

Michigan 2010-2011 Great Lakes Restoration Initiative Projects and Programs

Year	Agency	Program	Project Title	Organization	Description	Award
2010	NOAA		Kelleys Island Monagan Road Preserve Acquisition		Acquire 18 acres of rare red cedar forest habitat on Kelleys Island, the largest American Island in Lake Erie, adjacent to the Kelleys Island State Park. The property will be acquired by Erie Metroparks.	\$332,500
2010	Dept. of Interior-National Park Service NE		Research Lake Michigan Nearshore Ecosystem Changes		The National Park Service will measure changes to coastal habitats that are affected by an increase in type E botulism, a disease lethal to fish-eating birds. This project will increase understanding of large bird die-offs at Sleeping Bear Dunes National Lakeshore. The park will install a long-term monitoring buoy system and will map and document current and past lake changes to understand and predict botulism outbreaks in northern Lake Michigan.	\$550,000
2010	USFWS	National Fish Passage Program	High Bank Creek culvert replacement and dam removal, Thornapple River		The U.S. Fish and Wildlife Service will work with its partners through the National Fish Passage Program to remove barriers created by the Morgan Dam and Lawrence Road culverts in Barry County, Michigan. Removal would reconnect High Bank Creek with its headwaters, tributaries, and Thornapple Lake and create a barrier-free system from Thornapple Lake to Mud Creek to Bristol Lake, a distance of 30.4 miles.	\$285,714
2010	USFWS	National Fish Passage Program	St. Joseph River Watershed in Michigan-Fish Migration Barrier Inventory		There are 190 dams and 1000's of culverts in the St. Joseph River watershed (MI) that may be blocking passage of fish and aquatic organisms. The U.S. Fish and Wildlife Service will work with its partners to identify migration barriers that meet conditions for immediate removal or ones requiring further study. A strategic plan will be developed to guide future barrier removals, and an inventory will be completed to identify barriers that are negatively impacting fish and wildlife	\$56,057
2010	USFWS	National Fish Passage Program	AuSable River Fish Passage Barrier Inventory & Assessment, Northern Michigan		The U.S. Fish and Wildlife Service will work with its partners through the National Fish Passage Program in Northern Michigan to systematically inventory every dam in the Au Sable River watershed, and to then use the data collected in an assessment and ranking process to evaluate each fish passage barrier to prioritize their removal.	\$28,571
2010	USFWS	National Fish Passage Program	Miller Creek Dam Removal, tributary to the Thunder Bay River		The U.S. Fish and Wildlife Service Alpena Fish and Wildlife Conservation Office will work with partners to remove the existing Miller Creek dam, a tributary to Thunder Bay in Lake Huron. They will restore the stream channel and reconnect this cold-water tributary to the mainstream and provide aquatic species access to 12 miles of upstream habitat. This project will restore the natural hydrologic regime and sediment transport within Miller Creek.	\$85,714
2010	USFWS	National Fish Passage Program	Salmon Trout River Watershed Culvert Replacement--Clear Creek at Blind 35, MI		The U.S. Fish and Wildlife Service will replace crossing #6 on Clear Creek, a tributary to the Salmon Trout River in Michigan, to restore fish passage for brook trout and other native species. This project will implement key recommendations of the Salmon Trout River Watershed Management Plan, Lake Superior Lake-wide Management Plan, Fish Community Objectives for Lake Superior, and the Brook Trout Rehabilitation Plan for Lake Superior	\$107,729
2010	USFWS	National Fish Passage Program	Salmon Trout River Watershed Culvert Replacement--Crossing #21 & #22		The project will restore passage and habitat for native brook trout and aquatic organisms in the unnamed tributary to the Main Branch Salmon Trout River and will prevent further degradation of critical habitat for coaster brook trout in the lower Salmon Trout River. This work is consistent with the goals of the Great Lakes Strategic Plan (2007-2011), the Great Lakes Fish and Wildlife Restoration Act of 2006, the Great Lakes Regional Strategy to Restore and Protect the Great Lakes (2005), and the Great Lakes Basin Fish Habitat Partnership. The project is also relevant because it implements key recommendations of the Salmon Trout River Watershed Management Plan, Lake Superior Lake-wide Management Plan (LaMP), Fish Community Objectives for Lake Superior, and the Brook Trout Rehabilitation Plan for Lake Superior	\$87,371

2010	USFWS	National Fish Passage Program	Salmon Trout River Watershed Culvert Replacement--Crossings #26 Iron Creek & #27		The U.S. Fish and Wildlife Service will work with partners to restore habitat for native brook trout in the unnamed tributary to the Main Branch Salmon Trout River. Efforts will prevent further degradation of critical habitat for coaster brook trout. This project will implement key recommendations of the Salmon Trout River Watershed Management Plan, Lake Superior Lake-wide Management Plan, Fish Community Objectives for Lake Superior, and the Brook Trout Rehabilitation Plan for Lake Superior.	\$93,086
2010	USFWS	National Fish Passage Program	Silver Creek Culvert Replacement on Church Highway, Ocqueoc River		The U.S. Fish and Wildlife Service Alpena Fish and Wildlife Conservation Office in Michigan will work with its partners through the National Fish Passage Program to replace existing undersized culverts on Silver Creek, a tributary to the Ocqueoc River and Lake Huron. A realigned bottomless or elliptical structure will be installed that will reduce water velocities and make it passable for fish, while maintaining a natural stream bottom.	\$28,571
2010	USFWS	National Fish Passage Program - Upper Great Lakes Stream Connectivity and Habitat Initiative	Upper Great Lakes Stream Connectivity and Habitat Initiative	Conservation Resource Alliance and Huron Pines RC&D	This project represents the first two years of a five year initiative, which ultimately will restore connectivity of over 600 miles, and improve habitat in over 5,000 miles of the highest quality streams feeding the upper Great Lakes. Objectives for this phase are: engineering design, permitting, and cost estimates; complete construction at 20 sites; pre- and post-construction monitoring; document project completion and share the project approach with others throughout the Great Lakes basin.	\$170,900
2010	USFWS		Restoration of the Common Tern Population in the Detroit River International Wildlife Refuge		The U.S. Fish and Wildlife Service will restore habitat for the Common Tern in the Detroit River.	\$55,000
2010	USFWS	National Fish Passage Program	Menomonee River Fish Passage		This project will enable fish to access historical spawning and rearing habitat from the Milwaukee River Estuary (Wisconsin) to 17-miles of the Menomonee River, 20-miles of its tributaries, and spawning and rearing wetlands habitat. The U.S. Fish and Wildlife Service will work with partners to restore fish passage within a 1,000-foot concrete-lined reach of the Menomonee River channel by removing the concrete bottom and side channels, and constructing alternating riffles and pools.	\$462,938
2010	USFWS		Lake Sturgeon Restoration Initiative in the Great Lakes: Construct Mobile Rearing Unit	U.S. Fish and Wildlife Service	The U.S. Fish and Wildlife Service (USFWS) will construct a mobile fish propagation trailer to initiate participation in active lake sturgeon restoration in the upper Great Lakes. USFWS hatchery program staff will assemble the trailer in the winter of 2011 for deployment in the spring of 2011 on selected tributaries of Lake Michigan.	\$100,000
2010	USFWS		Maintain and enhance lake trout production capabilities at Jordan River NFH.	U.S. Fish and Wildlife Service	Fish production levels will be greatly expanded at the U.S. Fish and Wildlife Service Jordan River National Fish Hatchery during Fiscal Year 2010. 50,000 additional lake trout yearlings will be stocked in Fiscal Year 2011 from the hatchery to help meet restoration and Consent Decree goals for the Great Lakes. Funding will also modernize fish production technologies at the hatchery which will have long term benefits to the lake trout restoration program into the future.	\$150,000

2010	USFWS		Shiawassee Flats Wildlife and Fish Habitat Restoration - Michigan	Ducks Unlimited, Inc.	Ducks Unlimited and partners will restore water level management on approximately 3,700 acres of historical floodplain habitat and increase water quality throughout the watershed which will improve the ecological health of Lake Huron's Saginaw Bay, an Area of Concern. An existing water control structure will be modified and a new water control structure installed to reduce streamflow velocities and erosion of downstream banks and channel in the Shiawassee River and to improve wildlife habitat.	\$785,492
2010	USFWS		Maintain and enhance lake trout production capabilities at Iron River National Fish Hatchery	U.S. Fish and Wildlife Service	Great Lakes Restoration Initiative funds will be used to support lake trout restoration in the upper Great Lakes at the U.S. Fish and Wildlife Service Iron River National Fish Hatchery in Michigan. Efforts include the additional production of 38,000 klondike reef strain of lake trout. Enhancements to the lake trout production facility are being made that will increase the production, transport and distribution of fingerlings throughout the upper Great Lakes.	\$150,000
2010	USFWS		Maintain and enhance lake trout production capabilities at Pendills Creek NFH	U.S. Fish and Wildlife Service	U.S. Fish and Wildlife Service Pendills Creek National Fish Hatchery in Michigan will enhance production of lake trout through the rehabilitation of its current infrastructure (raceway building, early rearing building, and water treatment facilities). These efforts will improve rearing conditions and increase the ability of the facility to raise additional quality lake trout yearlings.	\$150,000
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Early Detection and Treatment of Great Lakes Phragmites	Michigan State University	Take a regional approach to assess, prioritize, and build long-term capacity to detect and treat non-native phragmites before widespread establishment.	\$115,199
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Rapid Response Invasive Plant Team for Upper Peninsula (MI)	Upper Peninsula Resource Conservation and Development Council	The Upper Peninsula Resource Conservation & Development Council will work with partners to establish an area-wide network for the purpose of identification, monitoring and managing invasive plants.	\$150,000
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	A multifaceted approach to conservation of GL Piping Plover	Lake Superior State University	Conservation of Endangered Great Lakes Piping Plover through Monitoring, Captive Rearing and Invasive Species Control. With a Human Dimensions Outreach component to address public opinion and educate	\$150,000
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Silver Creek Super Project	Huron Pines RC&D	The complete suite of protection, restoration and enhancement techniques will be used in a high quality tributary to address the most significant pollutant sources through locally led collaboration.	\$133,510
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	The Stewardship Network's Garlic Mustard Challenge	Stewardship Network	Protect 500,000 acres while restoring impacted sites by pulling 150,000 lbs of garlic mustard in 2010. Challenge will raise awareness and enthusiasm for ecosystem restoration across Great Lakes Basin.	\$15,000

2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Trout Habitat Improvement Project for Coldwater River, MI	Schrems West Michigan Chapter of Trout Unlimited	Reduce bank erosion and improve over 2,500 feet of instream trout habitat in the Coldwater River. Educational opportunities and monitoring will include post-construction ecological assessment.	\$40,750
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Field Workshop Kit	Stewardship Network	The Field Workshop Kit program will enable sponsors and practitioners of in-the-field workshops (classroom and field) and workdays (field) to quickly and effectively plan and host science-based events.	\$15,000
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Clearing a Path: Revitalizing Lake Michigan's Sturgeon	River Alliance of Wisconsin	Constructing a fish bypass around two dams on the Menominee River. Effectively removing two barriers to downstream sturgeon migration; improving lake sturgeon population growth in Lake Michigan.	\$1,500,000
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Controlling Invasive Plants throughout Eastern Lake Michigan	The Nature Conservancy	The proposal expands an ongoing multi-partner program coordinating surveys, eradication, and monitoring for seven major invasive plants threatening dunes along the full eastern Lake Michigan coast.	\$748,188
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Arcadia Marsh/Bowens Creek Restoration and Fish Passage	Ducks Unlimited, Inc.	Replace/repair 7 culverts, plug man-made ditches and add woody debris, remove excess sediment and treat invasives. 11 miles of stream, fish habitat restoration and 75 acres coastal marsh restoration.	\$783,823
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Upper Manistee Riparian Corridor Restoration Project	Conservation Resource Alliance	Seven small dams will be removed, a road crossing improved, and conservation practices implemented. This will restore fish passage, improve degraded riparian habitat and enhance adjacent uplands.	\$625,792
2010	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Frankenmuth "Fish Wish". Fish Passage at the Frankenmuth Dam	The Conservation Fund	Support the development of a "rock ramp" style fish passage sequence at the site of the Frankenmuth Dam in Michigan's Saginaw Bay Watershed (site of the Saginaw Bay and River Area of Concern).	\$200,000
2010	NOAA	Habitat Restoration	Erie Marsh Preserve Coastal Wetland Restoration Project	The Nature Conservancy	The project will construct and improve levees, water distribution canals, and water control structures; install a new water supply system; and build a fish passage structure. This will increase the quality and diversity of approximately 258 acres of coastal wetlands and provide additional fish spawning and rearing habitat.	\$2,500,000
2010	NOAA	Habitat Restoration	Fordson Island Oxbow Restoration and Debris Removal	Detroit Wayne County Port Authority	This project will remove 15 metric tons of shoreline debris in and around Fordson Island. The island, located in the Rouge River just upstream of the Detroit River, is uniquely positioned as a refuge for fish and wildlife.	\$150,000

2010	NOAA	Habitat Restoration	Restoring Native Fish Spawning Habitat in the St. Clair River Delta (St. Clair, Mich.)	Michigan Sea Grant	Michigan Sea Grant will construct 40,000 square feet of native fish spawning habitat in the St. Clair River and connect spawning habitat to almost 14 square miles of rich, underutilized nursery area in the St. Clair delta.	\$890,000
2010	NOAA	Habitat Restoration	Watervliet Dams Removal in the Paw Paw River (Berrien, Mich.)	Berrien County Brownfield Redevelopment Authority	The project will remove two concrete dams, restoring fish passage to more than 100 river miles, including 31 miles of the mainstem and tributaries of Lake Michigan.	\$920,000
2010	NOAA Coastal Estuarine and Land Conservation Program	Coastal Estuarine and Land Conservation Program	Bete Grise Wetlands Acquisition project	Michigan Department of Environmental Quality	This project will acquire approximately 1475 acres of Bete Grise Wetlands and over half a mile of Lac La Belle sloughs frontage to the existing Bete Grise Preserve. The CELCP grant provides approximately \$1.7 million toward the acquisition of this land.	\$1,719,500
2010	U.S. Army Corps of Engineers		Kalamazoo River, Battle Creek, MI		The United States Army Corps of Engineers (USACE) is studying the feasibility of various alternatives for restoring natural riverine conditions to a 3,760 foot stretch of the Kalamazoo River in Battle Creek, MI, which was highly modified by a flood control project.	\$80,000
2010	U.S. Army Corps of Engineers		Marion Mill Pond, MI		The United States Army Corps of Engineers (USACE) is studying the feasibility of modifying or removing existing dams in order to restore fishery passage on the Middle Branch River, which is located in the Village of Marion, MI.	\$350,000
2010	U.S. Army Corps of Engineers		Grand Rapids Dam Fishway, MI		The United States Army Corps of Engineers (USACE) is studying the feasibility of various alternatives to restore fishery passage around the Grand Rapids Dam on the Menominee River, approximately 23 miles upstream of the river's outlet into Green Bay.	\$380,000
2010	U.S. Army Corps of Engineers		White Rapids/Chalk Hill Dam Fishway		The United States Army Corp of Engineers (USACE) is studying the feasibility of various alternatives to restore fishery passages at the White Rapids Dam and Chalk Hill Dam on the Menominee River, approximately 50 and 53 miles, respectively, upstream of the river's outlet into Green Bay.	\$380,000
2010	U.S. Army Corps of Engineers		Boardman River Dams, MI		The United States Army Corps of Engineers (USACE) is studying the feasibility of modifying or removing four dams in order to restore fishery passage along the Boardman River in and around Traverse City, MI.	\$1,100,000
2010	U.S. Army Corps of Engineers		Estral Beach, MI		The United States Army Corps of Engineers (USACE) is studying the feasibility of various alternatives to restore the aquatic habitat along the shore of Lake Erie at Estral Beach, Monroe County, MI.	\$50,000

