

Recovery Land Acquisition

Section 6 Grant Proposal

E-9-L - 1

**Windy Bar Island (Schenimann Chute) Acquisition
Pallid Sturgeon Recovery
Cape Girardeau County, Missouri**

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Recovery Land Acquisition Section 6 Grant Proposal

PROJECT TITLE:

Acquisition of the Windy Bar Island Side Channel Complex, an Important Resource for Pallid Sturgeon Recovery on the Middle Mississippi River, Cape Girardeau County, Missouri

PROJECT NEED:

Pallid Sturgeon (*Scaphirhynchus albus*) populations have undergone severe declines due to riverine habitat modifications, commercial harvest, and inflow of pollutants. The species was listed as endangered by the U.S. Fish and Wildlife Service (USFWS) on September 6, 1990 (Federal Register 55:36641-36647) over its entire range. The federal Recovery Plan was completed in 1993, and the Missouri Department of Conservation (MDC) has been an active participant on the recovery team. Department efforts are led by a state management plan completed in 1995. That plan identifies the need to continue to work with other state and federal agencies on riverine habitat protection, restoration and enhancement. Acquisition of the Windy Bar Island/Side Channel Complex will accomplish goals of the recovery plan and the state management plan.

Pallid Sturgeon in the Middle Mississippi historically occupied a large, dynamic river system characterized by a shifting braided channel with a diversity of habitat types (USFWS 1993). Floodplains, backwaters, chutes, sloughs, islands, and sandbars of various successional stages, and main-channel communities provided important habitats for pallid sturgeon and other native big-river fishes.

The Middle Mississippi River (MMR) is specifically the reach of the Mississippi River that stretches from the confluence with the Missouri to the confluence with the Ohio near Cairo, Illinois. Today this stretch of the Mississippi River is a much different river system than it was historically with wing dikes, revetments, a dedicated navigation channel, and extensive levee systems that have disconnected the river from its floodplain and greatly modified the habitat types available for pallid sturgeon.

This project proposes acquisition of the Windy Bar Island Side Channel Complex to protect and enhance habitats for pallid sturgeon recovery. Windy Bar Island and Schenimann Chute restoration will provide enhanced habitats that are addressed in the priority needs for pallid sturgeon recovery (Quist et al. 2004) including 1) diverse habitat areas including gravel which are important for pallid sturgeon reproduction 2) low velocity side channel and off main channel habitats that are known rearing habitats for many sturgeon species including pallid sturgeon and 3) a mechanism for agency collaboration among entities for recovery of pallid sturgeon.

Currently, closing structures and wing dikes within and adjacent to the complex deflect much of the flow to the main channel to support navigation. As river stage fluctuates, these structures increase siltation and create lentic or "lake-like" habitats that are not preferred by pallid sturgeon. During low flow conditions the Side Channel Complex becomes a series of isolated lake-like pools. With acquisition, existing habitats of the Windy Bar Island Side Channel Complex will be enhanced by re-connecting the Side Channel Complex to main river flow increasing access of all life stages of pallid sturgeon to preferred riverine habitats. The acquisition of Windy Bar Island is also important for the recovery of numerous Species of Conservation Concern (both Federal and State listed species) including interior least terns that utilize the sandbars of the islands for nesting; Indiana bats that likely utilize the riverfront forest natural communities for their life history requirements; a suite of imperiled native fishes that utilize Schenimann Chute; and migratory waterbirds, shorebirds, and neotropical migrants that will utilize the island and side channel complex as a stop over on the Mississippi Flyway. The big river island habitats provided

by Windy Bar have been documented to support assemblages of imperiled river fishes and invertebrates including; pallid sturgeon, sicklefin chub, blue sucker, river darter, ghost shiner, mooneye, plains minnow, crystal darter, and Ohio shrimp.

The acquisition of Windy Bar is a strategic conservation goal for the Middle Mississippi River Partnership and the Missouri Department of Conservation. The Middle Mississippi River Partnership is a collaboration of sixteen federal/state agencies and not-for-profit organizations that have the common goal of restoring and enhancing the natural resources of the river corridor from St. Louis, Missouri to Cairo, Illinois.

