

**U.S. Army Corps of Engineers  
Fiscal Year 2014  
Handshake Program Application**

**Please review instructions before completing application!**

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Corps Lake/Project Name:**Edward MacDowell Lake**

Handshake Proposal Title: **Gravel Pit Reclamation and Turtle Nesting Habitat Enhancement**

Corps POC Name:**Jason Tremblay**

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**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.*

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**B. Handshake Funding Program Request (maximum \$30,000): \$10,956**

**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. You must include a copy of the signed agreement with your proposal. (Reference Chapter 9 of ER and EP 1130-2-500 for information on cooperating associations).

**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 \_\_\_\_\_ partners (50 bonus points for the first 5 partners plus 10 points for each additional partner)

**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.

**Description:**

1. Description:

The Edward MacDowell Lake Project requests Handshake funding to reclaim an existing 3.5 acre gravel pit in order to enhance critical turtle nesting habitat. The primary goal of the project is provide suitable nesting habitat at the gravel pit, thereby increasing turtle nesting rates and decreasing turtle mortality. The gravel pit at the Edward MacDowell Lake Project is located adjacent to the lake and wetland area, making it a prime site for turtle nesting habitat. Edward MacDowell Lake currently supports nesting turtles and is the gravel pit is the primary nesting habitat available at the Project, as identified by the New Hampshire Natural Heritage Inventory in 2000. However, since the pit was abandoned in 1998, natural succession of trees and shrubs and their associated cover has reduced the overall size of suitable nesting habitat. All New Hampshire freshwater turtle species require an open canopy with well-drained soils and sparse vegetation consisting of native sedges, grasses and less than 2%-5% low growing shrub cover for nesting habitat (MA Division of Fisheries and Wildlife, 2009). Corps staff at Edward MacDowell Lake are working with the New Hampshire Fish and Game Department (NH Fish & Game) to implement a habitat prescription plan that will enhance the gravel pit area. Other partners who will assist the Corps in implementing the prescription plan include the Monadnock Trail Breakers Snowmobile Club, and three local Scout troops, including the Peterborough Cub Scout Pack 8, Boy Scouts Troop 308, and the Venture Scouts. The project will provide significant benefits to turtle populations and the environment, in addition to benefits to the public in the form of increased opportunities for wildlife observation and interpretive programs.

2. Background:

The habitat prescription plan, developed by the NH Fish & Game will provide critical nesting habitat for a variety of turtle species, but it will most notably provide habitat for three species of turtles that are currently listed as Endangered, Threatened, or Species of Special Concern in the State of New Hampshire. These species are the Blanding's turtle (*Emydoidea blandingii*), Endangered; spotted turtle (*Clemmys guttata*), Threatened; and wood turtle (*Glyptemys insculpta*), Species of Special Concern. These species are notably vulnerable to development, roads, and predation. The gravel pit at Edward MacDowell Lake is a prime site for turtle nesting habitat due to its proximity to the lake and the absence of public roadways in between the nesting site and the wetland area. Even though the gravel pit is separated from the lake by an access road that is used by hikers and dog walkers, vehicle use is restricted to Corps vehicles. There is also a designated snowmobile trail adjacent to the gravel pit, which serves as a multi-use trail for hikers and walkers. Enforcement of trail use regulations in conjunction with interpretive signage and programs provided to recreational users in these areas will help reduce incidental turtle mortality. Wildlife biologists indicate that the highest mortality to turtle populations is vehicle strikes on roadways adjacent to wetlands where female turtles are on the move to find adequate nesting sites. The gravel pit area is protected from public vehicle access, which allows the turtles to migrate safely from the lake to the nesting area. In addition, the enhanced area will provide more available nesting area, which has been shown to make the nests less susceptible to predation (Marchand & Litvaitis, 2004b).

3. Sustainability:

The critical turtle nesting habitat established by the project will be primarily self-sustaining and will require minimal maintenance, including mowing annually or every other year, and treatment of invasive species as need. The proposed prescription plan will promote sustainable environmental stewardship practices by utilizing a combination of native bunchgrass species to seed the treatment areas, including drought-tolerant and robust warm-season grasses, as well as hardy cold-season grasses for early site establishment. The project will also utilize slow-release pelletized lime to prevent bleeding through the well-drained soils. Fertilizers and other

organic materials are not necessary for this project since they encourage the growth of competing weed species over the warm season grasses. In addition, the treatment plan requires only a small area (approximately 0.5 acres) to be seeded and watered, which limits the amount of resources required to establish the site.

#### 4. Partnership Value:

This project provides the Corps with the opportunity to partner with key stakeholder groups at Edward MacDowell Lake, including the NH Fish and Game, Monadnock Trail Breakers Snowmobile Club, and three different Scout troops, including the Peterborough Cub Scout Pack 8, Boy Scouts Troop 308, and the Venture Scouts. These partners will provide equipment, labor, and other services with an estimated total partnership value of \$17,588, which is more than half of the total project value. This project will help the Corps foster a positive working relationship with the NH Fish & Game, who will be able to contribute their valuable intellectual resources and sound scientific data to the benefit of the Corps and the wildlife resources. This project will also foster positive relationships with the local community by involving stakeholder groups throughout the project development. Positive relationships with these groups will promote future participation in Corps' projects and volunteer opportunities.