2010	U.S. Army Corps of Engineers		Monroe Harbor, Raisin River, Monroe, MI		The United States Army Corps of Engineers (USACE) is planning and designing a project that will remove approximately 58,000 cubic yards of contaminated sediments from Monroe Harbor, which is located in the River Raisin Area of Concern in Michigan. It is anticipated that this project will be constructed with Fiscal Year 2011 Great Lakes Restoration Initiative funds in concert with other dredging of contaminated sediments using the Corps' base funding, and will complement a Great Lakes Legacy Act project that is scheduled to follow.	\$75,000
2010	U.S. Army Corps of Engineers		St. Marys River, MI		The United States Army Corp of Engineers (USACE) is studying the feasibility of various alternatives to restore fishery habitat in an approximately 5,000 foot reach of the West Neebish Channel of the St. Marys River in Chippewa County, MI.	\$80,000
2010	U.S. Army Corps of Engineers		Flint River Sec 216		The United States Army Corps of Engineers (USACE) is studying the feasibility of various alternatives for restoring natural riverine conditions to a section of the Flint River in Flint, MI, which was highly modified by a flood control project.	\$100,000
2010	U.S. Army Corps of Engineers		Keweenaw Stamp Sands		The United States Army Corps of Engineers (USACE) is studying the feasibility of various alternatives for protecting and restoring the coastal ecosystem of the Keweenaw Peninsula in Michigan, which was degraded by stamp sands (a granular by-product of copper processing) that are estimated to cover over 1,400 acres. It is critical to stabilize the deposit of stamp sands to prevent further damage.	\$150,000
2010	U.S. Army Corps of Engineers		Clinton River/Anchor Bay		The United States Army Corps of Engineers (USACE) is initiating development of a watershed management plan for the Anchor Bay portion of the Clinton River in Michigan. The plan will evaluate alternatives for ecosystem restoration and sustainable development.	\$325,000
2010	U.S. Army Corps of Engineers		Western Lake Huron, MI		The United States Army Corps of Engineers (USACE) is initiating development of a watershed management plan for western Lake Huron, including the Saginaw Bay Area of Concern in Michigan. The watershed plan will evaluate alternatives for ecosystem restoration, elimination of beneficial use impairments, and sustainable development.	\$600,000
2010	U.S. EPA-Great Lakes Legacy Act and BASF Corp. and Arkema Corp.		Detroit River Area of Concern-Trenton Channel Contaminated Sediment Remedial Investigation and Feasibility Study		This project will address areas of contaminated sediment by implementing characterization, remedial design and/or cleanup projects.	\$200,000
2010	U.S. EPA-Great Lakes Legacy Act and Consumers Energy		St. Marys River Area of Concern Contaminated Sediment Remedial Design		This project will address areas of contaminated sediment by implementing characterization, remedial design and/or cleanup projects.	\$231,000

2010	U.S. EPA-Great Lakes Legacy Act and State of Michigan		Rouge River Area of Concern Contaminated Sediment Site Characterization		This project will address areas of contaminated sediment by implementing characterization, remedial design and/or cleanup projects.	\$50,000
2010	U.S. EPA-Great Lakes Legacy Act and State of Michigan		River Raisin Area of Concern Contaminated Sediment Site Characterization		This project will address areas of contaminated sediment by implementing characterization, remedial design and/or cleanup projects.	\$60,000
2010	U.S. EPA-Great Lakes Legacy Act and State of Michigan		Muskegon Lake Area of Concern-Division St. Outfall Remedial Design		This project will address areas of contaminated sediment by implementing characterization, remedial design and/or cleanup projects.	\$100,000
2010	U.S. EPA-Great Lakes Legacy Act and State of Michigan		Manistique River Area of Concern Contaminated Sediment Site Characterization		This project will address areas of contaminated sediment by implementing characterization, remedial design and/or cleanup projects.	\$282,000
2010	U.S. Forest Service	Emerald Ash Borer Prevention	Detroit's EAB Reforestation Initiative	The Greening of Detroit	This project will work with the community and volunteers to coordinate planting events and train volunteers to plant and maintain trees throughout the Detroit area.	\$500,000
2010	U.S. Forest Service	Emerald Ash Borer Prevention	Emerald Ash Borer (EAB) – Planning and Prevention in Communities and Forested Systems in Michigan's Western Upper Peninsula	Department of Natural Resources	The project will seek to extend lessons learned about slowing ash mortality in the Michigan SLAM project to practical applications in the project area. The focus will be on assisting private and public landowners and communities with activities to prepare for the upcoming infestation of EAB.	\$495,409
2010	U.S. Forest Service	Emerald Ash Borer Prevention	State Parks & Recreation Areas Emerald Ash Borer Tree Replacement	Michigan Department of Natural Resources	This project will implement the major components of the State Park Ash Tree Replacement Plan. Our goal is to restore these recreation lands with a variety of native tree species. Trees will be grown from local genotype seed and appropriate for each park and specific site conditions. Initially 9,000 trees will be produced to replace EAB killed trees. This project will expand our current partnership with the Michigan department of Corrections, Prison Grow Program and create the capacity for continuous production of local genotype trees for State Parks in an extremely cost effective and sustainable manner.	\$181,615
2010	U.S. Forest Service	Emerald Ash Borer Prevention		SSM Tribe of Chippewa Indians	This project will involve seed collection.	\$36,777
2010	U.S. Forest Service	Reduce Toxic Substances (Brownfield)	Detroit's Dendroremediation Model Project	Greening of Detroit	This project will work with the City of Detroit to design and plant unique forest treatments on 2 to five brownfield sites.	\$500,000
2010	U.S. Forest Service	Reduce Toxic Substances (Brownfield)	Greening of Chevy in the Hole	Flint: Chevy in the Hole brownfield	This project will seek to use phytoremediation to remediate toxic substances in the soil and groundwater as part of an overall redevelopment plan for Chevy in the Hole brownfield site.	\$375,000

2010	U.S. Forest Service	Restore Urban & Community Forests	Planning and Beginning Reforesting of Detroit Using Strategic Ecological and Environmental Analysis	Greening of Detroit	The purpose of this project is to develop a framework for planning, analysis, implementation and estimation of return on investment for green infrastructure for the priority area of SE Michigan, that can be extended elsewhere in the country.	\$320,000
2010	U.S. Forest Service	Restore Urban & Community Forests	Master Tree Plan: Inventory, Planning, and Implementation	Sault Ste Marie	This project will initiative an urban tree survey, complete a City-Wide Master Urban Tree Management Plan, and implement the plan including plantings.	\$25,000
2010	U.S. Forest Service	Restore Urban & Community Forests, EAB Prevention, Reduce Toxic Substances (Brownfield)	Tree Enhancements on Publicly-Owned Priority Urban Areas	SEMCOG/ Wayne, Oakland Co. Detroit	The project focus is to utilize the recently completed land cover inventory by analyzing alternative scenarios on the documented priority areas, publicly-owned properties. The analysis, using CITYgreen© will optimize tree planting locations based on environmental outcomes. Project partners will develop landscape planting plans and install approximately 3,270 trees over a two-year period.	\$363,048
2010	U.S. Forest Service	RUCF, Reduce Toxic Substances (Brownfield)	Water Street: Phytoremediation and Reforestation Initiative	City of Ypsilanti	The project proposes phytoremediation of a one-acre portion of the Water Street Redevelopment Area currently contaminated by heavy metals, as determined by previous Phase I reporting and Phase II testing on the site.	\$159,682
2010	USDA	Great Lakes Soil Erosion and Sedimentation Program	Pinnebog River	Michigan Department of Agriculture and Rural Development	This project will focus efforts on riparian properties with potential erosion concerns as identified by High Impact Targeting (HIT) tool, and riparian properties with sedimentation resource concerns as identified in conservation plans in the Pinnebog River Watershed.	\$745,373
2010	USDA	Great Lakes Soil Erosion and Sedimentation Program	River Raisin	Michigan Department of Agriculture and Rural Development	This project will focus efforts on riparian properties with potential erosion concerns as identified by High Impact Targeting (HIT) tool, and riparian properties with sedimentation resource concerns as identified in conservation plans for the River Raisin.	\$438,033
2010	USDA	Great Lakes Soil Erosion and Sedimentation Program	Shiawassee River	Shiawassee Conservation District	This proposal will specifically address sediment loss from cropland runoff sources through an incentive program that encourages the use of synthetic gypsum as a soil amendment to clay soils on cropland.	\$536,000
2010	USEPA	Great Lakes National Program Office	Collaborative Partnership to Restore Alger County Watersheds	Alger Conservation District	This project will control nonpoint source pollution by installing Best Management Practices and replacing culverts on Hurricane Creek, Slapneck Creek and Sucker River. The project will stabilize 30 upland acres to protect wetland and nearshore waters from sedimentation. This project will also establish a watershed internship program with Northern Michigan University to continue the Alger County road/stream crossing inventory; compile results in a GIS database; and to build and maintain the erosion and sediment control Best Management Practices.	\$789,384

2010	USEPA	Great Lakes National Program Office	Danvers Pond Dam Removal and Stream Restoration	Alliance of Rouge Communities	This project will remove the Danvers Pond Dam, located on Pebble Creek, a tributary of the Rouge River. The project will create a naturalized water course and restore the former impoundment bottom lands as an open area connected to the stream to dissipate and store flood waters. The streambank will also be created using bioengineering and naturalizing techniques to prevent erosion, resulting in improved habitat and water quality in the creek.	\$499,254
2010	USEPA	Great Lakes National Program Office	Transforming the Rouge AOC from Mowed Down to Grown Up	Alliance of Rouge Communities	This project will restore riparian corridor, wetlands and upland habitat in the Rouge River Watershed to advance the delisting of Beneficial Use Impairments. This project will also create 25 acres of native vegetation zones and restore 7 acres of wetlands along the Main, Upper and Lower branches of the Rouge River.	\$648,750
2010	USEPA	Great Lakes National Program Office	AWEP Implementation in SE Lake Michigan Watershed	Calhoun Conservation District	This project provides technical assistance to agricultural producers in the Kalamazoo, Black, and St. Joseph River watersheds to implement the Agricultural Water Enhancement Program. Work will be conducted to address the following watershed concerns: hydrologic flows and loading of sediment, nutrients, pathogens, and pesticides. Energy conservation will also be addressed.	\$793,424
2010	USEPA	Great Lakes National Program Office	GLIC Implementing Great Lakes Coastal Wetland Monitoring	Central Michigan University	This project will establish a basin-wide coastal wetland monitoring program. Fish, invertebrate, bird, amphibian, and plant communities, along with chemical and physical variables, will be assessed in the majority of coastal wetland areas throughout the Great Lakes basin. These efforts will produce information on the status and trends of Great Lakes coastal wetlands, and enable managers to identify the highest quality, most degraded and most threatened coastal wetlands in both the United States and Canada. This information will be used by decision-makers to prioritize their efforts and expenditures to protect or restore these critical habitats.	\$10,000,000
2010	USEPA	Great Lakes National Program Office	Hancock Beach BMPs Project	City of Hancock	The City of Hancock, Michigan will design stormwater best management practices at Hancock Beach to reduce nonpoint source pollution into Portage Lake and Lake Superior. The best management practices (porous surfaces, bioretention areas and channel restoration) will allow stormwater to infiltrate into the subsurface, thereby preventing sediment, nutrients, and bacteria from being discharged into Portage Lake.	\$244,000
2010	USEPA	Great Lakes National Program Office	Partridge Creek Diversion Benefitting the Deer Lake AOC	City of Ishpeming	This project will address the issue of mercury source control and assist in the delisting of the Deer Lake Area of Concern. Funding will support the diversion of Partridge Creek from an inactive mine shaft. The expected outcome is to enhance water quality and human health.	\$2,000,000
2010	USEPA	Great Lakes National Program Office	St. Clair River AOC Living Shorelines Project	City of Marysville	The St. Clair River Living Shorelines Project includes removal of 2,250 ft of steel seawall and establishment of a "Living Shoreline" along an ecologically important reach of the St. Clair River Area of Concern. This demonstration of vegetative alternatives to riverbank hard armoring is critical to prevent further habitat losses across the Great Lakes Basin. Additional fish habitat restoration includes adding gravel substrate and establishing aquatic macrophytes. This project will make measurable progress toward removal of the Loss of Fish and Wildlife Habitat and Degradation of Benthos beneficial use impairments.	\$1,500,000

2010	USEPA	Great Lakes National Program Office	Restoring Lake Erie Fish Passage in the River Raisin AOC	City of Monroe	The project will install fish passage structures at 4 dams along a 3.5 mile stretch of the River Raisin, where it runs into Lake Erie. This project is expected to result in the delisting of several Beneficial Use Impairments in this Area of Concern.	\$1,266,400
2010	USEPA	Great Lakes National Program Office	St. Clair River AOC - Habitat and Wildlife Restoration	City of Port Huron	Within the northern reach of the St. Clair River Area of Concern, this project will: restore over 4,800 square feet of rocky bottom fish habitat; remove 5,200 cubic yards of marine debris and rubble; restore and stabilize 322 lineal feet of river bank; reduce erosion, sedimentation and nutrient loading from urban nonpoint sources; improve water quality and shoreline aesthetics; provide a public recreational area for locals and visitors; assist in removing the Loss of Fish and Wildlife Habitat beneficial use impairment; and aide in ultimately delisting the St. Clair River as an AOC.	\$1,296,700
2010	USEPA	Great Lakes National Program Office	Clinton River AOC: Paint Creek Dam Removal	Clinton River Watershed Council	This project will remove a dam on a Clinton River tributary (Paint Creek) and restore stream banks that are experiencing severe erosion due to the dam. The dam removal will restore free passage of fish, opening up over 7 miles of Paint Creek and an additional 8.5 miles of tributary streams. In addition to providing fish passage, the dam removal will restore the native mussel populations by allowing recolonization.	\$706,588
2010	USEPA	Great Lakes National Program Office	Betsie and Platte Rivers Watersheds Improvement-Phase 2	Conservation Resource Alliance	This project will implement Best Management Practices (BMPs) to address excessive sedimentation, channelization and inadequately designed and constructed road crossings in the Betsie and Platte River Watersheds, which flow into Lake Michigan. The BMPs will include road/stream crossing replacement with appropriately sized structures, strategic placement of woody debris, wetland restoration, and re-vegetation of unstable stream banks.	\$762,500
2010	USEPA	Great Lakes National Program Office	Van Hove Coastal Wetland Restoration, Michigan	Ducks Unlimited, Inc.	This project will disable and re-route drain tiles; and re-configure a tile pump to divert drainage water into the restored Van Hove wetland before it enters Saginaw Bay. It will convert 40 acres of previously drained land to coastal wetland adjacent to Saginaw Bay on Lake Huron, thus providing additional spawning and nursery habitat for a diversity of native fish species. These activities will improve physical, chemical and biological processes and ecosystem functions, and will help maintain or improve conditions for native fish and wildlife.	\$119,199
2010	USEPA	Great Lakes National Program Office	Anchor Bay/St. Clair Flats Phragmites Control and Education	Ducks Unlimited, Inc.	This project will utilize an integrated approach of herbicide treatment, prescribed fire, and mowing on 1,000 acres of St. Clair Flats (including Dickinson Island) and 200 acres surrounding Anchor Bay to control invasive Phragmites in northern Lake St. Clair. Additionally, education and outreach programs will provide information about the control and management of this invasive species. By controlling invasive Phragmites, the project will maintain or improve the conditions of native fish and wildlife. It will further the protection and restoration of Great Lakes aquatic and terrestrial habitats, including physical, chemical, and biological processes and ecosystem functions.	\$974,037

