

DALE HOLLOW LAKE – TROOPER ISLAND IMPROVEMENT PROJECT
Proposal for
Reservoir Fisheries Habitat Partnership (RFHP)

A. Applicant Information:

US Army Corps of Engineers, Dale Hollow Lake

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B. Project Information:

Description of Location - Dale Hollow Lake borders the Tennessee-Kentucky state line. Dale Hollow Dam and Lake were completed in 1943. Although the dam was built for flood control and power generation, it has become a recreational oasis for more than 3 million visitors each year. The dam is located on the Obey River, about three miles east of Celina, Tennessee. Surrounded by a thick expanse of forest, the clear blue lake creates a scenic backdrop for a variety of water and land recreational activities.

Dale Hollow is also renowned for its fishing opportunities. In addition to yielding the world record Smallmouth Bass and being known as a trophy Smallmouth lake, the Obey River below Dale Hollow Dam is also known for excellent rainbow and brown trout fishing. With 27,700 surface acres of water and 620 miles of shoreline, there is plenty of space for fishermen and other visitors to explore the lake. Secluded tie-ups are located around the shore, offering visitors a peaceful nature experience.

The Dale Hollow National Fish Hatchery is located a short distance below the dam. Operated by the U.S. Fish and Wildlife Service, the hatchery is the largest federal trout hatchery east of the Mississippi, producing 1.5 million trout annually.

Over the years since impoundment, both time and wave action from bigger and faster boats has taken a tremendous toll on the shoreline in critical fishing habitat locations.

Reservoir Region – Southern Appalachians, 36.5373, -85.4506



U.S. Congressional Districts – TN-6 (Rep. Diane Black), and KY-1 (Rep. Ed Whitfield)

Project objective(s):

The work to be performed is planned at the Trooper Island site on Dale Hollow Lake. The planned work will include one the following habitat management activity. *Additional information about the sites will be included on the site map as an attachment to the proposal.*

Bank Stabilization – Rock riprap will be placed in areas that experience significant shore-line erosion. Work will stop siltation and turbidity from erosion, as well as limit excessive nutrients from soils and minerals entering the water. These structures also provide excellent habitat for macroinvertebrates and shelter for young fish.

Estimated on-the-ground start and end dates (not award date):

Bank stabilization work is planned for late summer (August) into the winter (November) of 2016. This time of year is ideal for state and federal agencies, as it is after the busy recreation season and easier to perform work.

Amount of grant requested: \$16,000

Estimated total cost of project: \$48,042

Details under section D. below

List of partners (to be considered a partner they must appear in the budget table and provide either cash or in-kind contributions to the project)

- US Army Corps of Engineers (USACE)
- Trooper Island (Kentucky State Police)
- Tennessee Wildlife Resources Agency (TWRA)
- Reservoir Fisheries Habitat Partnership (RFHP)
- US Fish and Wildlife Service (USFWS) *technical advising*

C. Project Description:

Aquatic Habitat Restoration/Protection

Project Objectives. Bank Stabilization is planned for this habitat improvement project at Dale Hollow Lake. Many places on Dale Hollow are experiencing tremendous bank erosion due to wave action and other lake processes. The proposed mitigation for this erosion is the installation of rock riprap along the shoreline in these places. This will hold the bank in place and prevent further degradation of the shoreline. It will reduce excessive vegetation in these areas, and the rocks will provide refuge for young fish. This method of bank stabilization is selected because it is a natural resources standard method and has proven to be effective. Any funds received from the RFHP would be used to purchase rock for riprap. Rock will be placed using a US Army Corps of Engineers work barge, and work done with crews from Trooper Island and Kentucky State Police from the Trooper Island site. Work will be done by the US Army Corps of Engineers using their work barge on the Sewell Bend site.

Fish species that would benefit from this project: Bass, Crappie, Walleye, Bluegill, and other native warm water species.

Site Specific Information

The Trooper Island Site at Dale Hollow Lake have been identified for habitat improvement

Site	Work to be Performed	Priority Impairments Being Addressed
Trooper Island	400 linear feet of rock riprap bank stabilization	<u>Siltation/turbidity and excessive nutrients</u> <ul style="list-style-type: none">• 400 linear feet of riparian area stabilized;• Significantly reduced sedimentation rate <u>Degraded shorelines and/or loss of sensitive habitats</u> <ul style="list-style-type: none">• 400 linear feet of shoreline habitat created by rock riprap <u>Structural habitat</u> <ul style="list-style-type: none">• Rock structure serves as habitat• Increased use by a children's camp, introducing underprivileged children to outdoor activities.

