

U.S. Army Corps of Engineers 2009 Handshake Program Application

Eligibility checklist to qualify per ER 1130-2-500, Chapter 12.

1. Is the seed money going to be spent at Corps facilities and resources that are being maintained by the Corps at 100% expense on the day the agreement is signed? **Yes** **No**
2. Is the agreement 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 OMP? **Yes** **No**
4. If no, when will the OMP be updated and approved? (example: Feb 09)

If the answer to either question 1 or 2 is No, the proposal cannot be authorized under the Corps Challenge Partnership program. If the answered to question 3 is No, and the date provided in the answer to question 4 would come after the commencement of the proposed challenge partnership, the activity cannot be considered under this program. Reference application instructions for further clarification.

Highlight a box and press F1 if you need online help to complete any item.

Corps Lake/Project Name: **DeGray Lake Field Office**

Handshake Proposal Title: **DeGray Lake Geo-Trek Interpretive Trail**

Corps POC Name: **Jody Dvorak, Park Manager And Brian Westfall, Natural Resources Specialist**

Street Address: 729 Channel Road

City, state and zip code: **Arkadelphia, Arkansas. 71923**

Telephone: **(870) 246 - 5501 ext. 4006**

Fax: **(870) 246 - 9540**

E-Mail:

brian.c.westfall@usace.army.mil, jody.j.dvorak@usace.army.mil

Partner Organization 1: Chevron

Partner Authorized Official: Dave Mercer

Phone: (832) 854 - 7015 ext.

Partner Organization 2: Schlumberger

Partner Authorized Official: Rick Kear

Phone: (504) 858 - 2444 ext.

Partner Organization 3: University of Oklahoma

Partner Authorized Official: Roger Slatt

Phone: (405) 325 - 3253 ext.

Categorize Use: (may check more than one)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Interpretation/Environmental Education | <input checked="" type="checkbox"/> Special Event |
| <input checked="" type="checkbox"/> Water Safety | <input checked="" type="checkbox"/> Recreation Facilities |
| <input checked="" type="checkbox"/> Trails | <input checked="" type="checkbox"/> Visitor Center |
| <input checked="" type="checkbox"/> Natural Resources Management | <input checked="" type="checkbox"/> Accessibility Other/ Miscellaneous |

Handshake Funding Amount Requested (\$10,000 Limit): \$10000

Description of the Handshake partnership and the project to be accomplished:

DeGray Lake Geo-Trek Interpretive Trail
Grant Proposal

The DeGray Lake Field Office respectfully requests the funding to establish a Challenge Partnership Handshake Project. The partnership will continue to construct and maintain the DeGray Lake Geo-Trek Interpretive Trail, a 1.0 mile loop trail focusing on geologic processes in the DeGray Lake "emergency" Spillway. Note: The DeGray Lake Spillway has never been overtopped by flood water since the completion of DeGray Dam in 1972. The Spillway crest elevation is 423.0' msl and the highest lake level ever recorded was 420.5' msl on 06 December 1982. The threat of emergency flood water to the visiting public is extremely remote especially if the lake flood emergency plan is initiated.

Introduction

DeGray Lake is a U.S. Army Corps of Engineers, Vicksburg District, multi-purpose project located on the Caddo River in south, central Arkansas. DeGray Dam impounded the waters of the Caddo River to form DeGray Lake in 1972. The project was authorized by the River and Harbor Act of 1950. Originally DeGray's mission essential tasks were to control floods and produce hydroelectric power. Water supply was included as an authorized purpose by the Water Supply Act of 1958. This Act provided for the inclusion of municipal and industrial water supply. The Federal Water Pollution Act of 1963 authorized recreation, thus DeGray Lake became the only lake within the Vicksburg District which had recreation as an authorized purpose.

DeGray's Geology Lab

Like many other Corps of Engineers projects, DeGray Lake offers unique natural resource features that support mission essential tasks; moreover, these resources are of great importance to special interest groups. One such group, the geological community, visits DeGray Lake project lands to study rock strata outcrops that were exposed during the construction of DeGray Dam, Spillway, and associated structures. University geology departments, oil company geologists, and the Arkansas Geological Survey make annual pilgrimages to the DeGray Lake Spillway to investigate the superbly exposed sedimentary rocks of the Jackfork Formation. This formation is termed "world class" by geologic investigators and is considered one of the most studied and visited exposure of its type in the world.

Ancient deep water submarine fan deposits exposed at DeGray Lake provide a standard or model that geologists apply to similar present day submarine fan systems. These systems are the leading petroleum producing reservoirs world wide. Every time a petroleum product is utilized, one can indirectly credit DeGray Lake for providing a laboratory of sorts in providing a standard that is utilized by the petroleum exploration industry.