The Middle Mississippi River Partnership consists of the following agencies and organizations:

American Land Conservancy	Upper Mississippi and Great Lakes Region
Ducks Unlimited, Inc.	Joint Venture
Illinois Department of Natural Resources	US Army Corps of Engineers, St. Louis District
Illinois Forestry Development Council	USDA Fish and Wildlife Service
Illinois Society of American Foresters	USDA Geological Survey
Missouri Department of Conservation	USDA Forest Service
Southern Illinois University Carbondale	USDA Natural Resources Conservation Service
The Conservation Fund	Wildlife Forever
The Nature Conservancy	

The Missouri Department of Conservation is an active member of this partnership. (See the following web address for additional information pertaining to the Middle Mississippi River Partnership: <http://www.swircd.org/swircd/projects/MMRP.htm>).

The vision of the Partnership for this corridor is:

A network of diverse and sustainable natural resources on public and private lands in the Middle Mississippi River corridor that adequately supports wildlife habitat and provides conservation benefits consistent with a variety of other uses.

The Middle Mississippi River Partnership Plan identifies the need to, “*Protect existing aquatic habitat through conservation easements or by land acquisition from willing sellers.*” Acquisition of Windy Bar Island will expand the conservation network in the MMR and contribute towards the attainment of goals set forth in the Middle Mississippi River Partnership Plan. This plan champions three main aquatic habitat goals.

(Aquatic Habitat Goal 1)

- Use the Middle Mississippi River Side Channel Report to determine priorities for protecting side channel areas.
- Provide diverse off channel habitat every 5-7 miles in the Middle Mississippi River

(Aquatic Habitat Goal 2) “Restore aquatic habitat in priority areas.”

- Rehabilitate or create side channels using priorities established in the Middle Mississippi River Side Channel Report.

- Identify side-channels where woody structure is needed and implement a plan incorporating a variety of designs to provide woody structure within open river side-channels.

(Aquatic Habitat Goal 3) “Management of aquatic resources to ensure sustained values and functions and a diversity of species in the corridor.”

- Develop and implement a monitoring program that provides information needed for evaluating the health and diversity of aquatic species and habitat in the corridor.
- Identify channel sites with chronic dredging needs and seek alternatives for reducing sediment accumulation, and thus need for dredging over the next 10 years.

See attachment No. 1 *Water and Wetlands*, borrowed from the Middle Mississippi River Partnership Coordination Plan to discern the side channel restoration priority placed on Schenimann Chute.

Addition of Windy Bar Island to the network of conservation land holdings within the floodplain of the MMR will support a number of recovery goals for imperiled species, support the dynamic Middle Mississippi River Partnership, and provide a recreational resource on the Middle Mississippi.

Windy Bar Island is an important station on the Mississippi River for the research programming of the Big Rivers and Wetlands Field Station. The field station is one of several Long Term Resource Monitoring (LTRM) field stations developed as an element of the U.S. Army Corps of Engineers’ Environmental Management Program. The Long Term Resource Monitoring Program is being implemented in the MMR in part by the Big Rivers and Wetlands Field Station with guidance provided by the U.S. Army Corps of Engineers.

The Long Term Resource Monitoring Program provides decision makers and partner agencies with the information needed to maintain the MMR as a viable multiple-use large river ecosystem.

The Big Rivers and Wetlands Field Station has conducted surveys for imperiled fishes, herpetiles, invertebrates, and have conducted extensive environmental monitoring in the MMR; thereby establishing the Windy Bar Island Side Channel Complex as an important ecosystem resource in the MMR. Research conducted by the Field Station has allowed the Missouri Department of Conservation and conservation partners in the Middle Mississippi River Partnership to effectively determine the most important stations on the MMR for restoration and land acquisition for conservation purposes.

Schenimann Chute side channel and Windy Bar Island are located along the right descending bank between river miles 62.5 -56.5 (Topographic and Aerial Maps, Attachment 2,3 respectively). The side channel is unique in that it has an interior tributary on the upper end, which drains hundreds of acres of wooded upland. The tributary (Bainbridge Creek), is a wet weather stream and may be inundated by the Mississippi River at high river stages. The side channel is dissected by closing structures, which create four distinct and isolated chambers during moderate to low river stages. At this time Schenimann Chute is a high-flow side channel of the Mississippi River. The closing structures have promoted the deposition of sediment within the side channel decreasing the available habitat for big river fishes, degrading the free flowing off-channel aquatic habitats provided by the side channel, and significantly impacting the shallow, slow current velocity habitats at the lower end of Schenimann Chute.