Monitoring Plan: Monitoring will be completed by USACE staff at Dale Hollow Lake with input from the Trooper Island staff. Monitoring will be conducted for two years following implementation, quarterly if not more frequently. The primary area of interest for the monitoring will be to ensure that the stabilization structures are maintaining the bank in a desired and effective manner. Visual inspections will be completed and recorded to meet the objectives of the monitoring plan

Quality of Life

Dale Hollow Lake crosses the border of Tennessee and Kentucky and is in a rural region of both states. The lake has long drawn in recreational tourism to the area, with guests enjoying the beautiful scenery, quiet countryside, and great fishing. When the lake was impounded the vegetation in the flooded areas created great fish habitat, but as decades have passed, this vegetation has degraded and little structure exists in the lake. This project would help sustain an economy to the region that's driven largely by fishing. Fishing is an activity that can be enjoyed by all generations, making it ideal for families to spend time together. It also promotes outdoor recreation, which has become of increasing importance in younger generations – especially in southern states that have some of the highest obesity rates.

The Trooper Island site is of special note for improving quality of life as it will create habitat along the shoreline of a camp for underprivileged children. This area will give them an improved area to learn the sport and to enjoy time in nature. The camp gives children an opportunity to try new activities that they will hopefully be able to enjoy their whole lives.

Stabilizing areas of eroding shoreline has a direct and immediate impact on ecological health. It will keep the lake intact and reduce the sedimentation into the lake. It will also help preserve and establish riparian vegetation at risk of eroding as well.

Partnerships, Fund Leveraging, and Promotion

The types of work selected for this project were selected not only for their effectiveness, but also for their community involvement in the implementation. Placement of stabilizing riprap will leverage a long running partnership between USACE and TWRA.

Provisions to protect the restoration project site after project completion: The project described in this proposal is designed to be self-sustaining once implemented.

List of required permits: None.

Project timeline: Bank stabilization efforts are planned for fall of 2016. Materials will be purchased with any funds received in the August-November timeframe, and installation done around October-December. Work will be done by loading a USACE barge with rock materials and transporting the riprap by barge to the Trooper Island site. Once there, Trooper Island (Kentucky State Police) funded staff and machinery will place the bank stabilization materials.

Funds Received							
		Bank Stabilization Materials Purchased <i>(funds spent on materials)</i>					
				Bank Stabilization installed			
June	July	Aug	Sept	Oct	Nov	Dec	Jan
2016							2017

D. Budget:

Amount requested through Reservoir Fisheries Habitat Partnership: \$16,000

Amount of in-kind contributions: \$4,522

Categories	Partner Contribution Amount	Cash or In-Kind	Timeline (anticipated date of expenditures)
<i>Reservoir Fisheries Habitat Partnership (RFHP)</i>			
Construction Costs/Materials	\$16,000	Cash	Aug-Nov 2016
<i>US Army Corps of Engineers (USACE)</i>			
Administrative/Technical Services	\$1,536	Labor	August 2015 (planning)
Construction Costs/Materials	\$1,000	Machinery	Aug-Nov 2016
Labor (paid)	\$3,840	Labor	Aug-Nov 2016
Miscellaneous (outreach materials)			
<i>Trooper Island/Kentucky State Police (KYSP)</i>			
Administrative/Technical Services	\$144	Labor	August 2015 (planning)
Construction Costs/Materials	\$8,400	Machinery	
Labor (paid)	\$15,600	Labor	Aug-Nov 2016
<i>Tennessee Wildlife Resources Agency (TWRA)</i>			
Administrative/Technical Services	\$528	Labor	August 2015 (planning)
<i>US Fish and Wildlife Service (USFWS)</i>			
Administrative/Technical Services	\$144	Labor	August 2015 (planning)
<i>Dale Hollow Sport Fish Friday</i>			
Volunteer Services	\$850	Volunteer Labor	Aug-Nov 2016
Total Direct Costs	\$48,042		

* Volunteer labor should be calculated at \$10/hr for age 16 and under; \$18/hr other volunteers; agency staff labor rates @ \$24/hr

Budget narrative:

- Administrative & Planning Costs: These costs are associated with the planning and development of this project

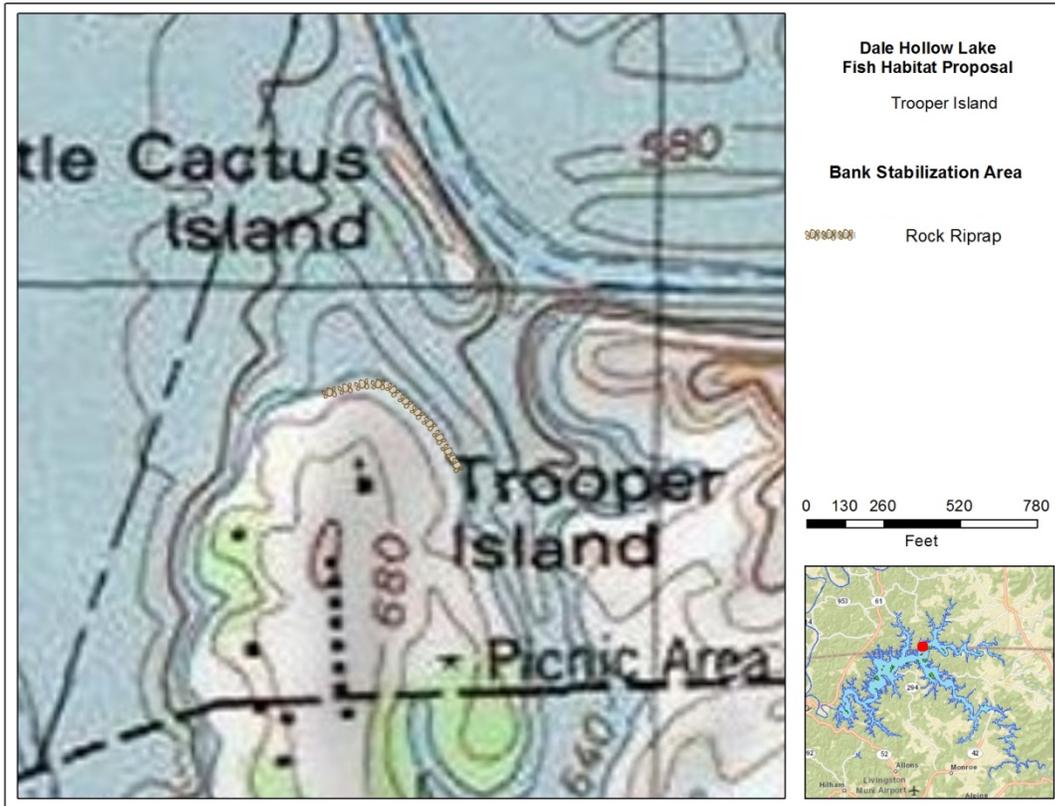
	Unit	Cost per Unit	Total Cost	Sponsored by Non-Federal Entity	Non-Federal Funding Entity
Labor (hrs)					
USACE	64	\$ 24	\$ 1,536		
TWRA	22	\$ 24	\$ 528	\$ 264	TWRA (Mixture of federal and state funding)
Kentucky State Police	6	\$ 24	\$ 144	\$ 144	KY State Police
USFWS	6	\$ 24	\$ 144		
Total			\$ 2,352	\$ 408	

- Trooper Island Site: These costs are the actual materials and installation costs of rock riprap at the project site.

	Unit	Cost per Unit	Total Cost	Sponsored by Non-Federal Entity	Non-Federal Funding Entity
Riprap Bank Stabilization (rock, linear feet)	400	\$ 40	\$ 16,000	\$ 16,000	RFHP
Labor (hrs)					
USACE	160	\$ 24	\$ 3,840		USACE
Kentucky State Police	300	\$ 24	\$ 15,600	\$ 15,600	KYSP
Dale Hollow Sport Fish Friday	45	\$ 18	\$ 850	\$ 850	Volunteer labor from a local sportsman's club
Barge Operation Cost (gas, USACE funded)			\$ 1,000		
Other Large Equipment Cost (Kentucky State Police funded)			\$ 8,400	\$ 8,400	KYSP
Total			\$ 45,690	\$ 40,850	

Optional supporting materials:

1. Map of the proposed project location



2. Aerial or on-the-ground photos of the proposed project site.

Trooper Island – August 2015



