

**U.S. Army Corps of Engineers
Fiscal Year 2015
Handshake Program Application**

Please review instructions before completing application!

Corps Lake/Project Name: **Smithville Lake**

Handshake Proposal Title: **Erosion Reduction & Sediment Prevention Project**

Corps POC Name: **Derek Dorsey**

Telephone: **(816) 389 - 3947** ext.

E-Mail: **derek.r.dorsey@usace.army.mil**

A. Eligibility checklist:

1. Will the Handshake funds be spent on Corps facilities and resources that are being fully maintained by the Corps? * Yes No
2. Will the Challenge Partnership agreement be with a non-federal public or private entity(ies)? * Yes No
3. Is the proposed activity within current authorities and contained in the annual or 5-year work plan in the approved lake project OMP? ** Yes No

**If "No" to any of the above questions the proposal cannot be authorized under the Corps' challenge partnership authority.*

B. Handshake Funding Request (maximum \$30,000): \$30,000.

C. Cooperative Agreement Bonus: Challenge Partnerships that include a Cooperating Association with which your project/district has entered into a Cooperative Agreement are eligible to compete for an additional \$5000. A copy of that agreement is not needed with this application, but may be requested if not already provided to the Partnership Team. (Reference Chapter 9 of ER and EP 1130-2-500 for information on cooperating associations).

This application wishes to compete for the Cooperative Agreement Bonus funding.

This application does NOT qualify for the bonus funding.

D. Incentive Points Category: Check the box if your application qualifies to receive bonus points on the evaluation score for partnering with three or more partners. A summary of the partners' contribution to the Handshake Project should be included in the financial worksheet below.

Application includes 3 partners (25 bonus points)

Application includes 4 partners (40 bonus points)

Application includes 5 partners (50 bonus points)

Application includes 4 partners (50 bonus points for the first 5 partners plus 10 points for each additional partner). Total bonus points 40.

E. Describe your partnership and the proposed project:

Your project will be evaluated on the following categories: Sustainability, Partnership Value, Recreation Benefit, Environmental Stewardship Benefit, Communication and Education Value, and Innovativeness. Please address each in your description.

Summary Statement of Handshake Project:

The purpose of this project is to reduce the amount of erosion taking place on USACE property and reduce the sedimentation that is entering Smithville Lake. By products of this project includes improving the water quality, increased recreational opportunities and providing additional suitable habitat for amphibians, reptiles, fish, waterfowl, upland birds and a variety of other wildlife. The project proposal includes removing a 50-acre crop lease from the agricultural lease program. The crop fields contain highly erodible ground with poor soils for growing crops. The crop fields will be planted with warm season grasses that will stabilize the soils and provide beneficial habitat for a variety of wildlife. The project also includes repairing two dilapidated man made 5-acre wetlands. Two new water level control structures will be installed in order to properly manage the water levels. The wetland dikes will also be graveled for ease of access and nearby horse/hiking trails will be incorporated to cross over the wetland dikes. The graveled dike tops will provide soil stability for Corps staff to access the water level control structures along with providing additional access for the public to utilize the wetlands. Both wetlands will also have additional dirt and rock mounds installed along with large logs to provide additional habitat. The project also includes the rehabilitation of two ponds (3 and 4 acres) located in Honker Cove Waterfowl Refuge. Both ponds need new emergency overflow structures installed along with the dams repaired from tree growth and muskrat dens. The pond floors will be restructured to provide shallow and deep water habitat. The pond dams will be armored with rip-rap to prevent muskrat damage. The pond dams will be graveled to connect each other along with a gravel trail will be constructed to the nearest public parking area. The Missouri Department of Conservation plans to stock the ponds with fish. Brush piles, rock piles, goose tubs, wood duck boxes, bird houses and benches will be installed at the two wetland locations and both pond locations by Boy Scout Troop 1412. The project also includes armoring 2,200 feet of shoreline with 4,000 tons of rip-rap on some the lakes most highly eroded points. The stabilization of the shoreline will increase water quality as well as provide the lake with additional shallow water habitat. The Handshake grant funding would be utilized to help fund all of the projects listed above.

