorivernrda@fws.gov

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek

Thank you for your thoughtful consideration of the worthy project.

Karen A. Weideman
922A Capital Avenue SW
Battle Creek MI 49015

Comment #14

From: **Rick Baron** <rjbaron@comcast.net>

Date: Sun, Oct 25, 2015 at 12:49 PM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: kzoorivernrda@fws.gov

Dr. Williams,

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for the Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation.

Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek!

Thank you.

Sincerely,

Rick Baron
513 Morningside Drive
Battle Creek, MI 49015

Comment #15

From: **Beuchler, Tanner** <Tanner.Beuchler@kellogg.com>

Date: Mon, Oct 26, 2015 at 10:59 AM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Good Morning,

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek.

Thanks,
Tanner Beuchler

Comment #16

From: **Sosville, Wendy** <Wendy.Sosville@kellogg.com>

Date: Mon, Oct 26, 2015 at 4:16 PM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015

To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Dear Dr. Williams,

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

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Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek

Thank you,

Wendy Sosville
(O) 269/961-2742
(M) 269/209-8583

Comment #17

From: **Danielle Zebell** <dzebell@3eyetech.com>

Date: Tue, Oct 27, 2015 at 8:31 AM

Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015
To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

Dear Dr. Williams,

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project. The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat, help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2. Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek.

Thank you,
Danielle Zebell
3Eye Technologies
Sales and Marketing Coordinator
312-241-1480 (office)
269-788-5611 (cell)
dzebell@3eyetech.com
[Connect with 3Eye on LinkedIn](#)

Comment #18

From: **Turk, Stephanie** <Stephanie.Turk@kellogg.com>
Date: Wed, Oct 28, 2015 at 8:51 PM
Subject: Comments on the Draft NRDA Plan Kalamazoo River 2015
To: "kzoorivernrda@fws.gov" <kzoorivernrda@fws.gov>

I am a lifelong community member who is excited about the potential to remove the channel portion of the Kalamazoo River in Battle Creek. My partner and I both work downtown Battle Creek and drive by this section regularly. We are also a family who uses other portions of the Kalamazoo River frequently to canoe, fish, and spend family time. We would love to do this closer to home, right here in Battle Creek.

I am writing in support of the comments submitted by Christine Kosmowski, Calhoun County Water Resources Commissioner, for Natural Resource Damage Assessment (NRDA) Trustees to select Alternative C in the Draft Restoration Plan and Programmatic Environmental Impact Statement and to consider the removal of the channelized portion of the Kalamazoo River within the City of Battle Creek as a potential project.

The removal of the concrete channel fulfills many criteria listed in the document. It will remove a significant barrier in the river, help create better aquatic habitat, improve riparian and wetland habitat,

help conserve habitat, and will help reconnect the community to this valuable water resource for recreation. Restoration of the channelized portion of the Kalamazoo River within the City of Battle Creek is consistent with the restoration criteria in Table 2.2 of the draft report, particularly A2, F3, and B2.

Please consider selecting Alternative C and consider the removal of the channelize portion of the Kalamazoo River within the City of Battle Creek.

Thank you,

Stephanie Turk | Sr.Manager | Kellogg Customer Operations | O: 269-961-3021 C: 269-420-1724

Comment #19

From: **Brittney Hilley** <hilleyb@mail.gvsu.edu>

Date: Tue, Sep 29, 2015 at 9:19 AM

Subject: Kalamazoo River RP/PEIS

To: kzoornrda@fws.gov

Cc: Erin Donnelly <donneler@mail.gvsu.edu>, Derek Badder <badderde@mail.gvsu.edu>