2010	USEPA	Great Lakes National Program Office	Dusseau Wetland/ Lakeplain Prairie Restoration Erie MI	Ducks Unlimited, Inc.	This project will restore 38 acres of emergent wetland and 28 acres of globally rare lakeplain prairie. Work will involve (a) refurbishing and extending low level berms; (b) rerouting an agricultural drainage ditch from its existing discharge to Lake Erie into a watercourse being developed within the site; and (c) installing a pump to emulate natural hydrological patterns to control invasive species and improve native wetland plant and wildlife habitat. The project will improve physical, chemical, and biological processes and ecosystem functions and maintain or improve the conditions of native fish and wildlife.	\$284,477
2010	USEPA	Great Lakes National Program Office	Nayanquing Point State Wildlife Area Coastal Wetland Project	Ducks Unlimited, Inc.	Restore water level management capability need to sustain quality coastal wetland habitat and prohibit invasion by phragmites in 448 acres at Nayanquing Point Wildlife Area.	\$192,862
2010	USEPA	Great Lakes National Program Office	Pointe Aux Peaux Coastal Wetland Restoration and Fish Passage	Ducks Unlimited, Inc.	This project will restore/enhance a 91-acre coastal wetland on Brest Bay on Lake Erie. The site vegetation is currently 90 percent invasive species. By removing old culverts and installing new water conveyance structures, hydrologic processes will be improved and native wetland vegetation will be restored. The project will improve physical, chemical and biological processes and ecosystem functions, and will help maintain or improve conditions for native fish and wildlife.	\$192,653
2010	USEPA	Great Lakes National Program Office	PAHs, nitro-PAHs & diesel exhaust toxics in the Great Lakes	Environmental Health Sciences, School of Public Health University of Michigan	This project will examine the sources, distribution and risks of polycyclic aromatic hydrocarbons (PAHs) and a related and potentially more toxic, but much less recognized and understood class of contaminants, nitro-PAHs (NPAHs), in the Great Lakes basin. This will be accomplished through: characterization of bottom sediments and biota for current N/PAH levels; analysis of N/PAH emissions from current and next generation diesel engines; identification of N/PAH loadings; and assessment of risks associated with N/PAHs.	\$288,828
2010	USEPA	Great Lakes National Program Office	Detroit River AOC Habitat Restoration - Blue Heron Lagoon	Friends of Detroit River	This project will address two Beneficial Use Impairments relating to fish and wildlife in the Detroit River Area of Concern: Loss of Fish and Wildlife Habitat and Degradation of Fish and Wildlife Populations. To contribute to the restoration of these beneficial uses, the project proposes to reconnect and naturalize the discharge of Belle Isle's Blue Heron Lagoon to the Detroit River, restoring fish access to over 95 acres of existing wetlands, shallow and deep water habitat and over 2.2 miles of canal habitat. In addition, the project will enhance five acres of coastal wetland specifically designed for fish rearing and nursery	\$1,428,994
2010	USEPA	Great Lakes National Program Office	Detroit River AOC Habitat Enhancement - South Fishing Pier	Friends of the Detroit River	This project will address two Beneficial Use Impairments (BUI) in the Detroit River Area of Concern: Loss of Fish and Wildlife Habitat, and Degradation of Fish and Wildlife Populations. To contribute to the restoration of these beneficial uses, this project will provide a nursery area for fish in an area of the Detroit River with very little nursery habitat. The project aims to increase fish populations by providing connectivity between fish spawning and nursery areas in the river through the following actions: 1) create 2.5 acres of coastal wetland immediately downstream of an existing artificial spawning reef and 2) create deep and shallow water habitat in the flat bottomland of the Belle Isle South Fishing	\$497,634
2010	USEPA	Great Lakes National Program Office	Detroit River AOC Habitat Restoration - US Steel Site	Friends of the Detroit River	This project will restore 1,100 feet of shoreline, 1.7 acres of emergent wetlands, 750 feet of rock shoal, and create an acre of fish spawning area in the Detroit River Area of Concern. Additionally, approximately 4.6 acres of upland habitat will be restored adjacent to the shoreline.	\$1,200,000

2010	USEPA	Great Lakes National Program Office	Grand Traverse Regional Invasive Species Network	Grand Traverse Conservation District	This project will create a collaborative effort between regional organizations to prioritize and remove invasive species, prevent the introduction and spread of new invasive species, and educate the Grand Traverse community about stewardship of its natural resources. The proposed Invasive Species Network seeks to engage 16 partners to form a regional network of highly skilled and highly motivated organizations with a strong presence in the region. The Invasive Species Network will address multiple invaders, both aquatic and terrestrial, and provide financial assistance to local partners in an aggressive public	\$935,184
2010	USEPA	Great Lakes National Program Office	Observatory for Ecosystem Changes in Muskegon Lake AOC	Grand Valley State University	This project will establish a long-term observatory in Muskegon Lake to track changes taking place in this Area of Concern. Observatory-derived lake and meteorological time-series data will be used to assess indicators of ecosystem change such as food web structure, water quality and harmful algal blooms. Information will be shared through live data display, web and regional observing networks for monitoring, research and educational outreach to support the restoration of this coastal Great Lakes environment.	\$568,449
2010	USEPA	Great Lakes National Program Office	Studies to Support Ruddiman Creek Implementation-Ready TMDL	Grand Valley State University	The Muskegon Lake Remedial Action Plan identifies benthos degradation as a beneficial use impairment. Grand Valley State University will use an integrated assessment approach to study hydrology and sediment transport within the watershed, and select appropriate best management practices to reduce storm flow volume, velocity and sediment loads. This information will be used by the State of Michigan to develop an implementation-ready total maximum daily load.	\$247,212
2010	USEPA	Great Lakes National Program Office	Coordinated Lake-specific Onboard Education and Outreach	Grand Valley State University Annis Water Resources Institute	This project will deliver onboard educational experiences for the general public, decision-makers, and formal training for educators and grade 3-12 students in Lakes Michigan, Huron, Erie, St. Clair and the Detroit River. Grand Valley State University, Michigan State University, Inland Seas Education Association and Bay Sail will collaborate to provide custom-designed, lake specific experiences using their research and training vessels.	\$291,721
2010	USEPA	Great Lakes National Program Office	Beach Advisories Through Smartphones: myBeachCast	Great Lakes Commission	The Great Lakes Commission proposes to develop a smartphone application that provides more options and opportunities for public access to beach closure notifications and other environmental information. The beach notification system (myBeachCast) will be supplemented with other data, such as weather forecasts and wavecasts drawn from the Great Lakes Observing System, to increase value to the user and broaden the audience to include all recreational water users on the Great Lakes.	\$99,937
2010	USEPA	Great Lakes National Program Office	Strengthening Beach Management - Great Lakes Beach Assoc.	Great Lakes Commission	The Great Lakes Commission and Great Lakes Beach Association will improve the immediacy and availability of data to beach managers; increase the knowledge and use by beach managers of sanitary survey tools; implement rapid testing and predictive modeling methods; and enhance collaboration among the beach management community (national, state, local) to make beach monitoring programs more effective and cost-efficient.	\$29,556
2010	USEPA	Great Lakes National Program Office	Enhanced St. Marys River Sea Lamprey Control	Great Lakes Fishery Commission	This project will field test developing sea lamprey pheromone control techniques. GLFC will use an acoustic telemetry system to observe species movement for improved fisheries management. These efforts will reduce the threat of invasive species within the Great Lakes.	\$228,000

2010	USEPA	Great Lakes National Program Office	GLOS Enhanced Tributary Monitoring to Support AOC & LaMP Activity	Great Lakes Observing System (GLOS)	GLOS will use the funds to support instruments for data collection across the Great Lakes, standardize and integrate data and information from regional partners, and develop models and visualization programs that will help people interpret and understand the information. By collecting and integrating complementary data, GLOS will make a broader suite of tools and information available to resource managers, decision makers and scientists, enabling them to make better informed decisions about how to best manage the Great Lakes.	\$1,467,171
2010	USEPA	Great Lakes National Program Office	Hills Creek Stamp Sand Stabilization	Houghton Keweenaw Conservation District	This project will develop innovative remediation techniques to reduce copper leachate from the Hills Creek Stamp Sand site, located on a Lake Superior tributary. The project will build upon methods that were effective in past stamp sand containment and that will restore vegetation and ecological health in the area. This project will also restore the native fishery.	\$415,000
2010	USEPA	Great Lakes National Program Office	Rifle River Watershed Nonpoint Implementation Project	Huron Pines Resources and Conservation Resource	This project will address the two highest pollutants of concern within the Rifle River watershed: sediment and nutrient loading. This will be accomplished by addressing the sources of pollution by implementing agricultural, streambank, road crossing, stormwater and permanent land protection best management practices. (In addition, the existing watershed plan will be updated to meet current U.S. Environmental Protection Agency guidelines.)	\$382,000
2010	USEPA	Great Lakes National Program Office	Habitat Restoration of Sand Point Brownfield Site	Keweenaw Bay Indian Community	This project will complete the restoration of a 33.6 acre brownfield site at Sand Point in Baraga, Michigan. The project will introduce a diversity of native wildlife food plants to capped sands, create relief in the landscape which will lessen erosion potential, protect valuable coastal wetlands, and increase habitat for birds and other wildlife. Sand Point suffers from vast tonnages of industrial copper mining sands derived from an early 20th Century stamp mill which operated four miles north of the project site from 1902 to 1919, depositing six billion pounds of mine waste rock into Keweenaw Bay. This project will complete the restoration initiative started in 2006 when the stamp sands were capped.	\$360,960
2010	USEPA	Great Lakes National Program Office	KBIC Sustainable Hazardous Waste Collection Program	Keweenaw Bay Indian Community Natural Resources DUSEPartment	The tribe will develop a sustainable hazardous waste collection program to serve tribal and non-tribal community members in Baraga County to prevent toxic contaminants from entering Lake Superior. The program will include household hazardous waste and electronic waste collection events, the construction of a hazardous waste storage building, and public outreach and education.	\$295,000
2010	USEPA	Great Lakes National Program Office	LTBB Bear River Habitat Restoration	Little Traverse Bay Bands of Odawa Indians	This project will improve habitat and water quality in the Bear River Watershed, which directly affects waters flowing into Little Traverse Bay on Lake Michigan. The results of this project will include healthier greenbelts, stabilized erosion sites, and eradication and replacement of harmful invasive species with native vegetation.	\$196,148
2010	USEPA	Great Lakes National Program Office	Clinton River AOC - Lake St. Clair Coastal Marshland Restoration	Macomb County Dept. of Planning & Economic Development	This project will restore nearly 500 acres of Great Lakes coastal marsh on Lake St. Clair. Specifically, this project will complete the steps required to appropriately restore the wetland by restoring the natural hydrology of the site; continuing ongoing efforts to control invasive Phragmites; and re-introducing native vegetation.	\$1,492,500
2010	USEPA	Great Lakes National Program Office	Household Hazardous Waste Great Lakes Shoreline Collection	Macomb County Health Department	The Macomb County Health Department will implement a Household Hazardous Waste Collection program that provides residents of Macomb County an environmentally friendly option for disposal/reclamation of toxic waste, electronic wastes and pharmaceuticals from their homes. The project will result in the reduction of toxic materials entering Lake St. Clair and the Great Lakes.	\$250,000
2010	USEPA	Great Lakes National Program Office	Illicit Discharge Elimination Program Facility Dye Testing	Macomb County Health Department	This project will use dye tests to identify and address illicit connections and failing septic systems, resulting in improved water quality throughout the project area, including the Clinton River Watershed Area of Concern.	\$250,000

2010	USEPA	Great Lakes National Program Office	Downscaling climate prediction for Michigan&the Great Lakes	Michigan Department of Natural Resource	The proposed project consists of three interrelated projects on climate change and the Great Lakes Basin. The first two projects use global and regional climate models to assess changes in mean climate and weather extremes. The third project involves an observational and modeling analysis of the relationship between large-scale atmospheric circulation patterns and Great Lakes water levels. The results will provide the Michigan Michigan Department of Natural Resources with tools to assess the impact of climate change on Great Lakes and Michigan water quality and habitats.	\$328,048
2010	USEPA	Great Lakes National Program Office	Kalamazoo River Dam Removal Feasibility Study	Michigan Department of Natural Resource and Environment	This project will develop design plans for the removal of two dams on the Kalamazoo River. The plans will also address removal of PCB-contaminated sediment which has accumulated behind the dams.	\$361,956
2010	USEPA	Great Lakes National Program Office	Mounting a Response to New Aquatic Invaders	Michigan Department of Natural Resource and Environment	This project will develop and implement a Rapid Response Program in Michigan to control invasive aquatic plant species. This project will use best known methods to eradicate and control several invasive aquatic plant species that impact the health of the Great Lakes. This Rapid Response Program will help direct future resources for invasive species control to the most cost-effective, strategic, and highest threat locations.	\$1,021,572
2010	USEPA	Great Lakes National Program Office	Intensive Planning and Monitoring To Support LaMP Priorities	Michigan Department of Natural Resource and Environment	This project will measure important water quality indicators to establish contaminant inputs for Lake Michigan and Lake Superior and to reduce loadings, as appropriate.	\$531,576
2010	USEPA	Great Lakes National Program Office	Clean Sweep: Expand Pesticide Collection/Add Pharmaceuticals	Michigan Department of Agriculture	This project expands the Michigan Pesticide Clean Sweep Program statewide and uses established infrastructure to provide services for the collection and disposal of pharmaceuticals and pesticides from agricultural and residential sources. This project includes enhancement of an existing collection and tracking database; establishment of three additional regional collection facilities throughout the state; and development of educational and marketing materials. This project will result in the reduction of toxics throughout the State of Michigan.	\$475,530
2010	USEPA	Great Lakes National Program Office	Enhanced Michigan Fish Contaminant Monitoring and Advisories	Michigan Department of Community Health	This project will expand fish monitoring and incorporate the best available science on risks and benefits of eating fish into the advisory process. Partnerships will be formed to develop effective tools to communicate state-wide and community-specific fish consumption advisories.	\$350,000
2010	USEPA	Great Lakes National Program Office	Black Creek Sedimentation and Phosphorus Reductions	Michigan Department of Environmental Quality	This grant will fund construction of a 102-acre flow-through wetland in the Black Creek subwatershed. The constructed wetland is expected to capture 1,005 pounds of phosphorus per year and 6 tons of total suspended solids per year. These pollutant load reductions will improve water quality and fish and wildlife habitat, as well as increase public recreational opportunities in the watershed.	\$947,000
2010	USEPA	Great Lakes National Program Office	Building Beach Manager's Capacity for Using Rapid Tools	Michigan Department of Environmental Quality	This project will train health departments in the use of quantitative polymerase chain reaction (qPCR) rapid methods for beach monitoring. Project funding will also enable the implementation of fully functional molecular laboratories at five health departments. The project aims to convert the qPCR tools to a user-friendly system where environmental health scientists, local health departments, and decision makers can efficiently use and provide the results to the public to protect human health.	\$228,337
2010	USEPA	Great Lakes National Program Office	Great Lakes Connections Project: Environmental Education	Michigan Department of Environmental Quality	This project will update the Michigan Environmental Education Curriculum, and provide materials and Great Lakes-oriented professional development for 1,000 teachers.	\$245,528