Charles Stone, Geologist Supervisor retired, for the Arkansas Geological Survey has studied Arkansas geology for more than forty-five years. Mr. Stone, a graduate of the University of Arkansas, provided field mapping assistance to the Lake Ouachita Field Office in developing the nationally known Ouachita Geo-Float Trail. He personally assisted Vicksburg District geologist, George Hunt, with initial field investigations prior to the construction of DeGray Dam in the

early 1960's. Mr. Stone routinely leads field excursions to study rocks exposed at DeGray Lake. Mr. Stone provided this explanation of the world wide importance of DeGray Lake Geology:

"The DeGray Lake Spillway exposure is the "classic" example of fine grain submarine fan deposition. The outcrops of the early Pennsylvanian Jackfork Group of the Ouachita Mountains are the "standard" for deep water turbidite nomenclature among groups of scientific workers with comparable deposits world wide. This would include professional oil companies such as Schlumberger, Exxon, Chevron, Amoco, Arco, and Shell and geologic survey personnel that specialize in sedimentation processes. Presently oil and gas exploration in the Gulf of Mexico, North Sea, Brazil, West Africa, New Zealand, Indonesia, and Venezuela are patterned after the DeGray's deep water submarine fan formations."

"University geology departments including the University of Arkansas, Texas A&M, Texas, Stanford, Notre Dame, Centenary, Louisiana Tech, Stephen F. Austin, Wisconsin, Northern Illinois, Missouri-Columbia, Oklahoma and universities in Spain, Italy and South Africa routinely study DeGray's tilted strata, sequences of interbedded shales and sandstones, deep water sedimentation, and paleo currents."

The geologist is often likened to an investigative reporter, but to recreate the facts of a story that took place over a vast period of time is rather difficult. The DeGray rock outcrops provide important clues to the geologist. In this case, the petroleum industry has recognized that the deep water sequences of the Jackfork Formation present at DeGray are repeated in various locations world wide. This increases the chances of locating petroleum reserves easier and less expensively. The outcrops also provide a classroom for university students to learn about geologic processes. Construction of DeGray Dam and associated structures has greatly benefited the geological community.

Sustainability

Annually, some 10,000 geology enthusiasts study the DeGray Lake Spillway. Unfortunately, conditions in the Spillway hamper the overall value of the experience. For example, due to wet conditions, field excursions are limited to the drier months and even then require waterproof foot ware to safely and effectively visit the resource. In addition, due to the wet conditions, undesirable vegetation makes walking difficult and hinders views of the outcrops. However, if funding is granted along with matching funds that have been pledged by the geology community, an all terrain surface and drainage system will be placed along the trail route to abate the unfavorable conditions. It is estimated that if these improvements are made, some 30,000 visitors will utilize the resource annually. From earth science middle school classes to professional petroleum geologists, the Geo-Trek Interpretive Trail will benefit our customers and will increase service and value to the Nation.

Partnership Value

Because of the rock outcrop resources and their vital importance to the geologic community, partnering opportunities are boundless. Chevron and Schlumberger have pledged matching funds that will significantly enhance the project success and sustainability. The University of Oklahoma has pledged assistance with the trail guide brochure and logistical support. This handshake project also supports the Army's Global War Against Terror by providing the National Guard with training opportunities to include repelling, orienteering and logistics.

Environmental Stewardship Value

The Geo-Trek Interpretive Trail will provide access to the natural resource (rock formations) while improving Flood Damage Reduction features. The project also will improve flood protection for area residents by maintaining the Spillway crest elevation. Should a flood event occur, the emergency spillway will work more efficiently with the vegetation removed. As stewards of public lands, the Corps of Engineers at DeGray Lake is dedicated to providing a quality outdoor recreational experience with the safety of our visitors held at the highest concern. Approving this request for trail grant funding will allow the DeGray Lake Field Office the avenue to ensure an enjoyable outdoor recreational experience for present and future generations. This interpretive trail will ensure the availability of this natural resource. Stewardship also increases the benefits that our customers derive from these natural resources. Wisely managed lands and waters contribute to the purity of our air and water, to the fertility of our soil, and to the natural control of flooding along our rivers and streams. Stewardship reduces siltation in our reservoirs, maintaining their water storage for hydropower, navigation, and water supply. It also contributes to the variety and abundance of our fish and wildlife, and to the attractiveness of our lands and waters.

Recreational Benefit

The Geo-Trek Interpretive Trail will provide recreational benefit to the novice rock hound, to the middle and high school earth science classes, college and university field geology field camps and to professional petroleum geologists. In addition, Geo-Trek will provide a location for DeGray visitors to walk, hike, run and ultimately enjoy the unique natural resource to include rock outcrops, forestry, birds, wildlife and aesthetic value of the "foot hills of the Ouachita Mountains" and ultimately increase sustainability. The trail will be located in the immediate vicinity of the Spillway Area that offers a comfort station, drinking fountain, parking lot, boat launch ramp, security lighting and security patrol by ranger and contract law enforcement personnel. The DeGray Lake Visitor Center is located nearby as well. Access to the trail is conveniently provided by the Arkansas Scenic 7 Byway and I-30.