In order to restore aquatic connectivity on the Kalamazoo River, dams will be removed from said river. What are the environmental and social implications of this removal? There will be many positive benefits of the dam removal. Still-water that will now be cold free-flowing water can destroy some invasive species, an added bonus to removing these dams. Not only will aquatic areas benefit, but riparian and upland areas around the river are said to benefit from this decision (Stratus Consulting, 4.1.1). However, it is proposed that with the removal of the dam, the vegetation in the riparian area will be stabilized but with free-flowing water it can destroy vegetation on the banks of the river. Will this change have an economic impact on the area? Fishing and boating could be affected by the removal of the dam. All that is said about recreational activities is that there will be increased public access and also access without degradation of the habitat. How does this affect people who regularly use this area for recreation? There are many factors to consider when removing a dam. Dam removal can change property values and recreation, but can also save a town money and help with water quality concerns. Even though there will be short term impacts, the more important issue is to look at the long term. Will the long term effects of removing the dam have a substantially more positive impact on the area than the immediate negative impacts? On the other side, what are the long term negative impacts and do they outweigh the short term positive impacts?

"Kalamazoo River Project - Region 5 Cleanup." EPA. Environmental Protection Agency, 1 May 2015.

Web. 29 Sept. 2015. <<http://www.epa.gov/region5/cleanup/kalproject/#updates>>.

Stratus, Consulting Inc. "Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment." *Michigan Department of Natural Resources Michigan Department of Environmental Quality, Michigan Attorney General, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration*. 1 Aug. 2015. Web. 29 Sept. 2015.

Comment #20

From: **Max Miller** <millemax@mail.gvsu.edu>

Date: Tue, Sep 29, 2015 at 12:24 PM

Subject: Kalamazoo River RP/PEIS
To: kzoorivernrda@fws.gov

Lisa Williams
U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road
East Lansing, MI 48823

Subject: Kalamazoo River RP/PEIS

We respectfully submit our comments as a group of 3 students attending Grand Valley State University, in a Natural Resources Policy class.

After reviewing the submission on the National Registry, we find with the Trustees, that the final option, Option C, is the best overall, and that the plans for river restoration to be well planned and thought out. We understand that the Superfund hotspots are of primary concern, but that the return of the entire stretch of river as a healthy habitat and recreational body a best option for future generations of inhabitants and wildlife.

In further discussion with local stakeholders, we understand that with every "area of interest", there are various concerns that need to be satisfied, such as where to put dredging material. We are heartened by the process of public comment and that there are scheduled meetings for face to face question and answer periods offered in Kalamazoo, for instance.

The PowerPoint presentation provided on your agency's website clearly outlined the restoration process to be taken including but not exclusively accomplished using dredging. Complete removal of the PCB's using dredging could end up causing unforeseen consequences. Therefore, we support the use of boulders strategically placed to slow the water and sediment down, thus allowing the PCB's to settle in less concentrated levels. Reintroducing Sturgeon as an indicator species will help quantify the success of the process, and ensure their survival in slow moving, sediment free water.

We further support the careful removal of outdated and irrelevant dams as places where the sediment and PCB material collect. We understand that the progression needs to happen in proper order, and that the sediment must be handled with care so increased flow does not move the contaminants and sediment in an uncontrolled manner, and concentrate the problems downstream.

We understand that the process is arduous and very detailed so we laud the work you are doing.

Comment #21

From: **Kelly Lavery** <laveryk@mail.gvsu.edu>

Date: Tue, Sep 29, 2015 at 4:30 PM

Subject: Kalamazoo River RP/PEIS

To: "nordmane@gvsu.edu" <nordmane@gvsu.edu>, kzoorivernrda@fws.gov

After reading and assessing this article, we believe that the proposed preferred alternative is the best option for returning the Kalamazoo River Environment to its full potential. The current plans for restoration seem to provide excellent environmental benefits, while still remaining cost efficient. If the release of PCBs into the Kalamazoo river and the presence of dams continues, the degradation will only become more severe, and the efforts and funding needed to reverse the effect of the PCBs and the dams will only increase with time. Under the CERCLA, it is the responsibility of the the parties that