2010	USEPA	Great Lakes National Program Office	Healthier Great Lakes Beaches through Improved Communication	Michigan Department of Environmental Quality	This project will communicate beach monitoring and nearshore health issues using three components: videos to inform experts about quantitative polymerase chain reaction (qPCR) rapid methods for beach monitoring; workshops and online material for journalists and beach managers for improved communications; and in-depth news coverage of beach monitoring and nearshore health issues.	\$103,337
2010	USEPA	Great Lakes National Program Office	Implementation of Mercury Strategies in Michigan	Michigan Department of Environmental Quality	The purpose of this grant is to implement state and regional mercury strategies within the State of Michigan. Activities include outreach; education and funding to enhance implementation of Michigan's prohibition on open burning of refuse; a mercury ban in schools; efforts to promote proper disposal of thermostats, furnaces and white goods; auto switch recycling; and installation of amalgam separators at dentist offices.	\$856,046
2010	USEPA	Great Lakes National Program Office	Integrated Beach Sanitary Surveys Using QPCR Tools	Michigan Department of Environmental Quality	This project will integrate molecular tools (quantitative real-time polymerase chain reaction/qPCR) into Michigan beach sanitary surveys. Eight County Health Departments in Michigan will implement this new approach. The research will compare the performance of molecular methods with conventional tests.	\$258,374
2010	USEPA	Great Lakes National Program Office	Michigan Beaches-Bay County Health Department	Michigan Department of Environmental Quality	This project will expand the frequency and duration of beach monitoring and increase the number of beaches regularly monitored with beach sanitary surveys, so that corrective actions can be taken in the future. These combined efforts will reduce human health risks at high priority beaches by improving monitoring, investigating sources of bacterial contamination, and potentially eliminating identified sources. This grant will fund the following four projects: Michigan Beaches-St. Clair County Health Department, Michigan-Restoring Three Arenac County Beaches, MI-Expanded Lake Huron Beach Testing-Source Tracking, and MI-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking.	\$135,025
2010	USEPA	Great Lakes National Program Office	Michigan Beaches-Chippewa County Health Department	Michigan Department of Environmental Quality	This project will: expand the frequency and duration of beach monitoring efforts; expand sanitary surveys implementing wet weather monitoring; and implement rapid-test methods to monitor beaches. Information from this project will be used to investigate bacterial contamination sources and identify future corrective actions. This grant will fund the following four grants: Michigan Beaches-Chippewa County Health Department, Michigan Beaches-Health Department of Northwest Michigan, Michigan-Expanded Lake Michigan Beach Tracking-Source Tracking, and MI-Expanded Lake Superior Beach Testing-Source Tracking.	\$230,025
2010	USEPA	Great Lakes National Program Office	Michigan Beaches-Developing and Integrating Models	Michigan Department of Environmental Quality	This project will use locally measured weather data to develop statistically-based forecasts of E. coli bacteria levels in water at five popular beaches in Michigan. Monitoring at Great Lakes beaches traditionally has been based on an assumption that today's fecal bacteria levels will persist and predict tomorrow's levels. In general, this assumption is effective 75 percent of the time. At beaches vulnerable to large changes in bacteria levels, however, statistically-based forecasts can be more accurate. Accuracy of the forecasts developed through this project will be compared with forecasting methodologies assessed in Grant Number 00E00658.	\$282,707

2010	USEPA	Great Lakes National Program Office	Michigan Beaches-Health Department of Northwest Michigan	Michigan Department of Environmental Quality	This project will: expand the frequency and duration of beach monitoring efforts; expand sanitary surveys implementing wet weather monitoring; and implement rapid-test methods to monitor beaches. Information from this project will be used to investigate bacterial contamination sources and identify future corrective actions. This grant will fund the following four grants: Michigan Beaches-Chippewa County Health Department, Michigan Beaches-Health Department of Northwest Michigan, Michigan-Expanded Lake Michigan Beach Tracking-Source Tracking, and MI-Expanded Lake Superior Beach Testing-Source Tracking.	\$150,405
2010	USEPA	Great Lakes National Program Office	Michigan Beaches-Macomb County Health Department	Michigan Department of Environmental Quality	This project will expand the frequency and duration of beach monitoring and increase the number of beaches regularly monitored with beach sanitary surveys, so that corrective actions can be taken in the future. These combined efforts will reduce human health risks at high priority beaches by improving monitoring, investigating sources of bacterial contamination, and potentially eliminating identified sources. This grant will fund the following four projects: Michigan Beaches-St. Clair County Health Department, Michigan-Restoring Three Arenac County Beaches, MI-Expanded Lake Huron Beach Testing-Source Tracking, and MI-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking.	\$162,874
2010	USEPA	Great Lakes National Program Office	Michigan Beaches-Ottawa County Health Department	Michigan Department of Environmental Quality	This project will: expand the frequency and duration of beach monitoring efforts; expand sanitary surveys implementing wet weather monitoring; and implement rapid-test methods to monitor beaches. Information from this project will be used to investigate bacterial contamination sources and identify future corrective actions. This grant will fund the following four grants: Michigan Beaches-Chippewa County Health Department, Michigan Beaches-Health Department of Northwest Michigan, Michigan-Expanded Lake Michigan Beach Tracking-Source Tracking, and MI-Expanded Lake Superior Beach Testing-Source	\$97,025
2010	USEPA	Great Lakes National Program Office	Michigan Beaches-St. Clair County Health Department	Michigan Department of Environmental Quality	This project will expand the frequency and duration of beach monitoring and increase the number of beaches regularly monitored with beach sanitary surveys, so that corrective actions can be taken in the future. These combined efforts will reduce human health risks at high priority beaches by improving monitoring, investigating sources of bacterial contamination, and potentially eliminating identified sources. This grant will fund the following four projects: Michigan Beaches-St. Clair County Health Department, Michigan-Restoring Three Arenac County Beaches, MI-Expanded Lake Huron Beach Testing-Source Tracking, and MI-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking.	\$162,874
2010	USEPA	Great Lakes National Program Office	Michigan-Expanded Lake Huron Beach Testing-Source Tracking	Michigan Department of Environmental Quality	This project will expand the frequency and duration of beach monitoring and increase the number of beaches regularly monitored with beach sanitary surveys, so that corrective actions can be taken in the future. These combined efforts will reduce human health risks at high priority beaches by improving monitoring, investigating sources of bacterial contamination, and potentially eliminating identified sources. This grant will fund the following four projects: Michigan Beaches-St. Clair County Health Department, Michigan-Restoring Three Arenac County Beaches, MI-Expanded Lake Huron Beach Testing-Source Tracking, and MI-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking.	\$254,025
2010	USEPA	Great Lakes National Program Office	Michigan-Expanded Lake Michigan Beach Testing-Source Tracking	Michigan Department of Environmental Quality	This project will: expand the frequency and duration of beach monitoring efforts; expand sanitary surveys implementing wet weather monitoring; and implement rapid-test methods to monitor beaches. Information from this project will be used to investigate bacterial contamination sources and identify future corrective actions. This grant will fund the following four grants: Michigan Beaches-Chippewa County Health Department, Michigan Beaches-Health Department of Northwest Michigan, Michigan-Expanded Lake Michigan Beach Tracking-Source Tracking, and MI-Expanded Lake Superior Beach Testing-Source	\$155,025

2010	USEPA	Great Lakes National Program Office	Michigan-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking	Michigan Department of Environmental Quality	This project will expand the frequency and duration of beach monitoring and increase the number of beaches regularly monitored with beach sanitary surveys, so that corrective actions can be taken in the future. These combined efforts will reduce human health risks at high priority beaches by improving monitoring, investigating sources of bacterial contamination, and potentially eliminating identified sources. This grant will fund the following four projects: Michigan Beaches-St. Clair County Health Department, Michigan-Restoring Three Arenac County Beaches, MI-Expanded Lake Huron Beach Testing-Source Tracking, and MI-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking.	\$171,025
2010	USEPA	Great Lakes National Program Office	Michigan-Expanded Lake Superior Beach Testing-Source Tracking	Michigan Department of Environmental Quality	This project will: expand the frequency and duration of beach monitoring efforts; expand sanitary surveys implementing wet weather monitoring; and implement rapid-test methods to monitor beaches. Information from this project will be used to investigate bacterial contamination sources and identify future corrective actions. This grant will fund the following four grants: Michigan Beaches-Chippewa County Health Department, Michigan Beaches-Health Department of Northwest Michigan, Michigan-Expanded Lake Michigan Beach Tracking-Source Tracking, and MI-Expanded Lake Superior Beach Testing-Source Tracking.	\$258,010
2010	USEPA	Great Lakes National Program Office	Michigan-Restoring Three Arenac County Beaches	Michigan Department of Environmental Quality	This project will expand the frequency and duration of beach monitoring and increase the number of beaches regularly monitored with beach sanitary surveys, so that corrective actions can be taken in the future. These combined efforts will reduce human health risks at high priority beaches by improving monitoring, investigating sources of bacterial contamination, and potentially eliminating identified sources. This grant will fund the following four projects: Michigan Beaches-St. Clair County Health Department, Michigan-Restoring Three Arenac County Beaches, MI-Expanded Lake Huron Beach Testing-Source Tracking, and MI-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking.	\$250,000
2010	USEPA	Great Lakes National Program Office	Michigan-Watershed Center-Bryant Park Remediation	Michigan Department of Environmental Quality	This project will implement stormwater management efforts at Bryant Park, located on Grand Traverse Bay, to reduce bacterial contamination at the beach. Benefits expected from this project include: reduction of human health risks at this heavily-used swimming beach and delisting of the beach from the State's list of impaired waters.	\$267,775
2010	USEPA	Great Lakes National Program Office	Portage Creek Toxic Substance Source Reduction	Michigan Department of Environmental Quality	This project will restore 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 will 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.	\$3,347,362
2010	USEPA	Great Lakes National Program Office	Review & Statewide Assessment of Three BUIs in Michigan AOCs	Michigan Department of Environmental Quality	This project will monitor, assess, and prepare delisting documents for up to ten Beneficial Use Impairments (BUIs) across all Areas of Concern in Michigan. These procedures will likely result in several immediate BUI removals and will set the stage for restoring additional beneficial uses in the coming years.	\$178,000
2010	USEPA	Great Lakes National Program Office	The River Raisin Nitrate TMDL Reduction Project	Michigan Department of Environmental Quality	This project will support the improvement of the Great Lakes by reducing non-point source pollution that impacts Lake Erie. Advanced technology best management practices will be promoted to reduce nitrate loads to the River Raisin, which flows into Lake Erie.	\$741,857
2010	USEPA	Great Lakes National Program Office	River Raisin Wetland Enhancement and Habitat Evaluation	Michigan Department of Environmental Quality	This project will repair dikes and install water control structures for 310 acres of marsh at Sterling State Park. This project will provide habitat for shorebirds, and control the invasion of phragmites on approximately 1,100 acres of public and private lands.	\$1,350,000
2010	USEPA	Great Lakes National Program Office	William C. Sterling State Park Marsh and Prairie Restoration	Michigan Department of Natural Resource	This project will re-create approximately 25 acres of emergent and sub-emergent Great Lakes marsh and 25 acres of lakeplain prairie at Sterling State Park. The project addresses 2 of the River Raisin Area of Concern's Beneficial Use Impairments; Loss of Fish and Wildlife Habitat and Degradation of Fish and Wildlife Populations.	\$1,500,000

2010	USEPA	Great Lakes National Program Office	Developing TMDL Implementation Plan for Coon Creek Michigan	Michigan State University	Michigan State University will develop a Total Maximum Daily Load (TMDL) implementation plan for escherichia coli and dissolved oxygen for the East Branch Coon Creek. Coon Creek is located within the Clinton River Area of Concern. The TMDL implementation plan aims to reduce total suspended solid loads by at least 50 percent and improve the overall ecosystem health for the Great Lakes and its tributaries.	\$202,628
2010	USEPA	Great Lakes National Program Office	Educating Health Care Providers about Great Lakes Fish	Michigan State University	The goal of this project is to inform fish consumers about the harmful impact of environmental chemicals and to improve compliance with advisories on fish consumption. The grantee will accomplish this by working directly with medical and nursing students in the State of Michigan. The grantee will provide students with tools and information to identify "at risk" patients and to determine appropriate fish consumption levels.	\$1,500,000
2010	USEPA	Great Lakes National Program Office	Forecasting Beach and Nearshore Health Effects Using QMRA	Michigan State University	This project will improve the forecasting of beach and nearshore health effects. A risk tool will be developed for primary recreation. This tool will be amenable for use with beach monitoring data and nearshore transport models for a quantitative microbial risk assessment for pathogens of interest. A spreadsheet tool for the user to enter microbial concentrations will display risk levels related to swimming advisories.	\$65,001
2010	USEPA	Great Lakes National Program Office	Nutrient management models to constrain harmful algal blooms	Michigan State University	This project involves developing management strategies to minimize algal blooms. The Michigan State University will use over 35 years of Landsat imagery to map nearshore algal bloom intensity and extent, at unprecedented spatial and temporal resolution. The Michigan State University will then establish nutrient thresholds for specific risks from harmful algal blooms (HAB), identify sources of nutrients on the landscape, and prioritize restoration strategies.	\$499,954
2010	USEPA	Great Lakes National Program Office	Scaling subtle effects of MeHg to perch population dynamics	Michigan State University	This project will assess the subtle effects of mercury on perch population dynamics. The project will develop an experimental approach which can be used to assess ecological exposures and effects of mercury on perch and which also can be used to study the impact of other contaminants on other Great Lakes fish populations.	\$498,434
2010	USEPA	Great Lakes National Program Office	Virus Quantification for Pollution Source Identification	Michigan State University	The US Geological Survey, the Michigan Department of Environmental Quality, and the Michigan Department of Public Health will collaborate to enhance beach sanitary surveys by using quantitative species-specific identification of human and animal viruses. This additional analysis will help to identify sources of microbial pollution that impacts Great Lakes beaches.	\$217,553
2010	USEPA	Great Lakes National Program Office	Saginaw Bay/Lake Huron Land Policy Program	Michigan State University Land Policy Institute	This project will support technical assistance to local governments and land owners to implement land use planning, protection, and restoration strategies. The project will provide information on land-use planning tools, best management practices for reduced runoff, conservation of habitat, and other critical implementation activities as identified by local governments. There will be opportunities for coordination and information exchange for local officials and land owners at a conference and several workshops. The initial focus will be in the Saginaw Bay watershed, including the Cass, Pinnebog/Pigeon, and the Rifle Rivers sub-watersheds.	\$399,287
2010	USEPA	Great Lakes National Program Office	Implementation of the GLCWC Wetland Mapping Protocol	Michigan Tech University - Michigan Tech Research Institute (MTRI)	This project will develop moderate scale maps using state-of-the-art remote sensing, to provide a current inventory of Great lakes coastal wetlands in both the United States and Canada from the shoreline to 10 km inland. These maps will provide information on wetland extent and type, as well as information on potential wetland stressors, particularly invasive plant species and the level and type of development surrounding wetlands.	\$852,483
2010	USEPA	Great Lakes National Program Office	Improved Cladophora Monitoring through Remote Sensing	Michigan Tech University - Michigan Tech Research Institute (MTRI)	This project will provide timely information to address the Great Lakes Cladophora problem. Using satellite imagery, this project will create maps of the aerial extent of Cladophora for the entire Great Lakes coastal area. Estimates of biomass will also be made using the maps and field data. Results from this project will serve as a baseline, and enable communities to monitor changes in the aerial extent of Cladophora for each of the Great Lakes.	\$276,281