#### 5. Recreation Benefit:

The projected increase in turtle populations as a result of enhanced nesting habitat will provide the general public with more opportunities for wildlife observation and photography at Edward MacDowell Lake. In addition, The Monadnock Trail Breakers Snowmobile Club will engage with other trail rider groups and individuals in order to promote responsible trail riding in designated areas. The Club's participation will also encourage conscientious recreational use by visitors in order to protect critical wildlife habitat.

#### 6. Environmental Stewardship Value:

This project will directly support the Corps' environmental stewardship mission at Edward MacDowell Lake and will provide benefits to multiple species of wildlife. The prescription plan developed by the NH Fish & Game will enhance turtle nesting habitat specifically for three species of turtles that are currently listed as Endangered, Threatened, or Species of Special Concern in the State of New Hampshire. These species are the Blanding's turtle, spotted turtle, and wood turtle. However, other freshwater turtle species will benefit from additional nesting habitat. Additionally, the creation and maintenance of small ground cover openings may provide habitat for smooth green snakes, which is another Species of Special Concern in New Hampshire. The enhanced habitat will also provide foraging areas for insect-eating species such as grouse, turkey, and a number of songbirds. Woodcock may use the site for singing grounds. The native bunchgrasses that will be planted will provide both cover and bare ground for turtle nesting activity. These bunchgrass species include big bluestem, little bluestem, Canada wildrye, and Indian grass. The warm season grasses attract insects, providing a food source used by songbirds, game birds, and small mammals. Small birds and mammals can find cover in the bunchgrass, navigating the openings beneath the grass, while remaining hidden by the tall foliage. Some native bee species, many of which are in decline, may also nest in grass tussocks. Also, wild rye frequently produces seed in the first year, providing a quick food source for wildlife.

#### 7. Communication and Education Value:

Key interpretive and educational opportunities will be provided to visitors and local communities throughout the life of this project. Interpretive signage and programs will be provided at the site to engage the visiting public, and the Corps will utilize social media, such as Facebook, in addition to press releases to reach the local community. In addition, all of the partners will participate in communicating with and educating the public through their social media sites, newspapers, Public Affairs Offices (NH Fish & Game), and other outreach programs. This project also provides educational value to the Boy Scout, Cub Scout, and Venture Scout troops that are volunteering to assist in the project. They will have the opportunity to assist in monitoring the project site to

evaluate the species and numbers of turtles utilizing the nesting site, and to learn about the overall success of the projects.

#### 8. Innovativeness

The Corps seeks to reclaim and enhance the existing gravel pit site that was originally a borrow area and maintenance yard for Edward MacDowell. This project will allow the Corps to implement sound environmental stewardship practices to allow the site to reach its full potential as prime turtle nesting habitat. In addition, if this funding request is granted, the project will be the first project for turtle nesting habitat under the Handshake Partnership Program since the program's inception in 2004.

#### **The Corps will:**

The Edward MacDowell Lake Project will provide equipment and labor for debris removal, including a yolk rake and tractor and/or chipper, dump truck, chainsaws, and brush hog. The Edward MacDowell Lake project will also provide hand tools to the Boy Scout, Cub Scout, and Venture Scout troops for raking, seeding, and watering. Staff will work alongside the Cub Scouts to set up hose lays and water pumps to help deliver water to the project site for the watering operation, and will assist with and supervise the work of the Boy Scouts, Cub Scouts, and Venture Scouts. If received, the Handshake funds will be used to provide a soil test, pelletized lime, interpretive signs, boulders for physical barriers, a brontosaurus for tree removal, and equipment for stump removal such as a stump grinder. Edward MacDowell Lake staff will also design the interpretive signs and conduct interpretive programs to educate the public on the habitat enhancement. The New England District Public Affairs Office and Edward MacDowell Lake staff will provide press releases and social media outreach to the general public on the purpose and benefits of the project and the partnership. Park Rangers will monitor and protect the area from illegal or harmful activity under Title 36 rules and regulations.

#### **The Partner(s) will:**

The New Hampshire Fish and Game Department will provide services and labor worth \$4,260. Services include providing technical expertise for the habitat prescription plan. They will also assist Corps personnel with designing the interpretive sign. They will involve their Public Affairs Office to provide press coverage of the habitat enhancement project and the partnership with USACE to reach a state-wide audience. The Wildlife Biology Division of NH Fish & Game will provide wildlife biologists to monitor the nesting site and identify turtle species. NH Fish and Game Conservation Officers will assist USACE with law enforcement to address any illegal collection or destruction of turtles, or destruction of habitat per New Hampshire law.