Windy Bar Island is located three river miles upriver from MDC’s Red Star Access; 10 river miles upstream from MDC’s Headwater Access on the Diversion Channel; 4.5 river miles south of Moccasin Springs Boat Ramp at Trail of Tears State Park (Missouri Department of Natural

Resources); 14 river miles north of the access at Thebes, Illinois; and 18 river miles from the Grand Tower boat ramp at Grand Tower, Illinois. The most southerly extent of the island chain is located 5 river miles from the Cape Girardeau riverfront and 3 miles from the Cape Girardeau city limits. The island is approximately 10 miles from the city limits of Jackson, Missouri. The Red Star and Moccasin Springs accesses are the most commonly utilized watercraft access points for anglers, waterfowl hunters, deer, and turkey hunters that visit Windy Bar Island. Windy Bar is well known for producing trophy class whitetail deer and will likely receive significant use of the area during Missouri's deer season. The Island will also receive visitation during the spring turkey season. Waterfowl hunters characteristically hunt the side channel of the island or the open river. It is expected that waterfowl hunters will utilize the area should MDC gain control of the property. Presently the property is limited to the general public's use due to hunting leases. Department development of the tract as a Conservation Area will promote the use of the site by a diversity of area users. Acquisition of Windy Bar Island would provide additional recreational opportunities in close proximity to the urban centers of Cape Girardeau and Jackson.

Windy Bar Island is extensively forested with approximately 90 percent of the island chain composed of riverfront forest or wet-mesic bottomland forest natural communities. Forested ephemeral wetlands, sandbar, and streambank/riverbank communities compose the remaining cover types that can be encountered on Windy Bar. River side-channel (Schenimann Chute) adjoins approximately 5 miles of the western boundary of the property and is less than 100 feet in channel width. Approximately 700 acres of riverfront forest are present on Windy Bar Island; other community types vary in areal extent due to fluctuating river stages. Sand bars may compose significant additive acreage at low river stages.

Previously the property was under the ownership of Westvaco Corporation and was utilized for the production of wood products, predominantly for the pulp wood industry. The property is currently owned by Cypress Creek LLC of Sturgis, Kentucky. The property is leased for hunting at this time and is essentially an unmanaged riverfront forest.

PROJECT OBJECTIVES:

Windy Bar Island Side Channel Complex lies within the Cape Hills profiled Conservation Opportunity Area as identified in the Missouri Comprehensive Wildlife Conservation Strategy (Cape Hills Conservation Opportunity Area, Attachment 4) and has been identified by a number of our conservation partners (MoDNR, US ACE, NABCI, IBA, TNC etc.) as an important area for conservation action (Conservation Network and Geographic Priorities, Attachment 5). Windy Bar Island has significant "off-channel" habitat running the length of the property and has exceptional potential for projects which will create and enhance habitat diversity for assemblages of native fishes within this side-channel. Located in close proximity to other units of the developing Middle Mississippi River National Wildlife Refuge, Windy Bar Island would provide another link in the chain of protected floodplain habitats that includes Wilkinson Island, Beaver Island, and the Rockwood and Kaskaskia Island units. Windy Bar Island lies directly across the river from Devil's Island Wildlife Management Area (RM 55 to RM 60.5) and Picayune Chute an island and side channel complex that was acquired by the Illinois Department of Natural Resources from the American Land Conservancy in 2003. Addition of Windy Bar Island to this conservation network will provide a vital migratory corridor for 160 species of neo-tropical migratory birds, provide important island habitats for interior least terns, and will provide a braided island/side-channel complex to promote the recovery of native big-river fish populations including pallid sturgeon.

The primary objectives of this proposal are to:

- 1.) Acquire in fee title the 705-acre Mississippi river island chain through a joint closing contract with American Land Conservancy and Cypress Creek LLC for the intended

purpose of establishing a Conservation Area to be owned and managed by the Missouri Department of Conservation.