2010	USEPA	Great Lakes National Program Office	Predicting Ecosystem Changes in Lake Superior	Michigan Technological University	The project will develop a decision support tool that can predict ecosystem changes in Lake Superior resulting from changes in climate, nutrient inputs and invasive species. The decision support system will be developed and tested for benthic (<i>Diporeia</i> -lake whitefish) and pelagic (<i>Mysis</i> - rainbow smelt) food web components which are characteristic of Lake Superior.	\$306,015
2010	USEPA	Great Lakes National Program Office	Restoring Peatlands from Large Scale Ditching	Michigan Technological University	This project will expand current efforts to restore a very large peatland of cedar swamps and patterned fens where ditches were created as a firebreak during the 2007 Sleeper Lake Fire, in Luce County, Michigan. To date, approximately one mile of ditches have been restored and evaluation of the effort has shown that the methods used for restoration are sound. Based on the new restoration techniques, the project will greatly expand wetland restoration activities for the remaining 6.5 miles of ditches. These ditches are affecting an area of almost 575 acres of otherwise pristine peatland.	\$148,650
2010	USEPA	Great Lakes National Program Office	White Lake AOC Habitat Restoration Initiative for Delisting	Muskegon Conservation District	This project will restore and protect wetland and wetland-associated uplands and aquatic and terrestrial habitats in seven different locations within the White Lake Area of Concern (AOC). This project will improve the conditions of native fish and wildlife and will lead to delisting the two habitat-related Beneficial Use Impairments at this AOC.	\$2,160,765
2010	USEPA	Great Lakes National Program Office	Golf Course to Wetlands: Holland Country Club Restoration	Ottawa County Parks & Recreation Commission	Ottawa County Parks, working with partners, will implement best management practices identified in the Macatawa Watershed Implementation Plan. The Ottawa County Parks and Recreation Department has purchased a 122 acre property. Wetland construction on this property, and streambank stabilization will reduce non-point source pollutant loading and phosphorous levels to Lake Macatawa and Lake Michigan. This highly visible restoration	\$646,800
2010	USEPA	Great Lakes National Program Office	Pigeon River Corridor Sediment Reduction Project	Pigeon River Intercounty Drain Drainage Board	This project consists of design and implementation of best management practices for streambank stabilization and soil erosion control located within the Pigeon River riparian corridor. Additional best management practices include: incentives for and installation of buffers; wetland restoration; tile outlet repair and construction of a regional sediment basin.	\$800,000
2010	USEPA	Great Lakes National Program Office	Green Marina, Education and Outreach Project	Regents of the University of Michigan	This project will recruit, train and certify marinas for the Clean Marina program across the Great Lakes and include them in a new network. The grantees will leverage Sea Grant Program experience, on-line training and experts from the industry to provide educational materials and training workshops focused on proper fuel storage, spill prevention and invasive species issues.	\$341,817
2010	USEPA	Great Lakes National Program Office	Lake St. Clair Partners are Ready to Implement	Southeast Michigan Council of Governments	This proposal helps to meet the needs and priorities of the Great Lakes Restoration Initiative by helping to build the capacity of the U.S. Lake St. Clair Team to develop priority projects for implementing the St. Clair River and Lake St. Clair Comprehensive Management Plan. These projects will address such issues as: 1) restoration of fish and wildlife habitat; 2) restoration of Great Lakes marsh, particularly the St. Clair Delta; 3) controlling invasive species; and, 4) removing wastewater from the Lake St. Clair tributaries through implementation of a regional Illicit discharge Elimination Program. The project will also help develop a stronger collaboration of governments, federal, state and local as well as stakeholder partners.	\$279,806
2010	USEPA	Great Lakes National Program Office	Restoring the Lake Erie Corridor through Green Streets	Southeast Michigan Council of Governments	The Green Streets Program will achieve the following outcomes: construction of bioswales, tree trenches and grow zones to manage road runoff; reduction of annual stormwater runoff volumes, sediment, and nutrient loading by approximately 50%; development of a Great Lakes Green Streets Guidebook transferable to municipalities; and installation of Green Streets signage for public education benefits.	\$500,000
2010	USEPA	Great Lakes National Program Office	Stewardship Network - Lac Vieux Desert Wild Rice Restoration	Stewardship Network	This project will implement an exportable habitat restoration program designed to significantly rehabilitate and protect wild rice habitat. This program will serve as a template for other such efforts in the Great Lakes Region.	\$213,644

2010	USEPA	Great Lakes National Program Office	A Blueprint for Lake Erie Biodiversity Conservation	The Nature Conservancy	This project will develop plans for the rehabilitation, restoration, and conservation of native species and habitats in the Lake Erie and Lake Michigan basins. Using a well-established conservation planning process this project will synthesize existing habitat and species information, and facilitate collaborative protection and restoration actions among diverse and widespread partners.	\$300,000
2010	USEPA	Great Lakes National Program Office	A Blueprint for Lake Michigan Biodiversity Conservation	The Nature Conservancy	This project will develop plans for the rehabilitation, restoration, and conservation of native species and habitats in the Lake Erie and Lake Michigan basins. Using a well-established conservation planning process this project will synthesize existing habitat and species information, and facilitate collaborative protection and restoration actions among diverse and widespread partners.	\$300,000
2010	USEPA	Great Lakes National Program Office	Restoration of Fen and Savanna in Southern Michigan	The Nature Conservancy	This project will restore/enhance 225 acres of prairie fen and oak savanna within four watersheds (River Raisin, Grand River, Paw Paw River, and Muskegon River) across southern Michigan by removing invasive plants, reintroducing fire, restoring natural hydrology, and creating corridors of habitat, thereby benefiting 100 plant and animal species in need of conservation. This project will improve physical, chemical, and biological processes and ecosystem functions and improve the conditions of native wildlife.	\$200,000
2010	USEPA	Great Lakes National Program Office	Two Hearted River Watershed Sedimentation Reduction	The Nature Conservancy	This project will address the most significant sediment sources within the watershed: road-stream crossings and recreation access sites. This project will systematically improve 12 of the highest priority sites with a net effect of reducing sediment loads in the watershed and nearshore waters of Lake Superior by 25%. The project will also eliminate fish barriers at 4 sites, restoring unrestricted fish access to over 20 miles of high quality stream habitat and a 55-acre lake.	\$480,726
2010	USEPA	Great Lakes National Program Office	60 Hour Beach Forecasting Models	The Regents of the University of Michigan	This project will use weather data from the National Weather Service (NWS) and the Great Lakes Environmental Research Laboratory's Coastal Forecasting System to generate 60-hour forecasts of fecal bacteria at 22 beaches in Indiana, Wisconsin, Ohio, Michigan, New York, and Pennsylvania. This project will compare the accuracy of its bacteria forecasts with alternative predictions based on weather data collected at individual beaches. If it is found that NWS data can support effective beach bacteria forecasts, the new approach offers the promise of cost savings. Accuracy of these forecasts will be compared with forecasting methodologies assessed in Grant Number 00E00678.	\$140,586
2010	USEPA	Great Lakes National Program Office	Deposition Modeling in Support of Michigan Mercury TMDL	University of Michigan	The University of Michigan Air Quality Laboratory (UMAQL) will perform a one year simulation of the atmospheric deposition (both wet and dry) of mercury and other pollutants of concern in the Great Lakes region. In addition to the base year simulation, the UMAQL will work with the State of Michigan to determine a "future emissions scenario" for use in potential rulemaking by the State.	\$181,773
2010	USEPA	Great Lakes National Program Office	Lake Huron invasions, food webs, and fisheries: a case study	University of Michigan	This project will develop case study models to evaluate relative influences of recent changes and predict consequences for the ecosystem and fisheries for alternative management scenarios. Case study models of the changes in Lake Huron ecosystems will provide a tool for forecasting the effects of invasive species throughout the Great Lakes.	\$214,319
2010	USEPA	Great Lakes National Program Office	Village of Lake Linden Torch Lake NPS Pollution Reduction	Village of Lake Linden	he Village of Lake Linden will implement Best Management Practices (BMPs) to improve water quality at the village park on Torch Lake. The proposed project includes incorporating stormwater BMPs (porous asphalt/porous pavers and bioinfiltration) at two beach parking lots.	\$243,000

2010	USEPA	Great Lakes National Program Office	Verification of Ballast Water Treatment Technologies	Wayne State University	The goal of this project is to develop technology that will enable assessment of the effectiveness and durability of shipboard ballast water treatments systems. The applicant is partnering with a ballast water treatment company to allow testing both in the laboratory and with ship ballast. The techniques will be tested and optimized in bench-top experiments and will then be applied to intake and discharge waters obtained during shipboard operation of ballast water treatment.	\$519,564
2010	USEPA	Non competitive LAMP and AOC program	Tribal Capacity Program - Keweenaw Bay Indian Community	Keweenaw Bay Indian Community	This grant funds Keweenaw Bay Indian Community participation on the Lake Superior Lakewide Management Plan (LaMP) process.	\$200,000
2010	USEPA	Non competitive LAMP and AOC program	Tribal Capacity Program - Little Traverse Bay	Little Traverse Bay Bands of Odawa Indians	This project will assist the Little Traverse Bay Bands of Odawa to increase the Tribe's capacity to participate in several Great Lakes meetings and initiatives. As appropriate, the Tribe will provide a tribal perspective at meetings and comment on documents. The Tribe will actively participate in Lake Michigan Lakewide Management Plan implementation projects to ensure tribal concerns are considered.	\$98,610
2010	USEPA	Non competitive LAMP and AOC program	Tribal Capacity Program - Bay Mills Indian Community	Bay Mills Indian Community	The project will facilitate sustained Tribal involvement in both the Lake Superior Lakewide Management Plan (LaMP) and St. Mary's River Area of Concern (AOC) programs.	\$150,000
2010	USEPA	Non competitive LAMP and AOC program	Saint Regis Mohawk Tribe involvement in LaMPs/RAPs	Saint Regis Mohawk Tribe	Dye tests will be conducted to identify and address illicit connections and failing septic systems, resulting in improved water quality throughout the project area, including the Clinton River Watershed Area of Concern.	\$115,000
2010	USEPA	Non competitive LAMP and AOC program	Tribal Capacity Building - Saginaw Chippewa Indian Tribe	Saginaw Chippewa Indian Tribe	This project will assist the Saginaw Chippewa Tribe in building capacity to participate in the implementation of Lakewide Management Plan (LaMP) and Remedial Action Plan (RAP) meetings. The Tribe will also investigate the extent to which persistent, bioaccumulative, toxic substances have contaminated fish populations targeted by tribal members and ways in which tribal members use fish that are distinct from the general population. The focus of these efforts will be on Lake Huron; however, the Tribe intends to emphasize data and analyses that could be applicable to other Great Lakes tribes.	\$75,002
2010	USEPA	Non competitive LAMP and AOC program	Chippewa Indian - Tribal Capacity Program	Sault Ste. Marie Tribe of Chippewa Indians	There is a need for sustained Tribal involvement in both the Lake-wide Management Plan (LaMP) and Area of Concern (AOC) programs. The Inter-Tribal Fisheries and Assessment Program (ITFAP) proposes to prevent water pollution and protect aquatic systems and the overall ecosystem health of the Great Lakes by continuing participation on behalf of Chippewa Ottawa Resource Authority (CORA) in the Lake Michigan LaMP, the Lake Superior Binational Program, and the St. Mary's River Remedial Action Plan (RAP).	\$100,000
2010	USEPA	Non competitive LAMP and AOC program	Tribal Capacity- Sault Ste. Marie Tribe	Sault Ste. Marie Tribe of Chippewa Indians	This project will enable the Tribe to plan projects in support of Lakewide Management Plan priorities and solve problems in the St. Mary's River Area of Concern.	\$111,900
2010	USEPA - Non competitive funding	Great Lakes National Program Office	AOC and Great Lakes Program	Michigan Department of Environmental Quality	This will fund the Michigan Department of Environmental Quality Area of Concern and Great Lakes Coordination work for Fiscal Years 2010-2014. The project encompasses Michigan's 14 Areas of Concern and Lakewide Management Plans for Lakes Superior, Michigan, Erie, and the Binational Partnership for Lake Huron and the Lake St. Clair Comprehensive Management Plan.	\$3,362,000

2010	USFWS	Endangered Species	Conservation of the Great Lakes Piping Plover with Educational Materials	The Detroit Zoo	The zoo will develop a one page brochure to be distributed by piping plover monitors when they interact with the public at nesting locations.	\$4,000
2010	USFWS	Endangered Species	Population Trajectory Improvement for At-Risk Freshwater Mussels in the Great Lakes Watershed	Central Michigan University	The project will develop host fish testing and propagation facilities for state and federally endangered species including the federally endangered Northern Riffleshell and Clubshell and federal candidate Rayed Bean (<i>Villosa fabalis</i>). Efforts will also target Michigan state threatened and endangered species Snuffbox, Wavyrayed Lampmussel, Eastern Pondmussel, and Round Hickorynut.	\$214,252
2010	USFWS	Endangered Species	The Road to Recovery: Understanding Genetic and Host Parasite Constraints to Mitchell's Satyr Butterfly and Hine's Emerald Dragonfly Recovery	Michigan State University	The project will complete the rangewide population genetic analysis of Mitchell's satyr butterfly and develop recommendations for appropriate recombination of populations for recovery efforts.	\$135,668
2010	USFWS	Great Lakes Basin Fish Habitat Partnership	Upper Great Lakes Stream Connectivity and Habitat Initiative	Conservation Resource Alliance	The Conservation Resource Alliance, Huron Pines and its partners will utilize these and other funds to improve 75 miles of Great Lakes tributaries by restoring fish passage and in-stream habitat; and 5,000 acres of stream-side habitat over the next two years	\$214,286
2010	USFWS	Great Lakes Basin Fish Habitat Partnership	Avon Creek Restoration	City of Rochester Hills	The City of Rochester Hills will restore natural stream meanders in a designated 825 linear stretch of the creek to reduce sediment entering the stream, restore fish habitat, and reduce water temperatures.	\$192,857
2010	USFWS	Great Lakes Basin Fish Habitat Partnership	North Branch Manistee River Fish Passage and Habitat Restoration	Conservation Resource Alliance	The Conservation Resource Alliance of Michigan will work with several partners to remove five undersized and sediment clogged culverts aggregated at one road/stream crossing, and replace them with a more environmentally-friendly road crossing structure. Upon completion, the project will provide upstream access to over 30 miles of high quality habitat for fish and aquatic organisms in the North Branch Manistee River, a tributary to the Lake Michigan near Kalkaska, Michigan.	\$107,143
2010	USFWS	Great Lakes Basin Fish Habitat Partnership	Howe-Brandymore Stream Restoration Project	St. Clair County Drain Commission	The St. Clair County Drain Commissioner will restore approximately three miles of riverine habitat to benefit native warm-water fish species by reconnecting the stream to its floodplain, replacing undersized culverts, and restoring riffle and pool habitat. In addition, up to 54 acres of streambank and riparian habitat will be restored by planting native trees and shrubs. This restoration effort will serve as a model for restoring other county drains back to their natural pre-channelized conditions.	\$121,429
2010	USFWS	Great Lakes Basin Fish Habitat Partnership	Elias Cove Fish Habitat Native Plantings	City of Trenton	Funds for this project will allow the city to plant aquatic vegetation in the emergent wetland shelf and wet meadow riparian edge around the Cove, providing critically needed spawning and nursery habitat for native fish species in the Detroit River.	\$14,286
2010	USFWS	Great Lakes Fish and Wildlife Restoration Act	River Care : A Framework for Restoring Stream Connectivity and Habitat in the Upper Great Lakes	Conservation Resource Alliance	The project represents the first two years of a multi-phase initiative to restore connectivity of over 600 miles, and improve habitat in over 5,000 miles of the highest quality streams (including the Manistee, Black, Maple, Betsie, Pere Marquette, and Jordan rivers) feeding the Great Lakes.	\$750,000
2010	USFWS	Great Lakes Fish and Wildlife Restoration Act	Shiawasse Flats Wildlife and Fish Habitat Restoration	Michigan Department of Natural Resources	The project will restore and improve water level management on approximately 3,700 acres, and increase water quality throughout the watershed which will improve the ecological health of Lake Huron's Saginaw Bay.	\$589,119