caused harm to the river to cover the cost that it takes to reverse the release and compensate any resulting damages. Therefore, the cost of restoring the Kalamazoo River Environment would be primarily funded by those responsible for the degradation of the area. This seems both fair and cost efficient for those that were not initially responsible, but are trying to resolve the issue. While the removal of PCBs seems manageable under this budget, the removal of the dams is more difficult to justify. The initial ecological impact will be negative due to the potential risk for flooding, habitat destruction, and sediment build up, and the cost of dam removal is high. The funding from the responsible party will not cover all of the plans in the preferred alternative, as the negative ecological impacts that result from the removal of the dam and the general cost for dam removal will likely surpass the allotted two million, especially when a portion of the funds is also being used for PCB removal. However, if sufficient funds are available, the current plans to restore the environment are sufficient as PCB and dam removal are essential for long term ecological health in the environment, and the emphasis of native species use in the solution is very forward and sustainable thinking.

Comment #22

From: **Haefner, Ralph** <rhaefner@usgs.gov>

Date: Thu, Oct 29, 2015 at 8:19 AM

Subject: Kalamazoo River RP/PEIS

To: kzoorivernrda@fws.gov

Cc: Jim Morris <jrmorris@usgs.gov>

Thank you for the opportunity to review and comment on your draft restoration plan and environmental assessment of the Kalamazoo River. Please find comments from the U.S. Geological Survey attached. Signed hard copy to follow through U.S. Mail.

If you have any questions or comments on this or anything else about the U.S. Geological Survey, please contact me directly,