Sustainability description:

The two wetland and pond renovation projects will provide healthy, diverse, long lived ecosystems. The 50-acre warm season grass planting project will also provide diverse habitat for a large variety of wildlife. The warm season grass planting will be incorporated into our control burn program in order to strengthen the grasses and help eradicate invasive woody species like black locust and russian olive. The shoreline stabilization rip-rap will provide a diverse ecosystem for reptiles and provide additional shallow water habitat for fish. The main focus of all four projects are to reduce the sedimentation rate of Smithville Lake and prevent erosion on the surrounding USACE property. The trail systems connecting the ponds to adjacent parking facilities will be incorporated into the adjacent agricultural lease work requirements. The farmer will be required to mow the pond dams and trails twice per year in order to save USACE additional operation and maintenance costs. The shoreline stabilization rip-rap will not require any additional annual maintenance once it is installed. In addition, this project sustains the USACE mission and helps to meet both the America's Great Outdoors Initiative and The Recreation Strategic Plan. The project would also provide longterm learning opportunities for local educational institutions. The University of Central Missouri, William Jewell College and local Smithville Schools have expressed interest in field trips and environmental studies on the proposed projects.

Partnership Value:

The estimated project cost for materials and supplies necessary for the four erosion prevention and sedimentation reduction projects is \$168,000. If selected for the Handshake Funds, Smithville Lake would use \$25,000 for

supplies and materials to support all four projects in the form of water level control structures, gravel, fuel, lumber, warm season grass seed and other miscellaneous supplies. Equipment rental is estimated to be \$5,000 for the pond and wetland projects. The local USACE office would provide \$65,000 in materials and supplies; \$15,000 in labor; \$3,500 equipment usage; and \$10,000 in contractor hired labor. The Missouri Department of Conservation (MDC) would provide approximately 270 largemouth bass, 1,000 bluegill and 180 catfish. MDC's contributions are estimated at \$4,000 in fish stocking in the two ponds and \$1,000 in labor. Clay County Parks and Recreation would provide \$20,000 in rip-rap; \$3,500 in labor to install the rip-rap; and \$2,500 in equipment use. Boy Scout Troop 1412 would provide \$10,000 in-kind labor to fulfill two Eagle Scout projects and several troop projects by building and installing goose tubs, wood duck boxes, bird houses, benches, brush piles and rock piles. William Jewell College has proposed to provide several scientific studies on the native warm season grass plantings and possibly study the intraspecific variability in relative bark thickness in proportion to inner bark thickness in the surrounding trees. William Jewell College's work in kind would be approximately \$3000 with travel costs estimated at \$500. The proposed projects would not be possible without our partners and stakeholders. Their willingness to participate in such a large project shows their dedication to the environment and Smithville Lake.

Recreational Benefit:

This project directly creates and supports a variety of recreation activities in a number of ways. All four proposed projects would attract bird watchers, photographers, hikers, horse riders, fisherman and hunters. Once the pond projects are complete with construction and fish stocking, we plan to host fishing clinics at both pond locations for kids and disabled fisherman. The shoreline stabilization portion of the project would provide recreational benefit to the anglers by providing more habitat for fish in Smithville Lake. The increased habitat would allow the fish access to diverse habitats increasing Smithville Lake's fishery. A stronger fishery could draw and support more anglers to the lake. Recreational camping around Smithville Lake is expected to increase because large numbers of the boaters, anglers and hunters that utilize Smithville Lake are not local residents and would use the available campgrounds. The final benefit from the increased recreation around Smithville Lake would be to the local economy and small businesses. By increasing the number of lake users the amount of tourism dollars making its way into the surrounding communities would be significant.