2010	USFWS	Great Lakes Fish and Wildlife Restoration Act	Assessing Wetland Change in the Great Lakes	Ducks Unlimited, Inc.	Ducks Unlimited will use existing National Wetlands Inventory (NWI) information to provide a detailed assessment of wetland change (type and cause) by watershed and by state Bird Conservation Region for Illinois, Indiana, Michigan, and Ohio.	\$112,500
2010	USFWS	Great Lakes Fish and Wildlife Restoration Act	Viral Hemorrhagic Septicemia Virus: Disease Ecology and an Analysis of the Risks in the Great Lakes Basin	Michigan State University	The research project will generate a more complete understanding of VHSV dynamics by intensively studying a system where a major VHSV outbreak occurred.	\$230,724
2010	USFWS	Great Lakes Fish and Wildlife Restoration Act	Conservation of Native Freshwater Mussel Refuges in Great Lakes Coastal Zones	Central Michigan University	The project will assess known coastal and nearshore unionid refuges in the lower Great Lakes to describe existing unionid diversity, habitat characteristics, and prioritize areas for conservation and management; and identify additional potential refuges and develop management recommendations to state and federal agencies to protect and conserve unionid communities in coastal refuges.	\$381,168
2010	USFWS	Great Lakes Fish and Wildlife Restoration Act	Pointe Mouillee Coastal Wetland Restoration and Dike Rehabilitation	Michigan Department of Natural Resources	The habitat restoration project will directly protect, restore, and enhance 1,978 acres of wetlands and add to the wetland ecosystem on the overall 4,040 acres of state game area, providing habitat for migratory birds and allowing improved control of invasive species, such as phragmites and purple loosestrife.	\$489,838
2010	USFWS	North American Waterfowl Management Plan	Headwater Wetlands of the Paw Paw River	The Nature Conservancy	This project will solidify protection of critical wetlands in the headwaters area in the East branch of the Paw Paw River by protecting 60 acres of land.	\$100,000
2010	USFWS	Contaminant Program	Assessment of the Population, Reproductive, and Health Impairments In Colonial	Calvin College	This study will investigate and monitor the effects of environmental contaminants on the breeding population numbers, reproduction, and immunological health of fish-eating birds found in Saginaw Bay and Raisin River AOCs.	\$66,000
2010	USFWS	Contaminant Program	Assessment of the Bird and Animal Deformities or Reproductive Problems Beneficial Use	Michigan Department of Environmental Quality	This assessment will determine the status of this impairment in six of Michigan's Areas of Concern and determine gaps in data sets to inform monitoring and restoration needs.	\$67,465
2010	USFWS	Joint Venture	Completing the Swamp Lakes Wetland Project	The Nature Conservancy	It will protect 150 acres in one of the best examples of a peat land-forest ecosystem in the Eastern Upper Peninsula.	\$103,400
2010	USFWS	Joint Venture	Shiawassee Flats Floodplain Wetland Restoration Project	Ducks Unlimited, Inc.	It will restore 141 acres of sustainable high-quality emergent wetland habitat that will contribute to the health of the Saginaw River and Saginaw Bay.	\$99,750
2010	USFWS		Grassy Island Disposal Facility	Michigan Department of Environmental Quality	The DEQ will provide technical assistance to the USFWS geotechnical investigation of the Grassy Island disposal facility site to evaluate the ability of the existing dikes to contain contaminants (hydraulic conductivity), evaluate the ability of the site to support a cap (site stability), design an appropriate cap for the site, and provide information regarding groundwater height and movement on the island. Implementation of an appropriate remedy will reduce risks to human health and the environment.	\$47,000

2010	USFWS - Non Competitive Funding	Aquatic Invasive Species State Management Plan	Michigan ANS State Management Plan Implementation	Michigan Department of Environmental Quality	This program will create a core Aquatic Invasive Species Program in Michigan to coordinate implementation of Michigan's Aquatic Nuisance Species State Management.	\$792,000
2010	Dept. of Agriculture-U.S. Forest Service		Analysis and Assessment of the Great Lakes Forest Ecosystem		The U.S. Forest Service (USFS) will facilitate superior forest resources such as improved water quality, habitat, and healthy watersheds, by documenting the status and trends of forest resources in the Lake Superior and Michigan basins. The Forest Inventory and Analysis program (FIA) of the USFS will provide detailed information on the introduction of non-native plants, insects, diseases, and changing land-use patterns. Well-documented protocols will be used to complete and deliver reports summarizing forest resource status by September 30, 2011.	\$500,000
2010	Dept. of Agriculture-U.S. Forest Service		Aquatic Organism Passage		The U.S. Forest Service (USFS) will improve aquatic organism passage by removing culverts and dams which impede safe fish passage on national forests in Minnesota, Michigan, and Wisconsin. USFS will replace existing culverts with concrete bridges, stabilize selected streams, and restore stream integrity. By Fall 2011, 20 stream road crossing structures will be completed and one dam will be removed. These actions will improve aquatic ecosystem resiliency and will maintain or improve the population of valuable sport fish species and threatened, endangered and sensitive aquatic species.	\$4,200,000
2010	Dept. of Commerce-National Oceanic and Atmospheric Admin.		Implementation of the Great Lakes Observing System		NOAA will develop new data management and delivery products for four priority issues that affect the health, well-being and economic viability of the region, these are: climate change impacts; ecosystem and food web dynamics; protection of public health; and navigation safety and efficiency. NOAA will design and support near-term implementation of the Great Lakes Observing System, to coordinate and integrate regional coastal observations supporting national and regional priorities including Great Lakes restoration.	\$3,000,000
2010	Dept. of Commerce-National Oceanic and Atmospheric Admin.		Implementation of the Great Lakes Observing System- contract		Implementation of the Great Lakes Observing System contract.	\$1,000,000
2010	Dept. of HHS-Agency for Toxic Substances and Disease Registry		Biomonitoring of Great Lakes populations		The Agency for Toxic Substances and Disease Registry established programs with Minnesota, Michigan and New York health departments to measure environmental toxin levels in people (measuring toxins in blood & urine samples) who live in the Great Lakes basin. The purpose is to see if there is a higher amount of toxins in people with greater exposure to toxins, such as people who eat Great Lakes fish. This information will guide	\$5,000,000
2010	Dept. of HHS-Agency for Toxic Substances and Disease Registry		Public health support for Brownfields sites in Great Lakes.		The Agency for Toxic Substances and Disease Registry and its partners in state and local health departments will coordinate with Environmental Protection Agency (EPA), state and local officials and stakeholders to incorporate public health considerations early in the land use and redevelopment decision process for Brownfields/land reuse/redevelopment sites including the Great Lakes Areas of Concern.	\$500,000
2010	Dept. of Interior-National Park Service NE		Prevent Spread of VHS and Harmful Organisms in Great Lakes		The National Park Service will design, test, and install a permanent treatment system at Isle Royale National Park to prevent transfer of aquatic invasive species residing in ballast water of moderate sized ships. This project should result in technology transfer and further development by the U.S. Coast Guard.	\$500,000
2010	Dept. of Interior-U.S. Fish and Wildlife Service MN		Partners for Fish & Wildlife Program - Michigan		Partners for Fish and Wildlife is a voluntary habitat restoration program of the U.S. Fish and Wildlife Service. The PFW Program works with landowners and other partners to restore habitat on private lands. Focus is on restoring wetlands and grasslands to benefit migratory birds and federally-listed threatened and endangered species. The basin-wide program goal for GLRI is to restore 500 acres of wetlands and 500 acres of grasslands.	\$368,610

2010	Dept. of Commerce- National Oceanic and Atmospheric Admin.		Implementation of the Great Lakes Observing System- contract	USGS	The Great Lakes Observing System (GLOS) coordinates and integrates regional coastal observations supporting national and regional priorities including Great Lakes restoration. The Department of Interior backbone project is providing GLOS equipment for collecting nutrient and sediment data in tributaries, embayments, and the nearshore to determine and guide restoration activities. A simulation model is also being developed that will provide quantifiable measures of restoration progress and comparisons of progress over time and	\$3,000,000
2010	EPA	Great Lakes National Program Office	Restoring habitats of southwest Michigan endangered species	Kalamazoo Nature Center	This project will remove invasive species, establish native flora, reintroduce historic fire regimes, monitor results, and conduct outreach activities. These activities will (a) restore approximately 1,500 acres of prairie fen and associated upland habitats; and (b) 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, and this project will address habitat needs of 16 state and federally listed plant and animal species. It will also improve physical, chemical, and biological processes and ecosystem functions, and will help maintain or improve conditions for native fish and wildlife.	\$196,413
2010	EPA	Great Lakes National Program Office	Freshwater Ballast Treatment: NaOH a Treatment of Promise	National Parks of Lake Superior Foundation		\$776,320
2011	USFWS	LaMP Implementation	Partial outreach funding for Enhancing Michigan's Virtual & place-based educational opportunities & community stewardship	Michigan State University	Using charismatic lake sturgeon in coupled human-Great Lakes ecosystems	\$3,500
2011	USFWS	Restoration of Islands and Coasts	Coordinate colonial bird inventory project for Great Lakes Islands		Coordinate efforts and cooperatively work with Regional GIS staff to analyze aerial photography obtained from regional aircraft to census and map colonial nesting birds on northern Lake Michigan Islands, including Green Bay NWR, Gravel Island NWR, and Michigan Island NWR (Seney). Data from this project provides distribution and abundance information on colonial nesting waterbirds and will provide managers with the necessary information to identify appropriate management strategies for maintaining healthy waterbird populations at the local and regional scale.	\$20,000
2011	USFWS	AOC Projects	Early warning program to detect & identify contaminants of emergin concern & effects on fish & wildlife - Detroit River		To stay at the forefront of conserving, protecting and enhancing fish, wildlife, and plants and their habitats for the continuing benefit of the American people, the U.S. Fish and Wildlife Service's Environmental Contaminants program initiated an "Early Warning Program" in the Great Lakes through the Great Lakes Restoration Initiative. The purpose of the program is to not only detect and identify "chemicals of emerging concern (CEC)", but more importantly to evaluate the effects of these contaminants, at environmental levels, on fish and wildlife, thus benefitting the sustainability of the Great Lakes ecosystem. The Service's CEC project is focused in Great Lakes Areas of Concern (AOCs) and provides valuable data that can be utilized to evaluate the status of the Fish Tumors and Deformities	\$21,945
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes		Muskegon River Watershed Assembly	Muskegon River Watershed Assembly and partners will stabilize banks and re-establish native tree canopy and understory to improve almost 7,900 feet of coldwater trout stream and 11 acres of riparian buffer along Cedar Creek.	\$28,400
2011	USFWS	AOC Projects	Update Conservation & Recreation Lands (CARL) Database & Assess Indicator Species in the Saginaw River/Bay Area of Concern to Support Delisting		Since the CARL database was last updated during the 2007 assessment, additional wetlands have been protected that are not included in the database. Additionally, more precise DEMs (10-meter and 3-meter) have been developed, which would enhance future assessments. The CARL database will be updated and reanalyzed for protected wetlands to ensure the accuracy and completeness of the data and assess the total amount of protected.	\$35,715

2011	USFWS	Fish Passage	Lower Grand River Watershed in Michigan - Fish Migration Barrier Inventory		The overall goal of this project is to identify a minimum of ten migration barriers that meet conditions for immediate removal or further study.	\$37,028
2011	USFWS			Little River Band of Ottawa	Operation and equipment for the Little Manistee River Sturgeon Streamside Rearing Facility	\$46,500
2011	USFWS	Restoration of Islands and Coasts	Cooperative Weed Management Area (CWMA) Established in Saginaw Bay		The FWS, in partnership with the U.S. Forest Service, will invest in a new Cooperative Weed Management Area for Saginaw Bay, Michigan.	\$50,000
2011	U.S. Forest Service		Restoration of Flint's Urban Forests and Street Trees	Genesee Conservation District	Restoration of Flint's urban forest and street trees	\$60,658
2011	USFWS	LaMP Implementation	Fish Passage Improvement at 2 stream crossings in northern Michigan		Alcona-Black at Sucker Creek road stream crossing (57,754) and West Branch Sturgeon River road stream crossing (10,000) USFWS and partners	\$67,754
2011	USFWS	AOC Projects	Assessment of Population, Reproductive, & Health Impairments in Colonial Waterbirds Breeding in Michigan's Areas of Concern		Work in 2011 will provide additional data essential for a comprehensive assessment of contaminant effects on colonial waterbird populations, reproduction, and health at the Saginaw Bay and Raisin River AOCs. It also will lay the groundwork for future assessments at other AOCs with colonial waterbirds such as Fox River/ Southern Green Bay and the Calumet River. These four AOCs are high priorities for the U.S. Fish and Wildlife Service (Service) because of the diversity and abundance of migratory birds, both currently and potentially in the future as contaminants are addressed and habitat is restored.	\$68,715
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes		Regents of the University of Michigan	Regents of the University of Michigan and partners will enhance 200 acres of floodplain, fen and adjacent uplands along Fleming Creek in southeastern Michigan to improve habitat for massasauga and other rare plants and wildlife.	\$74,213
2011	USFWS	Fish Passage	Replace Perched Culvert & Remove Dam at Reynolds Rd (Platte River) - Benzie County		The primary goal of this project is to restore upstream fish passage to approximately 20 miles of lacustrine and fluvial habitats by replacing the undersized culvert and removing the small dam.	\$88,840
2011	U.S. Forest Service		Calhoun Forest Restoration	Calhoun Conservation District	Calhoun forest restoration to promote water quality and wildlife habitat	\$99,960
2011	USFWS	Fish Passage	Replace Culvert on Osborn-Cobmoosa Creek & Baseline Rd (White River) - Oceana County		The objective of this project is to create a partnership between US Fish & Wildlife Service, USDA Forest Service Huron-Manistee National Forest (HMNF), and Oceana County Road Commission to restore fish passage to seven miles of stream and 22 acres of lake habitat in the Osborn Creek/Cobmoosa Lake drainage	\$105,000
2011	USFWS		Sustain our Great Lakes	Huron Pines Conservation and Development Council	Huron Pines Resource Conservation and Development Council and partners will replace three poorly performing road/stream crossings and install in-stream woody debris to restore 14 miles of fish passage, reduce sediment loading, and improve 10,000 feet of Blue Ribbon Trout stream.	\$112,000