Ralph.

~~~~~  
Ralph J. Haefner, Deputy Center Director  
U.S. Geological Survey  
Michigan-Ohio Water Science Center  
6520 Mercantile Way, Suite 5  
Lansing, MI 48911-5991  
Office: (517) 887-8927  
Mobile: (517) 599-4954  
Fax: (517) 887-8937  
<http://mi.water.usgs.gov/>



United States Department of the Interior  
U.S. GEOLOGICAL SURVEY  
Michigan-Ohio Water Science Center  
6520 Mercantile Way, Suite 5  
Lansing, MI 48911

October 27, 2015

Lisa Williams  
U.S. Fish and Wildlife Service, East Lansing Field Office  
2651 Coolidge Road  
East Lansing, MI 48823

Dear Ms. Williams:

We were very interested to read your draft “*Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment*” and appreciate the opportunity to comment on its contents.

As you may know, the U.S. Geological Survey Water Mission Area has many overlapping goals related to water resources with several of the “Trustees” including the Michigan Department of Natural Resources, the Michigan Department of Environmental Quality, the U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration. Specifically, our mission is to serve the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

You also may know that the U.S. Geological Survey has worked on various stretches of the Kalamazoo River, including modeling sediment transport and stream bank stability from potential dam removals and work we did for the oil spill back in 2010. Links to several of our reports are included below for your reference:

Sediment transport and stream bank stability from potential dam removals:

- <http://pubs.er.usgs.gov/publication/sir20055044>
- <http://pubs.er.usgs.gov/publication/sir20045178>
- <http://pubs.er.usgs.gov/publication/wri034218>
- <http://pubs.er.usgs.gov/publication/wri024098>

Kalamazoo River oil spill work

- <http://pubs.er.usgs.gov/publication/sim3135>
- <http://pubs.er.usgs.gov/publication/70126738>

As a Federal agency, we typically do not offer technical review of documents provided by the private sector unless specifically requested to do so by another Federal entity. The restoration alternatives may, however, provide an opportunity for the U.S. Geological Survey to work with the Trustees to provide critical hydrologic data and interpretive studies for understanding the effects of the selected restoration. These opportunities could include installation of additional stream gages with real-time water-quality monitors (see, for example the gages we currently operate on the Kalamazoo River available at <http://mi.water.usgs.gov/>), additional geomorphological studies, modeling for both flow and sediment transport, and sampling and analysis of water and sediment for PCBs and related compounds, and ecological studies.

The U.S. Geological Survey prides itself as serving the public as an impartial observer. We welcome any discussions related to potential work on the Kalamazoo River and look forward to hearing from you or your colleagues if there are any ways that we can assist.

Sincerely,

Ralph J. Haefner  
Deputy Center Director

Comment #23

From: **Brian E. Jones** <[Brian.Jones@ipaper.com](mailto:Brian.Jones@ipaper.com)>

Date: Thu, Oct 29, 2015 at 3:59 PM

Subject: Kalamazoo River RP/PEIS

To: "[kzoorivernrda@fws.gov](mailto:kzoorivernrda@fws.gov)" <[kzoorivernrda@fws.gov](mailto:kzoorivernrda@fws.gov)>

Find attached International Paper's technical comments on the *Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment*.

Regards,  
Brian Jones

Brian Jones, P.E.  
International Paper Company  
EH&S  
6400 Poplar Avenue  
Memphis, TN 38197  
901-419-4355 Office  
901-355-2423 Mobile  
901-214-9598 Fax  
[brian.jones@ipaper.com](mailto:brian.jones@ipaper.com)

DRAFT

**Brian E. Jones, P.E.**  
Environment, Health & Safety



6400 Poplar Avenue  
Memphis, TN 38197

T 901 419 4355  
F 901 214 9598  
brian.jones@ipaper.com

October 29, 2015

By Email and Regular Mail

Lisa Williams  
United States Fish and Wildlife Service  
East Lansing Field Office  
2651 Coolidge Road  
East Lansing, MI 48823

Subject: *Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment*

Dear Ms. Williams:

Attached please find International Paper Company's technical comments on the subject document.

Thank you for your consideration.

Sincerely,

  
Brian E. Jones