Environmental Stewardship Benefit:

The proposed projects will contribute to the improvement of natural resources by providing beneficial and long-term habitat to the aquatic and terrestrial ecosystems in and around Smithville Lake. The projects will also drastically reduce sediment loads entering the lake in the areas where surface water interacts with the erosion prevention projects; improve the fishery and provide additional habitat for invertebrates, amphibians, reptiles, waterfowl and a variety of upland wildlife; and the project will also improve USACE's Environmental Stewardship mission by providing increased recreational opportunities to the fishing, hunting, and boating activities that occur in and around Smithville Lake.

Communication & Education Value:

Communication and Education concepts are key components of this proposed project. The projects are considered a valuable asset to allow researchers and students to observe the long-term benefits to habitat enhancement while still supporting recreation and local economies. Professors and research students from William Jewell College, University of Central Missouri and Smithville Area Schools have expressed an interest in studying and quantifying colonization of the erosion prevention structures that would be added to the area by this project. Students will have a chance to compare erosion rates in areas that have had the bank stabilized to those that remain unprotected. Students will have opportunities to make qualitative observations about the number of organisms utilizing the erosion reduction projects. The Communication and Education benefits resulting from this project would illustrate to students that conservation efforts can significantly benefit the environment, area recreation and local economies.

Innovativeness:

The Smithville Lake Erosion/Sediment Prevention Project is innovative because it attacks four different erosion sources at four different locations with four different specific solutions and provides a multitude of other recreational benefits at the same time. The project targets the two wetland repairs and two pond renovations in locations where runoff into the wetlands is filtered through the wetland and clean, healthy water is deposited into Smithville Lake. The ponds serve as sediment retention basins that prevent large amounts of sediment loads from entering the lake during excessive rainfall periods. The project targets the repair of 50 acres of eroded crop fields by planting native warm season grasses. The project attacks the shoreline erosion problem at its source by placing rip-rap along the shoreline of highly eroded lake points to prevent water levels and wave action from eroding the soil and depositing thousands of metric tons of soil into the lake basin.

Concluding statement:

Smithville Lake is located in Clay and Clinton County, Missouri (39.395678, -94.555635). Smithville Lake is a 7,190-acre USACE owned reservoir located just north of Kansas City, Missouri. The lake was completed in 1982 and currently attracts thousands of water enthusiasts, including thousands of anglers, with 1.3 million visitors annually. The lake's primary purpose is for flood control and as a result, often experiences large water level fluctuations and inflows containing high sediment loads. Like many reservoirs across the country, erosion within the drainage area and sediment loads in the lake have significantly degraded the storage capacity, eroded cultural resources and infrastructure such as water and power lines. The four proposed projects would provide the lake with additional recreational opportunities along with preventing erosion and reducing the high sediment loads entering the lake in areas around the proposed projects. The partnership between U.S. Army Corps of Engineers, Clay County Parks Department, Missouri Department of Conservation, William Jewell College and the Boy Scout Troop 1412 is well established and has proven successful in achieving previous project goals.

Challenge Partnership Financial Work Sheet

Corps Project Name: Smithville Lake

Work Project Title: Erosion Reduction and Sediment Prevention Project

POC Name: Derek Dorsey

Address: P.O. Box 428

City: Smithville

State: MO Zip Code: 64089

Telephone: 816 - 389 - 3947 x

Location of Project: Smithville, Missouri, Honker Cove Waterfowl Refuge, Public Access Points 22 and 31.