2011	U.S. Forest Service		Forest Restoration at Detroit Refuge Gateway	Downriver Community Conference	Forest restoration and green infrastructure development at the Refuge Gateway - a brownfield site in the Detroit River Area of Concern (AOC)	\$113,700
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes		Stewardship Network	Stewardship Network and a network of partners will control invasive species on 148 acres within the River Raisin and Shiawassee River headwaters in southeastern Michigan to improve habitat for many species of conservation concern.	\$124,840
2011	USFWS	Fish Passage	Spring Creek Fish Passage Project		This project will restore fish passage for native brook trout on Spring Creek at by restoring perched culverts at Pioneer Road and Spring Lake Road.	\$133,097
2011	USFWS	AOC Projects	Develop & Implement a closure plan for the Grassy Island Unit of the Detroit River		This work will build on a feasibility study completed by the Bureau of Reclamation, on behalf of the USFWS, in November 2011. BoR analyzed samples from soil borings on Grassy Island and installed groundwater monitoring wells to help determine what the best approach is for containing contaminated material on Grassy Island. The work allowed the Service to gauge the ability of the existing dikes to contain contaminants and the ability of the site to support a "cap". Follow-up studies will be funded in 2011 to address additional recommendations resulting from the feasibility study.	\$149,700
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Conservation of Great Lakes Piping Plover	Lake Superior State University	Lake Superior State University and partners will conduct surveys, monitoring, nest protection, captive rearing and invasive species control to improve reproductive success and nesting habitat for the endangered Great Lakes piping plover.	\$150,000
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes		Upper Peninsula Resource Conservation and Development Council	Upper Peninsula Resource Conservation and Development Council and partners will remove garlic mustard from 350 acres as part of a long-term strategy to eliminate the invasive species from Michigan's Upper Peninsula.	\$150,000
2011	USFWS	Great Lakes Joint Venture Program	Building a Protected Mosaic at Grass Bay	The Nature Conservancy	The project will protect 41 acres of open dune/sand beach, wooded dune and swale, mixed northern hardwoods, and conifer swamps on or near the shoreline of Lake Huron. This area is of high importance to migratory waterfowl, shorebirds, and landbirds, including priority species such as Blue-winged Teal, Black-throated Blue Warbler, and Canada Warbler and also supports populations of three federally-listed plants. Protection of these two key tracts will facilitate better management of a larger high-quality complex of natural communities, and will also help land managers better protect sensitive intermittent wetlands from unauthorized off-road vehicle use and trespass.	\$150,000
2011	USFWS	Great Lakes Basin Fish Habitat Partnership	Boardman River Dam Removal Project: Phase 1 - Brown Bridge Dam	Conservation Resource Alliance	The Conservation Resource Alliance and its partners will utilize these and other funds to improve 160 miles of river habitat by removing Brown Bridge Dam. In addition to removing the dam, in-stream habitat and 253 acres of wetland habitat will be restored.	\$160,000
2011	USEPA		Paradise Lake Pilot Boat Washing Station	Little Traverse Bay Bands of Odawa Indians	The Little Traverse Bay Bands of Odawa Indians will collaborate with the Michigan DUSEPARTMENT of Natural Resources and the Paradise Lake Improvement Board to prevent the spread of invasive species by installing and maintaining a boat washing station on an inland lake close to Lake Michigan and Lake Huron with a single access site. The project will provide a model for smaller communities in the Great Lakes seeking to reduce the transport of invasive species by recreational boats.	\$174,612

2011	USEPA		Eurasian Watermilfoil Strategic Biological Control Program	Les Cheneaux Watershed Council	The grant will support the Les Cheneaux Watershed Council's work to stock 65,000 milfoil weevils in approximately 16 locations in three bays in the Les Cheneaux Islands region of northern Lake Huron, Michigan to control the invasive Eurasian watermilfoil and restore important perch spawning grounds. The project includes monitoring to assess the long-term effectiveness of this biological control strategy for watermilfoil.	\$198,750
2011	USFWS	AOC Projects	Restoring River Connectivity: Evaluating Fish As Vectors of Contaminants in the Saginaw River/Bay Area of Concern		Work is underway to replace a dam located on the Cass River in Frankenmuth, MI with a rock ramp to restore fish passage to 73 miles of upstream river habitat. Frankenmuth Dam removal is scheduled to begin late fall of 2011 or in 2012. Prior to dam removal, the proposed project will evaluate the level of contaminants present in fish species above and below the dam to determine the impact reestablishment of a potamodromous fishery will have in the reconnected river section above the dam. Contaminant concentrations in fish species below the dam will be used to determine the potential adverse effects to fish-eating birds (i.e. bald eagles) and mammals (i.e. mink) upstream of the dam, as was performed by Cincinnati (1994, 1995)	\$200,808
2011	USFWS	Great Lakes Joint Venture Program	Maple River State Game Area Enhancement Project	Ducks Unlimited, Inc.	This project will enhance 344 acres of existing wetland habitat at the Maple River State Game Area in central Michigan, a 9000-acre wetland complex – the largest contiguous state-managed wetland complex in mid-Michigan. Project partners will remove outdated water control infrastructure and install a new pump and water control structure, which will not only enhance existing habitat for priority birds such as King Rail, Black Tern, and Black-crowned Night-Heron, but will also help combat the spread of invasive plants such as phragmites and purple loosestrife.	\$208,000
2011	U.S. Forest Service		Grand Rapids EAB Recovery Project	City of Grand Rapids	Grand Rapids Emerald Ash Borer recovery project	\$210,000
2011	USFWS	Fish Passage	Fish Passage Improvements in the lower St. Joseph River Watershed, Berrien County		Indigenous freshwater fish populations in the St. Joseph River system are negatively affected by obstructions to fish passage. Natural movements of fish throughout the watershed are restricted or eliminated due to approximately 190 dams and an unknown number of impassable culverts. The overall goal of this project is to improve fish passage in the Lower St. Joseph River Watershed.	\$214,285
2011	USEPA		Establishing Gull Exclusion Zones at Public Beaches	Central Michigan University	Central Michigan University researchers will use trained border collies to chase geese and other birds from beaches in Ottawa and Muskegon Counties to improve beach water quality and reduce beach closings. The effectiveness of this approach will be assessed by measuring levels of E. coli and zoonotic pathogens in water near the gull exclusion zones.	\$247,159
2011	USFWS	Great Lakes Joint Venture Program	Southeast Lake Michigan Riparian, Riverine, & Upland Habitats Protection/Restoration Project	Southwestern Michigan Land Conservancy	This project will protect 120 acres of a diverse mix of habitats including upland and bottomland forest, wet meadow, and emergent marsh, including approximately two miles of frontage along the Black River, approximately two miles from Lake Michigan. The parcel supports populations of several priority breeding birds including Cerulean Warbler, Wood Duck, and American Woodcock, and recent surveys identified over 300 species of native plants on the property. In addition to protection of the parcel, project funds will also contribute to ecological restoration on site, via the removal of invasive species and stream bank restoration.	\$250,000
2011	USFWS		Upper St. Clair River Shoreline Habitat Restoration Projects	Community Foundation of St. Clair County	Restore up to 750 lineal feet of shoreline and create up to 37,500 sq. feet of restored shoreline habitat.	\$250,000

2011	USEPA		Eliminating E.coli Sources Impacting Beach Closures	County of Macomb	The County of Macomb will remove 8,500 square feet of an existing impervious parking lot at a Lake St. Clair beach and replace it with a 15,800 square-foot porous paver driveway and 11,500 square-foot rain garden. This project is expected to reduce stormwater runoff by increasing infiltration, resulting in lower E.coli levels, fewer beach closures, and improved water quality in Lake St. Clair.	\$254,406
2011	USEPA		Northeast Michigan–Lake Huron Watershed Community Collaboration	Northeast Michigan Council of Governments	The grant will support collaboration among local residents, governmental entities and other organizations to identify common issues and promote environmentally-responsible decision making in the Northeast Michigan-Lake Huron Watershed. The project will use the Northeast Michigan-Lake Huron Community Collaboration web site to provide access to environmental data and to provide opportunities for collaboration.	\$265,380
2011	NOAA		West Michigan Shoreline Regional Development Commission	Muskegon Lake Hydrologic Reconnection and Mill Debris Removal	This project will develop designs for a project that will soften 2,850 feet of shoreline, restore up to 126 acres of floodplains and emergent wetlands, and remove more than 197,000 metric tons of unnatural lake fill debris.	\$313,000
2011	USFWS	Great Lakes Fish and Wildlife Restoration Act	State & Federal Refuge Protection Buffers in the Southwest Lake Erie Watershed Phase II	Michigan Department of Natural Resources/Ohio Department of Fish & Wildlife	This project will protect an additional 166 acres of land that buffer state or federal refuges within preapproved acquisition boundaries for all three wildlife agencies' refuge and wildlife management areas. Previous year funding supported Phase I of this project, which protected 330 acres of quality waterfowl and migratory bird habitat adjacent to state and federal lands. A total of 496 acres of conservation buffers will be acquired when the phase II project is complete.	\$330,000
2011	USFWS	GLFWRA Regional Projects	Lake Sturgeon Streamside Rearing Facilities in the Upper Great Lakes	Michigan Department of Natural Resources, Wisconsin Department of Natural Resources, & the Little River Band of Ottawa Indians	This project will utilize and adapt the streamside rearing technique for multiple sites in the Great Lakes basin. These sites include the Manistee, Whitefish, Cedar, Kalamazoo, Kewaunee and Milwaukee rivers of the Lake Michigan basin, the Black Duck River of the Lake Huron basin, and the Ontonagon River of the Lake Superior basin in Michigan and Wisconsin waters. This project will also help to protect the genetic diversity of remnant stocks, promote lake sturgeon restoration to the public and 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	\$330,000
2011	USEPA		Two Hearted Watershed Remediation and Plan Implementation	The Nature Conservancy	The Nature Conservancy will implement management measures contained in the Two Hearted River Watershed Management Plan that will reduce sediment loading by 429 tons and restore 2.5 miles of stream.	\$338,833
2011	NOAA		Little Rapids Habitat Restoration Project (Sault St. Marie, MI)	Eastern Upper Peninsula Regional Planning & Development Commission	This project will begin developing engineering and design plans for a project that will increase fish passage in the remaining available rapids habitat, considered essential spawning and nursery habitat for species such as lake whitefish, lake sturgeon and walleye.	\$348,000
2011	NOAA		Clinton River Spillway and Fish Habitat Restoration	Macomb County	This project will develop plans to improve fish passage along two miles of restored channel, directly connecting nearly 200 acres of river corridor to Lake St. Clair. The project will also refurbish and adapt the existing spillway to reduce erosion and sediment loading by stabilizing river shorelines and by increasing vegetated buffers along the river	\$350,000
2011	U.S. Forest Service		Restoring Community Trees in Urban Watershed	Alliance of Rouge Communities	Restoring community trees in an urban watershed	\$374,980

2011	USEPA		White Lake AOC Urban Street BMP Implementation	City of Whitehall	The City of Whitehall will implement an urban street stormwater project using Low Impact Design techniques such as bioswales, naturalized detention, and wetland treatments to improve water quality and reduce nutrient loading within the White Lake Area of Concern.	\$376,180
2011	USEPA		Sediment Reduction in the Swartz Creek Watershed	Michigan Department of Agriculture and Rural Development	The Michigan Department of Agriculture and Rural Development will implement agricultural best management practices to significantly reduce sedimentation and nutrient loss from the Swartz Creek Watershed to the waters of the Flint River and Saginaw Bay. This project will prevent 5,084 tons of sediment, 4 tons of phosphorus, and 8 tons of nitrogen from entering Swartz Creek, the Flint River, and Saginaw Bay each year.	\$376,517
2011	USFWS		Sustain our Great Lakes	Huron Pines Conservation and Development Council	Huron Pines Resource Conservation and Development Council and partners will replace 10 problematic road/stream crossings in the Thunder Bay River watershed to restore 124 miles of fish passage and reduce sediment loading to the river by 113 tons per year.	\$420,000
2011	USEPA		Sediment Reduction in the Sebewaing River Watershed	Michigan Department of Agriculture and Rural Development	The Michigan Department of Agriculture and Rural Development will implement agricultural best management practices to significantly reduce sedimentation and nutrient loss from the Sebewaing River Watershed to the waters of Saginaw Bay. This project will prevent 21,000 tons of sediment, 16 tons of phosphorus, and 33 tons of nitrogen from entering the Sebewaing River, its tributaries, and Saginaw Bay each year.	\$422,209
2011	U.S. Forest Service		Greening of Detroit	Detroit's Dendroremediation Model Project	Detroit's dendroremediation model project	\$473,020
2011	USEPA		Invasive Species Early Warning System Validation in Toledo Harbor	Wayne State University	Wayne State University researchers will use conventional sampling and advanced molecular techniques to enhance surveillance for aquatic invasive species in a coastal ecosystem within Lake Erie. The project will develop and implement new invasive species detection protocols appropriate for the Toledo Harbor region. Project results will support development of a comprehensive basinwide surveillance program for the detection of invasive species in the Great Lakes. Findings will be submitted for publication in peer	\$498,612
2011	USEPA		Toxics Reduction within the Rouge & Detroit River AOCs	Wayne County - Department of Public Services	Wayne County will conduct household hazardous waste and electronic waste (e-waste) collections in the Rouge and Detroit River Areas of Concern (AOCs). The project will target private commercial and industrial facilities in these AOCs that have the highest potential of handling/mishandling toxic materials. The expected results include collection and/or prevention of 15 million gallons of illegal discharges, 500,000 pounds of e-waste, 2,400 pounds of unwanted medicines, and 1 million pounds of household hazardous waste.	\$500,000
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes		Downriver Community Conference	Downriver Community Conference, U.S. Fish and Wildlife Service and other partners will restore and enhance 91 acres and 2.5 miles of coastal, wetland and upland habitat at the Refuge Gateway and the Humbug Marsh unit of the Detroit River International Wildlife Refuge.	\$500,000
2011	USEPA		Boardman River Dams Removal - Sediment Management	Watershed Center Grand Traverse Bay	The Watershed Center Grand Traverse Bay and the Boardman River Dams Implementation Team will remove Brown Bridge dam and Sabin dam on the Boardman River. This project will restore 184 acres of wetlands and 2.2 miles of river corridor and prevent 5,589 tons of sediment from reaching Lake Michigan.	\$533,161