**Technical Comments on *Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment***

On behalf of International Paper Company, Integral Consulting Inc. and Environmental Economics Services, LLC, have reviewed the *Public Release Draft Restoration Plan and Programmatic Environmental Impact Statement for Restoration Resulting from the Kalamazoo River Natural Resource Damage Assessment* (RP/PEIS; Abt Associates/Stratus Consulting 2015). Our comments are for consideration by the Kalamazoo River Natural Resource Trustee Council in preparation of the final RP/PEIS and in the process of planning and implementing restoration projects.

Our specific comments, provided below, address four topics.

- The draft RP/PEIS should be revised to recognize the importance of coordination between restoration planning and ongoing and planned remediation efforts for OU1 and OU5, Area 1. This will ensure that selected restoration actions capitalize on benefits provided by remedial action and are implemented as efficiently as possible.
- The RP/PEIS does not systematically evaluate the proposed restoration options against the evaluation criteria set forth by the Trustees in the draft document. The RP/PEIS should more thoroughly integrate the natural resource damage assessment (NRDA) regulations into the analysis. The RP/PEIS should encourage a more systematic approach to evaluation of restoration project proposals within the NRDA regulatory framework, both within operable units and across the entire Kalamazoo River Environment (KRE). The RP/PEIS should set out the process by which project evaluation criteria will be consistently applied, and demonstrate the application of the criteria to the specific proposals discussed.
- The RP/PEIS does not discuss sufficiently several well-established concepts and principles that guide the natural resource damage assessment and restoration (NRDAR) process. A more detailed discussion of those principles should be included so that stakeholders understand the regulatory and environmental context for the restoration program. Further, it should apply the concept of “baseline” as contemplated by the NRDAR process.
- Inconsistencies between the RP/PEIS and the restoration plan/environmental assessment (RP/EA) for OU1 should be corrected.



**The RP/PEIS does not demonstrate coordination between the Trustees and the U.S. Environmental Protection Agency (EPA) or with concurrent restoration planning efforts for the KRE.**

Trustee activities should be coordinated with EPA's ongoing remediation efforts to avoid inefficiencies, prevent unnecessary costs, and maximize opportunities for cost-effective restoration. The RP/PEIS should therefore present mechanisms for linking restoration projects with remediation required by EPA. This will ensure selection of projects that can simultaneously meet both restoration and remediation goals. The RP/PEIS as drafted does not clearly define the linkage between restoration and remediation, even though the Trustees support the concept of integrated efforts (Stratus Consulting 2013; Abt Associates/Stratus Consulting 2015).

The RP/PEIS should also clarify the ties between proposed restoration projects and the remediation plans described in the recent record of decision for OU5, Area 1 (USEPA 2015a) and in the proposed plan for OU1 (USEPA 2015b). Although there is a list of prior remedial actions in Section 1.2.2.1, the RP/PEIS does not describe how the Trustees' restoration objectives were met or how future restoration projects have been planned in light of these actions. For example, there is one sentence in Section 1.2.2.4 stating that "Trustees coordinated with EPA and two paper companies" to plan the Plainwell Impoundment cleanup, and that the state and Trustees "provided input" that led to dam removal. These statements are not sufficient to establish for stakeholders the method and extent to which the agencies work collaboratively to maximize the efficiency and extent of ecological restoration. As presented, it appears that the cleanup efforts being led by EPA are not occurring in coordination with the Trustees.