Innovativeness

Geo-Trek will have similar aspects and features when compared to the nationally known, Lake Ouachita Geo-Float Trail, the first water based geologic interpretive trail in the country. Yet, Geo-Trek will be unique in the fact it will combine a land based trail and in the future may be combined with a DeGray Lake Geo-Float Trail. Geo-Trek will offer the opportunity to experience a resource in which geologic investigators will travel great distances and stimulate the local economy to study the sedimentary rocks termed "world class" by the petroleum industry and is considered one of the most studied and visited exposure of its type in the world.

Communication and Education Value

Geo-Trek will offer the Corps of Engineers interpretive staff a venue to tell the Corps Story as it relates to management of water resources, specifically in respect to flood damage reduction, water resources, hydropower, water supply, navigation, environmental stewardship, emergency

response, recreation and overall value to our nation. In addition, our partners will have the opportunity to tell their story. Petroleum exploration and production is paramount for our country's present and future.

The Corps will:

The Corps of Engineers will: provide limited local funding, manpower, equipment, subject matter expertise and logistical support to accomplish the DeGray Lake Geo-Trek Interpretive Trail partnering project. Specifically, the Corps will remove the woody vegetation that is essentially blocking the view of the rock outcrops, mow grasses, and control drainage problems by installing culverts and fill materials. Additionally, the Corps will build and maintain the trail route. The DeGray Lake interpretive staff will provide guided talks and tours highlighting geological processes, mission essential tasks, safety, environmental stewardship, forestry, fish and wildlife, and tell the Corps story.

The Partner(s) will:

The Partners will: Chevron, Schlumberger, and the University of Oklahoma will provide matching funds, provide professional geological expertise with respect to trail stop topics, kiosks and assist with trail brochure subject matter and illustrations. Funding will also be utilized to award a contract for trail and parking lot paving.

The Geo-Trek Volunteers will: Charles Stone, retired geologist, will continue to serve as volunteer Geo-Trek consultant. Additional volunteers will assist with signage maintenance, painting, parking lot striping, cleanup and potentially interpretive programming assistance.

Challenge Partnership Financial Work Sheet

Corps Project Name: DeGray Lake Field Office

Work Project Title: DeGray Lake Geo-Trek Interpretive Trail

POC Name: Jody J. Dvorakl

Address: 729 Channel Road

City: Arkadelphia

State: AR Zip Code: 71923

Telephone: 870-246-5501

Location on Project: South Central Arkansas On Scenic Byway 7 Via I-30 & Caddo Valley Exit #178

Partner Organization 1: Chevron

POC Name: Dave Mercer

Address: 1500 Louisiana

City: Houston

State: TX Zip Code: 77002

Telephone: 832-854-7015

Partner Organization 2: Schlumberger

POC Name: Rick Kear

Address: 1515 Poydras

City: New Orleans

State: LA Zip Code: 70112

Telephone: 504-858-2444

Partner Organization 3: University of Oklahoma

POC Name: Roger Slatt

Address: 100 E. Boyd, Rm 810

City: Norman

State: OK Zip Code: 73019

Telephone: 405-325-3253

Proposed start date of work: Jan 09

Simple description of work to be accomplished through the partnership: Construct, promote and interpret a 1.0 mile geological educational trail. The trail will feature a guidebook with kioks highlighting sedimentary rock outcrops of worldwide signifiacnce to the petroleum industry, high school and university geology departments.

Double click on spreadsheet to access data entry fields:

	Local Corps Office	Handshake Funds	Partner 1	Partner 2	Partner 3	Total
Salaries	\$25,000	N/A	\$0	\$0	\$0	\$25,000
Travel	\$0	N/A	\$0	\$0	\$0	\$0
Materials and Supplies	\$0	\$10,000	\$0	\$0	\$0	\$10,000
Equipment Use	\$1,000	\$0	\$0	\$0	\$0	\$1,000
Funds Contributed	N/A	N/A	\$10,000	\$5,000	\$1,000	\$16,000
Personal Property	N/A	N/A	\$0	\$0	\$0	\$0
Volunteer Efforts	N/A	N/A	\$0	\$0	\$2,850	\$2,850
In-Kind Services	N/A	N/A	\$0	\$0	\$0	\$0
Other (explain below)	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$26,000	\$10,000	\$10,000	\$5,000	\$3,850	\$54,850
Share of Total Cost	47.4%	18.2%	18.2%	9.1%	7.0%	100%

Explanations: Materials and Supplies: The Handshake funds will be utilized to purchase SB2 gravel for trail base, culverts, trail borders, signage and trail kiosks.