2011	USEPA		Detroit River-Western Lake Erie CWMA and Phragmites Control	The Nature Conservancy	The Nature Conservancy, working with public and private partners, will restore coastal wetlands vital for waterfowl and marshbirds. The project will fund eradication of invasive Phragmites australis on approximately 1,240 acres of Western Lake Erie coastal wetlands in Wayne and Monroe Counties, Michigan. The project will also establish through a spectrum of local partners a large-scale and sustainable approach to Phragmites treatment in a heavily populated area with high recreational value.	\$534,689
2011	USFWS	Great Lakes Fish and Wildlife Restoration Act (GLFWRA)	Boardman Dam Removal Project-Brown Bridge & Sabin Dam Removal Phase	Conservation River Alliance	This project will ultimately result in removal of 3 dams, the re-connection of 160 miles of natural river channel, and restoration of 253 acres of wetland habitat on the Boardman River in Traverse City, Michigan.	\$591,386
2011	USEPA		Targeting Critical Agricultural Areas with BMPs	Macatawa Area Coordinating Council	The Macatawa Area Coordinating Council will provide cost-share payments to farmers who install agricultural best management practices in critical areas. The project will increase the use of agricultural conservation practices in the watershed and will prevent 15 tons of sediment, 19 tons of phosphorus, and 21 tons of nitrogen from entering Lake Macatawa and Lake Michigan each year.	\$665,000
2011	USEPA		Invasive Predator Suppression on Critical Spawning Reefs	The Nature Conservancy	The Nature Conservancy will control invasive round goby and rusty crayfish populations on five reefs in Grand Traverse and Little Traverse Bays in Lake Michigan to increase the survival of eggs and larvae of native reef fish such as lake trout, cisco, and whitefish. The project will employ innovative (seismic gun) invasive species techniques and refine traditional (trapping) methods. Through monitoring, the project will quantify the effectiveness of the treatments and the changes in survival of the three native fish species.	\$667,971
2011	USFWS	LaMP Implementation	Integrated Pest Management for priority species, Early Detection and Rapid Response		The U.S. Fish and Wildlife Service (USFWS) will establish a Great Lakes Aquatic Invasive Species Integrated Management Program for priority Great Lakes species to implement rapids response control and management programs. USFWS invasive species specialists will assess the effectiveness of those programs and adapt them as needed. Response, monitoring, and control efforts will be focused on existing and potential Asian carp populations in Illinois and Indiana tributaries to Lake Michigan	\$678,252
2011	USEPA		Grand Traverse Bay - East Bay Park Remediation	The Watershed Center Grand Traverse Bay	The Watershed Center Grand Traverse Bay will implement stormwater management measures at three storm drains discharging at East Bay Park. Low impact development techniques such as bio-swales and rain gardens will be used to manage stormwater runoff from the parking lot and permeable pavement will be installed at the canoe/kayak launch. The modifications are expected to eliminate sources of bacterial contamination, protect public health and improve beach water quality.	\$767,648
2011	USEPA		Little Traverse Bay Stormwater Management Initiative	Tip of the Mitt Watershed Council	The Tip of the Mitt Watershed Council will protect the water quality of Lake Michigan's fourth largest bay by implementing stormwater best management practices. These practices include: road and stream crossing improvements; construction of a stormwater wetland; stream bank restoration; and construction of rain gardens. These practices will prevent 900 tons of sediment from reaching Little Traverse Bay.	\$887,723

2011	USEPA		Targeted Phosphorus Reduction in the Pigeon River Watershed	Michigan Department of Environmental Quality	The Michigan Department of Environmental Quality (MDEQ) will reduce phosphorus loads from the Pigeon River Watershed to address Saginaw Bay's designated use impairment. MDEQ will use agricultural best management practices at targeted sites in the Lower Pigeon, West Branch Drain and Upper Pigeon subwatersheds, which will reduce phosphorus loads by over 5,000 pounds per year.	\$890,735
2011	USEPA		Grand Traverse Bay - Suttons Bay Stormwater Remediation	The Watershed Center Grand Traverse Bay	The Watershed Center Grand Traverse Bay will implement a series of stormwater management systems at three storm drain outlets using green infrastructure techniques in Suttons Bay. This project is expected to reduce human health risks at two swimming beaches by eliminating sources of bacterial contamination.	\$987,102
2011	USEPA		Reducing the Impact of Stormwater on Metro Beach	Huron Clinton Metropark Authority	The Huron Clinton Metropark Authority will use green infrastructure measures to reduce, capture and treat stormwater runoff impacting the Metropolitan Beach Metropark on Lake St. Clair. This project will eliminate approximately 11.5 acres of pavement and establish a new drainage pattern for the parking area that will filter all runoff through a system of vegetative swales and detention areas to an existing 96 acre wetland. These green infrastructure investments will improve water quality and public health at Metro Beach and restore the natural hydrology.	\$1,000,000
2011	NOAA		Alliance of Rouge Communities	Wayne Road Dam Removal and Habitat Improvement Project (Wayne, MI)	This project will remove the Wayne Road Dam and restore fish passage to migratory species such as salmon, walleye, northern pike and small mouth bass, and improve shoreline habitat. It will also reconnect 22 miles of the Rouge River with the Great Lakes.	\$1,000,000
2011	USEPA		Grand Traverse Bay Watershed Protection Project	Grand Traverse Regional Land Conservancy	The Grand Traverse Regional Land Conservancy will strategically secure 400 acres of conservation easements to protect water quality of the Grand Traverse Bay. Preservation of this land will prevent 1,160 pounds of nitrogen, 108 pounds of phosphorus, and 26 tons of sediment from entering the Bay and Lake Michigan.	\$1,000,000
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Boardman River Fish Passage Restoration (MI)	Conservation Resource Alliance	Conservation Resource Alliance and partners will remove two barriers during the first construction phase of a project that will restore aquatic connectivity and fish passage to 160 miles of the Boardman River, 20 miles of river habitat, and 253 acres of riparian wetlands.	\$1,000,000
2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Full Scale Invasive Plant Control Eastern Lake Michigan	The Nature Conservancy	The Nature Conservancy and partners will restore the quality of coastal dunes and wetlands along the 505-mile shoreline of eastern Lake Michigan through early detection and control of 14 invasive plant species.	\$1,020,432
2011	USFWS	Great Lakes Mass Marking Program			USFWS and partners - To restore Great Lakes fish communities, precise knowledge of the contribution of stocked trout and salmon in each lake is required by fishery managers. This program will implant coded-wire-tags in and/or fin-clip all 25 million trout and salmon stocked annually into the Great Lakes, assist in recovery of tagged fish caught by sport and commercial fishers, manage a basin-wide database of stocking and recapture records, and provide data analyses. FY11 funding will allow tagging 9.5 million trout and/or salmon stocked into Lakes Michigan and Huron, and 1.0 million salmon in Lake Ontario.	\$1,497,000

2011	EPA - National Fish and Wildlife Foundation	Sustain our Great Lakes	Restoring Wetlands and Fish Passage in the Shiawassee Flats	Ducks Unlimited, Inc.	Ducks Unlimited and the U.S. Fish and Wildlife Service will install water control structures to restore the quality and aquatic connectivity of 940 contiguous acres of emergent wetlands adjacent to the Shiawassee River at Shiawassee National Wildlife Refuge.	\$1,500,000
2011	USFWS	Lake Trout and Lake Sturgeon Restoration			USFWS and partners will protect the the restored wild lake trout in Lake Superior and Support efforts to restore lake trout in Lakes Huron, Michigan, Ontario, and Erie; and enhance the recovery of native Lake Sturgeon stocks in Great Lakes tributaries. Work will also support lakewide management plans (LaMPs). Funding will support improvements and upgrades at Service national fish hatcheries to produce additional lake trout rehabilitation plans and the US v. MI Consent Decree. These actions would complement the efforts of the Great Lakes Fisheries Commission's Sea Lamprey Control Program. Additionally, this project supports the rearing, stocking, and assessment of native lake sturgeon in priority Great Lakes tributaries throughout the basin. The project includes an assessment of the efficacy of stream-side propagation and stocking techniques as a means of re-establishing populations of lake sturgeon in their historic tributaries. Funding also supports the pursuit of criminal investigations focused on illegal take of Great Lakes lake trout and Lake Sturgeon	\$6,605,762
2011	USFWS	Restoration of Islands and Coasts		Monitoring habitat changes associated with management of populations of double-crested cormorants	This project will use the geospatial imagery and GIS tools to analyze archival and recently acquired aerial imagery to investigate impacts of cormorant population on island vegetation, establish baseline habitat data, and evaluate the effects of double-crested cormorant control programs by high resolution photo chronosequence.	\$20,000
2011	USFWS	Restoration of Islands and Coasts		Coordinating efforts for waterbird research on refuge lands	Provide logistical support for use of refuge boats and facilities by UDSA/WS researchers from the National Wildlife Research Center and West Virginia University and assist researchers with data collection on refuge islands. Research includes a mark recapture study to investigate double-crested cormorant demographics and investigating a novel technique to age birds with a biological marker obtained from skin samples of double-crested cormorants.	\$20,000
2011	USFWS	Upper Midwest Great Lakes Landscape Conservation Cooperative	Distribution and Abundance of Breeding Birds in the Upper Midwest and Great Lakes Region as Influenced by Climate and Land Cover Change	Michigan State University		\$86,341
2011	USFWS	Endangered and Threatened Species	Comprehensive Multi-Species Status Assessments	Michigan Natural Features Inventory	This project will conduct methodical, prioritized status assessments of a suite of listed species, including several endemics that occur in close proximity to the Great Lakes coastal zone, to address significant information needs and data gaps critical for recovery planning and periodic five-year reviews. (Species include: american burying beetle, hine's emerald dragonfly, american hart's-tongue fern, dwarf lake iris, houghton's goldenrod, michigan monkey-flower, pitcher's thistle). The project will also acquire relevant data on threats, including exotics/invasives and weevil species, identify new occurrences in suitable habitats for american burying beetle and Michigan monkey flower. Data will be used for recovery planning, assessing progress toward delisting, assessing trends, prioritizing future land acquisition, and participating in planning efforts for species conservation and management.	\$93,500
2011	USFWS		Evaluating Marsh Bird Habitat Use at Multiple Scales to Inform Conservation Design	Michigan State University	This work focuses on investigating marsh bird habitat use at large and fine scales to facilitate conservation planning and implementation within the Great Lakes region. It will identify variables important in determining marsh bird use of wetlands and develop spatial models that predict marsh bird distributions to assist conservation efforts	\$97,402

2011	USFWS	Upper Midwest Great Lakes Landscape Conservation Cooperative	Manajiwjin: Respecting Tribes, First Nations and Cultural Resources in Cooperative Landscapes and Climate Change Decision Making	University of Michigan		\$128,496
2011	USFWS	Upper Midwest Great Lakes Landscape Conservation Cooperative	On a Wing and a (GIS) Layer: Prioritizing Migratory Bird Stopover Habitat along Great Lakes Shoreline	The Nature Conservancy		\$134,771
2011	USEPA		Reducing Polybrominated Diphenyl Ethers in the Great Lakes	Great Lakes Commission	The Great Lakes Commission will measure sources of Polybrominated Diphenyl Ethers (PBDEs), a compound used in flame retardants, and will identify substitutes for PBDEs in various products. Industry representatives and others will be engaged to identify PBDE-free alternatives and to develop strategies for reducing exposure to PBDEs.	\$190,000
2011	USEPA		Green Marina Education and Outreach Project, Phase II	U of Michigan School of Natural Resources and Environment	The University of Michigan School of Natural Resources and Environment will use this grant to expand the Great Lakes Green Marina Network by leveraging partnerships developed among marina operators, boating industry experts and specialists from the Sea Grant program to protect water quality and nearshore habitat. The project team will develop and distribute recycling information and pollution prevention kits to encourage boaters to implement best management practices and will provide information about the Clean Boater Act.	\$199,921
2011	USFWS	Upper Midwest Great Lakes Landscape Conservation Cooperative	A Regional Decision Support Tool for Identifying Vulnerabilities of Riverine Habitat and Fishes to Climate Change	USGS		\$200,000
2011	USFWS			Partners for Fish & Wildlife	Multiple voluntary projects implemented in the State of Michigan on private lands to protect, enhance, and restore habitat for federal trust species (migratory birds, interjurisdictional fish, federally listed species). The program provides financial and technical assistance to landowners. Project sites are kept confidential for landowner privacy reasons.	\$203,118
2011	U.S. Forest Service		Using Hybrid Poplar Tree Farms to Reduce Toxics	Delta Institute	Poplar tree farms for reducing toxics in brownfield sites while supporting community economic development	\$203,733
2011	USFWS		Assays for Determining the Distribution of Viral Hemorrhagic Septicemia Virus	Michigan State University	This research will work to determine VHSV distribution within the Great Lakes and which components of the ecosystem contribute to its spread by focusing on a VHSV hotspot. These actions will help develop a better understanding of VHSV ecology, which is a priority for the development of fish health control plans and therefore of paramount importance in the Great Lakes.	\$245,134
2011	USEPA		Harmful Algal Bloom Mapping for the Great Lakes	Michigan Technological University	Using satellite imagery, tested algorithms for image analysis, and other ancillary data, Michigan Technological University (MTU) will create baseline maps of the areal extent and duration of harmful algal blooms for all five Great Lakes for the period 2008-2012. MTU will share these maps and analyses with Great Lakes agencies, community groups and other stakeholders. MTU will also develop and share a Standard Operating Procedure so that a consistently-applied methodology can continue to be used to update the maps after project completion.	\$281,612
2011	USFWS	Endangered and Threatened Species	Endangered Species Recovery Funding	FWS East Lansing Field Office	FWS East Lansing Field Office invested in existing cooperative agreements to implement recovery actions for piping plover, Kirtland's warbler, and copperbelly watersnake.	\$311,500

2011	USFWS	Great Lakes Wind Power: Making it Migratory Bird-friendly			Marine RADAR mobile units are being used to survey avian migration over lake shorelines in approximately a three-mile distance inland from Great Lakes waters. Data obtained from the surveys will be analyzed and incorporated into a spatial model to predict areas of relatively high and low risk for birds, relative to wind power development. This data will be shared with State DNRs, State Power Siting Authorities, Federal regulatory agencies (such as the Corps of Engineers), the Great Lakes Commission's Wind Collaborative and other partners to aid in siting of wind power projects to protect migratory birds. Further, the data gained from the studies will identify areas where further analysis is necessary to ensure that wind power is developed in a manner protective of migratory birds.	\$499,000
2011	USEPA		Assessing Michigan's Beneficial Use of Sport-Caught Fish	Michigan Department of Community Health	The Michigan Department of Community Health (MDCH) will partner with the Michigan Department of Environmental Quality (MDEQ) and Michigan's 14 Area of Concern Public Advisory Councils (PACs) to assess progress toward removal of three Beneficial Use Impairments: Fish Consumption Advisories, Tainting of Fish Flavor, and Fish Tumors and Other Deformities. Fish samples will be analyzed for polychlorinated biphenyls, mercury and dioxins. MDCH and MDEQ will evaluate the fish contaminant data and make recommendations for further action. Community-specific public outreach to promote safe sport-caught fish consumption will be developed and implemented by the state and the	\$500,000
2011			State Aquatic Nuisance Species Management Plan		Implementation of the state's Nonindigenous Aquatic Nuisance Species (ANS) State Management Plan	\$1,013,867