The RP/PEIS should also clearly explain its relationship to the conceptual restoration alternatives presented by the RP/EA for OU1 (Stratus Consulting 2013) and any additional planning and implementation under way following the completion of that document. This information is necessary under either Alternative B or Alternative C presented in the RP/PEIS.

Without a transparent and effective coordination effort, the NRDAR process will be inefficient and could lead to unnecessary costs and missed opportunities for cost-effective restoration. Moreover, a transparent and structured coordination effort can help to avoid indirect injuries resulting from remediation, a problem resulting from past remediation efforts and noted by the Trustees on p. 1-14 of the RP/PEIS. Failing to prevent indirect injury during remediation will complicate the Trustees efforts, waste funds, and prolong any injury that may have occurred.

To address the need for transparent coordination between the NRDAR process and remediation, the RP/PEIS should provide a road map describing how remediation efforts

in OU1 and OU5, Area 1 are being coordinated with Trustees' restoration planning efforts as described in the RP/EA for OU1 and the RP/PEIS. Even if there is no coordination at all, discussion should be added to acknowledge that the two processes are under way independently. This will better inform stakeholders on the process and tradeoffs that may already be occurring.

**The RP/PEIS does not provide a systematic approach for application of the criteria to evaluate proposed restoration projects, both within operable units and across the entire KRE. The RP/PEIS should more thoroughly integrate the NRDA regulations and encourage a more systematic approach to evaluation of restoration project proposals. The RP/PEIS should also demonstrate the consistent application of the project evaluation criteria.**

RP/PEIS Table 2.2 presents criteria for evaluating restoration projects. Criterion I2 in this table is "benefits achieved at reasonable cost (i.e., project is cost-effective)" (p. 2-7). This is appropriate because the regulations governing the NRDAR process identify cost-effectiveness as one of 10 factors to consider when selecting a restoration alternative (43 CFR Part 11.82 (d)). Another factor for consideration specified by the regulations is the relationship of the expected costs of the proposed actions to the expected benefits from the restoration.

The RP/PEIS should therefore emphasize the need for a rigorous evaluation of each proposed restoration project according to the criteria provided. The RP/PEIS defines the criteria for evaluating restoration proposals, but should also demonstrate the consistent application of these criteria and the process that will ensure that they are consistently applied. This will ensure that the cost-effectiveness and other considerations specified by the NRDA regulations will be addressed consistently as projects are proposed during future steps in the NRDAR process, and will more closely align the RP/PEIS with requirements of the NRDAR regulations.

Establishing an appropriate basis for comparisons between restoration actions also provides a scale for use by stakeholders in prioritizing restoration efforts, and a better basis for accounting for ecological benefits to be gained by any restoration alternative.

**The RP/PEIS should more thoroughly discuss the well-established concepts and principles that guide the NRDAR process to provide the environmental context in which the restoration program will take place. It should apply the concept of "baseline" as contemplated by the NRDAR process.**

The RP/PEIS is an important means of communicating the Trustees' restoration plans and their intended purpose to stakeholders. To do this effectively, the RP/PEIS must explain the NRDAR process, including its overarching goal to address loss of natural resource

services due to releases of hazardous substances by undertaking restoration actions. In addition, it should explain the key concepts of baseline, debits, and credits for the purposes of NRDAR.

As the Trustees are aware, the term baseline has a specific meaning in the NRDAR context: “the condition or conditions that would have existed at the assessment area had the discharge of oil or release of the hazardous substance under investigation not occurred” (43 CFR 11.14(e)). In its current form, the RP/PEIS uses this term in two different ways, and more frequently uses it to define the condition prior to restoration. For the concept of pre-restoration conditions, the RP/PEIS should refer to the “no action alternative.” “Baseline” should only be used in the manner defined by the NRDA regulations.