- 2.) Initiate restoration actions within the side channel; working in cooperation with conservation partners in the Middle Mississippi River Partnership. Re-establish flow between individual chambers within the side channel. Re-connect the side channel to the main river at every opportunity and utilize the energy of the river to scour for substrate diversity and to create depth. Restoration actions may include the addition of woody structure within the side channel to provide habitats for big-river fishes.
- 3.) Monitor populations of native fishes and assess habitat utilization during and following side-channel restoration actions.

EXPECTED RESULTS OR BENEFITS:

This project will effectively protect and enhance habitats that support federally endangered pallid sturgeon within the Middle Mississippi River, endangered interior least terns, and potentially Indiana bats. Acquisition of this river island chain will also provide habitats for migratory waterbirds, neotropical migrants, and populations of big-river fishes.

Expected Result or Benefits Approaches:

- 1.) Acquisition of Windy Bar Island will provide a Conservation Area in close proximity to the Cape Girardeau/Jackson urban center. This Area will provide green space near Cape Girardeau on a river corridor that is rapidly industrializing. The island will provide recreational opportunities typical of other MDC conservation areas but will have access predominantly afforded by watercraft. Windy Bar will provide many resource benefits including providing habitats for Species of Conservation Concern, habitats for migratory bird species, and habitats for game species.
- 2.) Side channel restorations will greatly augment the free flowing side channel system. Improving connectivity with the main channel will improve sediment transport, increase substrate diversity, improve habitat structure for native fishes, and create aquatic habitat over a larger range of flow conditions. This improved habitat diversity will enhance the capacity of Schenimann Chute to support and recruit native fish assemblages.
- 3.) It is anticipated that side channel restoration will improve native fish populations. Pre-restoration data has been collected extensively by resource scientists of the Big Rivers and Wetlands Field Station providing a baseline to gauge restoration success and compare future trends in fish populations within the island and side channel complex. Monitoring will be conducted during the restoration project in close collaboration with the US Army Corps of Engineers and will continue following the completion of the primary engineering projects prescribed for the island and side channel.

PROJECT APPROACH:

The initial project focus will be on land acquisition. Land acquisition activities within MDC will follow established policy and procedures. Appraisals will be conducted according to Uniform Appraisal Standards for Federal Land Acquisitions. A negotiated contract describing terms and conditions of the sale will be developed and signed with the added contingency that Conservation Commission and Federal Aid approval is required before the sale can be completed. Once the sale is closed, language will be added to the deed indicating any federal interest.

The area will be officially assigned to and managed by MDC's Wildlife Division, but management, monitoring, and project planning will be jointly conducted by MDC's Forestry,

Resource Science, and Fisheries Divisions. Restoration actions within the Schenimann Chute side channel will be conducted cooperatively with conservation partners of the Middle Mississippi River Partnership.

Because Windy Bar Island is a relatively isolated property, not adjoining other MDC properties, MDC will draft a management plan for the site. Windy Bar Island will become a new conservation area with its own dedicated area plan document. Area plan preparation is accomplished with a multi-disciplinary team of foresters, wildlife biologists, resource scientists, conservation agents, and other requisite MDC staff members. An area plan will be developed within 12 months following successful closing on the property. The wildlife work team based out of the Southeast Regional Office in Cape Girardeau will be responsible for the administration of this conservation area.

Upon acquisition, MDC will post and maintain the boundaries of the property, develop area regulations, and conduct habitat management and restoration projects on the parcel. Habitat restoration goals identified within the area plan will be accomplished via interagency coordination and through internal MDC operations.

Primary Objective Approaches:

- 1.) Realty Services and members of the Realty Committee (and/or their appointees) will conduct the necessary coordination to successfully conduct the exchange of property from Cypress Creek LLC to the Missouri Department of Conservation. The federal aid coordinator and others will coordinate the requisite federal program requirements specified by the USFWS pertaining to this grant.