Partner Organization 1: Missouri Department of Conservation

POC Name: Scott Ryan

Address: 701 James McCarthy Drive

City: St Joseph

State: MO Zip Code: 64507

Telephone: 816 - 271 - 3100 x

Partner Organization 2: Clay County Department of Parks, Recreation, and Historic Sites

POC Name: Karl Walters

Address: 17201 Paradesian St

City: Smithville

State: MO Zip Code: 64089

Telephone: 816 - 407 - 3302 x

Partner Organization 3: Boy Scout Troop 1412

POC Name: David Manka

Address: 201 N Bridge Street

City: Smithville

State: MO Zip Code: 64089

Telephone: 816 - 810 - 0242 x

Partner Organization 4: William Jewell College

POC Name: Jennifer Schafer

Address: 500 College Hill

City: Liberty

State: MO Zip Code: 64068

Telephone: 816 - 415 - 7616 x

Partner Organization 5:

POC Name:

Address:

City:

State:

Zip Code:

Telephone: - - x

Partner Organization 6:

POC Name:

Address:

City:

State:

Zip Code:

Telephone: - - x

Partner Organization 7:

POC Name:

Address:

City:

State:

Zip Code:

Telephone: - - x

Partner Organization 8:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Partner Organization 9:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Partner Organization 10:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Partner Organization 11:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Partner Organization 12:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Partner Organization 13:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Partner Organization 14:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Partner Organization 15:

POC Name:

Address:

Telephone: - - x

City:

State:

Zip Code:

Double click on spreadsheet to access data entry fields and to enter Partner names:

	Local Corps Office	Handshake Funds	MDC	Clay County Parks	Boy Scout Troop 1412	William Jewell College
Salaries	\$15,000	N/A	\$1,000	\$3,500	\$0	\$0
Travel	\$0	N/A	\$0	\$0	\$0	\$500
Materials and Supplies	\$65,000	\$25,000	\$0	\$20,000	\$0	\$0
Equipment Use	\$3,500	\$5,000	\$0	\$2,500	\$0	\$0
Funds Contributed	N/A	N/A	\$0	\$0	\$0	\$0
Personal Property	N/A	N/A	\$0	\$0	\$0	\$0
Volunteer	N/A	N/A	\$0	\$0	\$0	\$0
In-Kind Services	N/A	N/A	\$4,000	\$0	\$10,000	\$3,000
Other (explain below)	\$10,000	\$0	\$0	\$0	\$0	\$0
Total	\$93,500	\$30,000	\$5,000	\$26,000	\$10,000	\$3,500
Share of Total Cost	55.7%	17.9%	3.0%	15.5%	6.0%	2.1%

	Partner 5	Partner 6	Partner 7	Partner 8	Partner 9	Partner 10
Salaries	\$0	\$0	\$0	\$0	\$0	\$0
Travel	\$0	\$0	\$0	\$0	\$0	\$0
Materials and Supplies	\$0	\$0	\$0	\$0	\$0	\$0
Equipment Use	\$0	\$0	\$0	\$0	\$0	\$0
Funds Contributed	\$0	\$0	\$0	\$0	\$0	\$0
Personal Property	\$0	\$0	\$0	\$0	\$0	\$0
Volunteer	\$0	\$0	\$0	\$0	\$0	\$0
In-Kind Services	\$0	\$0	\$0	\$0	\$0	\$0
Other (explain below)	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0
Share of Total Cost	0.0%	0.0%	0.0%	0.0%	0.0%	0

	Partner 11	Partner 12	Partner 13	Partner 14	Partner 15	Total
Salaries	\$0	\$0	\$0	\$0	\$0	\$19,500
Travel	\$0	\$0	\$0	\$0	\$0	\$500
Materials and Supplies	\$0	\$0	\$0	\$0	\$0	\$110,000
Equipment Use	\$0	\$0	\$0	\$0	\$0	\$11,000
Funds Contributed	\$0	\$0	\$0	\$0	\$0	\$0
Personal Property	\$0	\$0	\$0	\$0	\$0	\$0
Volunteer	\$0	\$0	\$0	\$0	\$0	\$0
In-Kind Services	\$0	\$0	\$0	\$0	\$0	\$17,000
Other (explain below)	\$0	\$0	\$0	\$0	\$0	\$10,000
Total	\$0	\$0	\$0	\$0	\$0	\$168,000
Share of Total Cost	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Explanations: USACE – Other- \$10,000 consists of Contractor hired labor.