Moreover, the RP/PEIS must help stakeholders understand that baseline consists of the condition in the KRE but for the release of hazardous substances, particularly in Section 4. This section describes the environmental setting, including many environmental problems that are entirely separate from those caused by releases of hazardous substances. This gives the mistaken impression that the wide range of issues described are to be addressed by the NRDAR program. Because the RP/PEIS is presented in the context of both the National Environmental Policy Act and the NRDA regulations, it is appropriate that Section 4 also clearly state that the poor water quality, the Enbridge oil spill, invasive species, etc., all contribute to the baseline condition. More consistent presentation of this important context is necessary for stakeholders to understand the scope and goals of restoration actions pursued under the NRDAR process.

As written, the RP/PEIS conveys a sense of limitless restoration projects that may be undertaken to address the many environmental problems in the watershed. Better explanation and incorporation of the fundamental NRDAR concepts will improve efforts to prioritize restoration projects and to maximize overall benefits of the restoration program relative to dollars spent and the programs limits. Clarification of these concepts will also improve the linkage between the RP/PEIS and the Superfund program.

Given the extent and complexity of restoration envisioned by the RP/PEIS, there should be a careful accounting of projects across the KRE, and this process for accounting should be clearly described to stakeholders. Resource debits, restoration credits, and the specific baseline condition of the KRE for the NRDAR should be clarified and incorporated throughout the document.

**Inconsistencies between the RP/PEIS and the RP/EA for OU1 should be corrected.**

The RP/PEIS should provide additional detail on the application of project selection criteria presented in Table 2.2. Inconsistencies in the application of the criteria and in

statements of priorities of the restoration program can be avoided if the RP/PEIS demonstrates a more rigorous application of the criteria in the evaluation of proposed projects.

The 2013 RP/EA for OU1 (Stratus Consulting 2013) presents project evaluation criteria in Table 2 that are also presented in Table 2.2 of the RP/PEIS. Criterion F1 is “Onsite Restoration,” described as “Projects most directly benefiting resources associated with the Kalamazoo River and Portage Creek are preferred over projects with less direct or more distant benefits.” However, three of the nine proposed projects in the 2013 RP/EA are not within the KRE. The 2013 document describes the Trustees’ preference for projects in the “Kalamazoo River Watershed,” but does not mention the KRE. In addition to this inconsistency, the 2013 document does not report how the projects were selected using the criteria described in Table 2, and why several candidate projects are outside the KRE.

The final RP/PEIS should avoid this type of ambiguity by confirming and clearly defining how each proposed project will be evaluated using the criteria in Table 2.2, how these comparisons will be documented, and how the objective of attaining these criteria will be met. For example, the summary of each proposed project should be accompanied by a table listing the criteria in Table 2.2, and a column indicating the extent to which the proposed project meets the criteria. Based on the 2013 RP/EA for OU1, this aspect of the restoration project planning should be performed more rigorously in future planning efforts.

## REFERENCES

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USEPA. 2015a. Allied Paper Inc./Portage Creek/Kalamazoo River Superfund site, Operable Unit 5, Area 1, Kalamazoo, Michigan, record of decision. U.S. Environmental Protection Agency Region 5, Chicago, IL.

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Comment #24

From: <cruiseplanner1@chartermi.net>