- 2.) Side channel restoration operations will require extensive interagency coordination with the US Army Corps of Engineers. The Schenimann Chute side channel has been identified by the Corps as an important ecosystem restoration project in the MMR. Restoration of the Schenimann chute side channel has been tested by the US Army Corps of Engineers using micro model techniques in 1996 (Gordon and Davinroy 2000). Plans developed as a result of this testing are awaiting construction funding. The Schenimann Chute side channel restoration is also identified in the Navigation and Ecosystem Sustainability Program (NESP); the project is currently on hold pending construction authorization.
(NESP website: <http://www2.mvr.usace.army.mil/UMRS/NESP/default.cfm>).

- 3.) Assessment of the success of side channel habitat improvements will be carried out by resource scientists based out of the Big Rivers and Wetlands Field Station, as well as MDC fisheries division, and wildlife staff members. Continued monitoring for Species of Conservation Concern will be conducted within the side channel, the adjoining main channel, and upon the island proper. Population trends will be assessed to determine if restoration activities are benefiting imperiled species.

SCHEDULE:

Task	Year 1	Year 2	Year 3
Purchase property	X		
Area plan development	X		
Side-channel restoration operations		X	X
Woody cover added		X	X
Boundary posting and maintenance	X	X	X
Monitoring	X	X	X
Riverfront forest timber restoration		X	X

KEY PERSONNEL:

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LOCATION:

The 705-acre Windy Bar Island tract is located in Cape Girardeau County, Missouri in portions of T31,32 N, R14,15E S6,7,13,18, 19, 25, 36 (Attachment 1). The property has approximately 700 acres of riverfront forest the remainder wetlands and sandbar habitats (Attachment 2). The property is an island in the Mississippi River located between river miles 62.5 to 56.5.

ESTIMATED COSTS:

	Year 1	Year 2	Year 3	Total
Land Acquisition	\$511,000			511,000
Management Costs:				
Permanent Salaries	\$15,000	\$15,000	\$15,000	\$45,000
Fringe benefits (54.06%)	\$8,109	\$8,109	\$8,109	\$24,327
Hourly Salary	\$5,000	\$5,000	\$5,000	\$15,000
Fringe benefits (9.34%)	\$467	\$467	\$467	\$1,401
Expense	\$10,000	\$6,000	\$4,000	\$20,000
Indirect Costs (26.43%)	\$10,196	\$9,138	\$8,610	\$27,944
Totals	\$559,992	\$43,714	\$41,186	\$644,672

Indirect costs are applied to management activities only.

Federal Share:	\$483,504
State Share:	<u>\$161,168</u>
Total Grant Costs:	\$644,672

Salaries include permanent, term or hourly staff time to administer the grant and to perform management activities such as posting boundaries, habitat management, or surveys and monitoring work. Expenses include boundary signs, area brochure printing, herbicide for habitat improvement, fish nets, water quality and monitoring supplies.

REFERENCES:

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Region 3 Endangered Species Section 6 Recovery Land Acquisition Project

Windy Bar Island (Schenimann Chute) Acquisition: Pallid Sturgeon Recovery Cape Girardeau County, Missouri

E-9-L-1 Grant Segment Work Plan

Date Prepared: Aug 20, 2007

Segment Duration: 1 October 2007 – 30 September 2010

Objectives and Tasks:

- 1) Acquire in fee title the 705-acre Mississippi river island chain through a joint closing contract with American Land Conservancy and Cypress Creek LLC for the intended purpose of establishing a Conservation Area to be owned and managed by the Missouri Department of Conservation.
- 2) Initiate restoration actions within the side channel; working in cooperation with conservation partners in the Middle Mississippi River Partnership. Re-establish flow between individual chambers within the side channel. Re-connect the side channel to the main river at every opportunity and utilize the energy of the river to scour for substrate diversity and to create depth. Restoration actions may include the addition of woody structure within the side channel to provide habitats for big-river fishes.
- 3) Monitor populations of native fishes and assess habitat utilization during and following side-channel restoration actions.

Work Schedule (Three Years):

Task	Year 1	Year 2	Year 3
Purchase property	X		
Area plan development	X		
Side-channel restoration operations		X	X
Woody cover added		X	X
Boundary posting and maintenance	X	X	X
Monitoring	X	X	X
Riverfront forest timber restoration		X	X

Project Cost:

	Year 1	Year 2	Year 3	Total
Land Acquisition	\$511,000			511,000
Management Costs:				
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