Date: Mon, Sep 28, 2015 at 2:03 PM

Subject: Kalamazoo River Dam

To: [kzoorivernrda@fws.gov](mailto:kzoorivernrda@fws.gov)

I would be in favor of removing these dams if possible. The more free flowing any stream is the more beneficial to many forms of wildlife.

Thank you for your consideration.

Dale M. Borske

(989)876-7341

DRAFT

# Index

Adaptive management, 2-6, 2-9–10, 2-11, 2-12, 3-14, 5-1

Administrative Record, 1-2, 1-18

Allegan, City of, 3-24, 4-6, C-13

Allegan City Dam, 1-4, 1-11, 3-22, 3-23, 3-24, 4-5, 4-16

Allegan State Game Area, 3-15, 4-23, C-5, C-7, C-9

Battle Creek, City of, 4-6, 4-16, 4-22, 4-24, 5-22, C-13, D-24

Bird(s)/birding, 1-6, 1-15, 2-2, 2-3, 2-6, 3-15, 3-16, 3-20, 3-34, 4-9, 4-17, 5-12, 5-13, 5-14, 5-16, 5-24, 7-4, 7-5, 7-10, C-6

Burns, controlled, 3-21, 3-22, 5-15, 5-20; prescribed, 3-18, 3-19

Calkins Dam – see Lake Allegan Dam

Ceresco Dam, 3-23, 4-5

Channelization/channelized, 2-2, 3-2, 3-3, 3-5, D-24

Clean Air Act (CAA), 4-21, 7-3

Clean Water Act (CWA), 1-6, 3-27, 4-7, 7-2, 7-3

Climate change, 2-8, 5-9, 6-1, 6-3–6, 7-10, D-28

Connectivity, 1-8, 2-2, 3-12, 3-18, 3-23, 3-24, 3-31, 3-32, 3-34, 3-36, 3-37, 5-12, 5-14, 5-16, 5-17, 5-18, 5-23, 6-6

Culvert, 3-2, 3-11, 3-22, 3-30, 3-31, 3-32, 5-8, C-12

Dispose/disposal/disposed, 1-2, 1-12, 1-13, 2-3, 3-9, 3-12, 3-14, 3-19, 3-22, 3-26, 3-30, 3-32, 3-34, 4-14, 7-6, 7-10

Environmental justice, S-1, 2-8, 4-1, 4-22, 5-21–22, 5-30, 7-9

Erosion, 1-2, 1-12, 1-17, 2-10, 3-2, 3-3, 3-7, 3-9, 3-10, 3-11, 3-15, 3-19, 3-31, 4-5, 5-2, 5-3, 5-5, 5-10, 5-16, 6-5, 7-6

Fire, 3-18, 3-19, 3-21, 4-2, 4-21, 5-15, C-4; prescribed, 3-18, 5-16 – see also Burns, controlled

Fish passage, 2-2, 3-8, 3-22, 3-27, 3-30, 3-30–33, 4-5, 5-8

Fishing, 1-6, 1-15, 1-16, 2-8, 3-16, 3-34, 4-5, 4-7, 4-12, 4-13, 4-14, 4-17, 4-23, 4-24, 5-14, 5-16, 5-22, 5-23, 7-9, C-9

Flooding, 3-6, 3-18, 3-22, 4-5, 5-8, 5-22, 6-2, 6-3, 6-6, 7-10

Hazardous substances, 1-5, 1-6, 1-7, 1-9, -10, 1-13, 1-14, 1-17, 2-1, 2-2, 2-7, 3-2, 4-2, 6-2, 7-3, 7-6, D-6, D-8, D-19, D-20, D-21, D-23

Herbicide, 3-21, 3-22, 5-15

Invasive, plant(s), 3-15, 3-16, 3-17, 3-21, 3-22, 4-19, 5-15; species, 2-2, 2-3, 2-6, 2-12, 3-3, 3-4, 3-12, 3-13–14, 3-15, 3-17, 3-18, 3-19, 3-20–22, 4-14, 4-16, 4-17, 5-7, 5-8, 5-11, 5-12, 5-14, 5-15, 5-17, 5-28, 6-7, 7-9, C-1, C-4

Kalamazoo, City of, 1-8, 3-15, 4-5, 4-6, 4-14, 4-21, 4-22, 4-25, C-3; area, S-1, 1-1, 1-2, 4-7

Kalamazoo Nature Center, 1-9, 4-24, 7-1, C-4

Kalamazoo township, C-11

Lake Allegan Dam, 1-4, 1-11, 3-4, 3-13, 3-14, 3-22, 3-23, 3-24, 4-4, 4-5, 4-13, 4-16, 4-24

Mitigating/Mitigation (measures), 1-17, 3-29, 3-30, 5-1, 5-5, 5-6, 5-7, 5-8, 5-10, 5-11, 5-13, 5-15, 5-16, 6-7, C-10, D-25, D-26

Morrow Dam, 1-3, 1-4, 1-11, 3-23, 4-7, C-1

Native plants, 1-17, 2-2, 3-12, 3-18, 3-19–20, 3-38, 5-15, 5-16, 5-23, 6-7, D-14

Native species, 2-2, 2-3, 2-7, 2-12, 3-3, 3-4, 3-12–13, 3-15, 3-17, 3-18, 3-19–20, 3-21, 3-22, 4-17, 5-15, 6-5, C-11

Non-native species, 3-12 – see also Invasive species

Nonpoint source, 1-15, 2-2, 2-4, 3-39, 4-6, 4-7, 4-9, C-9, C-10, C-11, C-12

Nutrient(s), 1-6, 2-4, 3-15, 3-18, 3-19, 4-5, 4-6, 4-7, 4-8, 4-15, 5-2, 5-3, 5-6, 5-10, C-5

Oil spill, 3-1, 3-23, 4-5, 4-7, 4-16, 6-2, D-5, D-21



Otsego, City of, 3-27, 4-4, C-13

Otsego City Dam, S-1, S-2, 1-1, 1-4, 1-7, 1-11, 2-1, 2-2, 3-22, 3-23, 3-24, 3-25, 3-26–28, 3-29, , 4-5, 4-6, 5-1, 5-10, 7-2, C-3, D3, D9, D26

Otsego Dam, S-1, S-2, 1-1, 1-4, 1-7, 1-11, 2-1, 2-2, 3-22, 3-23, 3-24, 3-25, 3-28–29, 4-5, 5-1, 5-10, 5-20, 7-2, C-3, D-3, D-9

Pesticide(s), 3-21, 3-22, 5-15, 7-10, C-5

Plainwell, City of, 1-13, 4-5, 4-16, C-13

Plainwell Dam, 1-4, 1-10, 1-11, 1-17, 3-22, 3-23, 3-24, 4-5, 6-7, D-7, D-9

Remedial (response) action(s), 1-7, 1-9, 1-10, 1-11, 1-12, 1-14, 1-16, 2-5, 3-2, 3-18, 3-26, 3-27, 3-28, 3-29, 4-8, 5-1, 6-1, 6-2, 7-3, C-1, C-6, D-3, D-7, D-8, D-16, D-17, D-26, D-27; alternative(s), 1-16, D-3, D-11; investigation(s), 1-11, 1-12, 5-1; process, 1-13, 1-16, 3-25, D-3, D-10, D-14, D-16, D-17

Rock ramp(s), 3-30, 3-31

Soft engineering, 2-5, 3-8, 3-9, 3-11, 5-15

Stabilization, 1-12, 1-16, 2-3, 2-10, 3-2, 3-6, 3-9, 3-27, 3-30, 5-15

Stabilize(d), 1-10, 1-12, 1-13, 3-6, 3-8, 3-10, 3-11, 3-12, 3-19, 3-25, 4-20, 5-11

Trowbridge Dam, 1-4, 1-11, 3-22, 3-23, 3-24, 3-25, 4-5