The Monadnock Trail Breakers Snowmobile Club will provide equipment and labor worth \$4,760. They will provide an excavator and an operator to place physical barriers around the habitat area while the site is being enhanced. Club members and trail groomers that use the snowmobile corridor near the site will monitor use around the site to ensure that riders stay on designated trails, and will educate riders of negative impacts and repercussions for riding off-trail in the habitat area. The club will use their social media resources to inform the general public and their members of the habitat enhancement project, and they will conduct routine maintenance before, during and after the riding season to protect the adjacent habitat site. Maintenance will include posting signs, snow fencing, grooming the trails.

Boy Scout Troop 308 and Venture Scouts from Rindge, NH will provide \$3,528 and \$3,456 in volunteer labor, respectively. They will assist in preparing the site after the tree removal phase, which will include raking, and removing brush and debris. This effort will take several days of volunteer service and is critical to the success of the proceeding phase of seeding and planting. The Cub Scouts Pack 8 of Peterborough provide in \$1,575 in volunteer labor. They will assist with a key part of seeding and watering the area per the habitat prescription plan.

## Challenge Partnership Financial Work Sheet

Corps Project Name: Edward Macdowell Lake

Work Project Title: Turtle Nesting Habitat Enhancement

POC Name: Jason Tremblay

Address: 75 Wilder Street

City: Peterborough

State: NH Zip Code: 03458

Telephone: 603 - 924 - 3431 x314

Location on Project: Sand Pit Area

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Partner Organization 1: New Hampshire Fish & Game Dept

POC Name: Jim Oehler

Address: Hazen Drive

City: Concord

State: NH Zip Code: 03301

Telephone: 603 - 271 - 0453 x

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Partner Organization 2: Monadnock Trail Breakers

POC Name: Chris Raymond

Address: PO Box 338

City: Dublin

State: NH Zip Code: 03444

Telephone: 603 - 398 - 8029 x

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Partner Organization 3: Peterborough Cub Scout Pack 8

POC Name: Jeff King

Address: 64 Union Street

City: Peterborough

State: NH Zip Code: 03458

Telephone: 603 - 924 - 8080 x

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Partner Organization 4: Boy Scouts Troop 308

POC Name: Mike Miller

Address: 65 Rand Road

City: Rindge

State: NH Zip Code: 03461

Telephone: 603 - 899 - 3353 x

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Partner Organization 5: Venture Scouts

POC Name: Arianne Miller

Address: 65 Rand Rd

City: Rindge

State: NH Zip Code: 03461

Telephone: 603 - 899 - 3353 x

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Partner Organization 6:

POC Name:

Address:

City:

State:

Zip Code:

Telephone: - - x

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Partner Organization 7:

POC Name:

Address:

City:

State:

Zip Code:

Telephone:        -        -        x

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Partner Organization 8:

POC Name:

Address:

City:

State:

Zip Code:

Telephone:        -        -        x

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Partner Organization 9:

POC Name:

Address:

City:

State:

Zip Code:

Telephone:        -        -        x

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Proposed start date of work: Jan-15

Simple description of work to be accomplished through the partnership:Phase 1: Kick off media campaign, trees to be cut during the winter, Phase two, stump and grind areas in prescription plan, prepare the site for seeding and planting, place barriers and signs, Phase three, seed and water vegetation per the prescription plan. Phase four, monitor and protect site.

Double click on spreadsheet to access data entry fields:

	<b>Local Corps Office</b>	<b>Handshake Funds</b>	<b>Partner 1</b>	<b>Partner 2</b>	<b>Partner 3</b>	<b>Partner 4</b>
Salaries	\$3,237	N/A	\$0	\$0	\$0	\$0
Travel	\$330	N/A	\$350	\$0	\$0	\$0
Materials and Supplies	\$0	\$5,861	\$0	\$0	\$0	\$0
Equipment Use	\$960	\$5,095	\$0	\$1,820	\$0	\$0
Funds Contributed	N/A	N/A	\$0	\$0	\$0	\$0
Personal Property	N/A	N/A	\$0	\$0	\$0	\$0
Volunteer	\$130	N/A	\$3,910	\$2,940	\$3,528	\$3,465
In-Kind Services	N/A	N/A	\$0	\$0	\$0	\$0
Other (explain below)	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$4,657</b>	<b>\$10,956</b>	<b>\$4,260</b>	<b>\$4,760</b>	<b>\$3,528</b>	<b>\$3,465</b>
<b>Share of Total Cost</b>	14.0%	33.0%	12.8%	14.3%	10.6%	10.4%

	<b>Partner 5</b>	<b>Partner 6</b>	<b>Partner 7</b>	<b>Partner 8</b>	<b>Partner 9</b>	<b>Total</b>
Salaries	\$0	\$0	\$0	\$0	\$0	\$3,237
Travel	\$0	\$0	\$0	\$0	\$0	\$680
Materials and Supplies	\$0	\$0	\$0	\$0	\$0	\$5,861
Equipment Use	\$0	\$0	\$0	\$0	\$0	\$7,875
Funds Contributed	\$0	\$0	\$0	\$0	\$0	\$0
Personal Property	\$0	\$0	\$0	\$0	\$0	\$0
Volunteer	\$1,575	\$0	\$0	\$0	\$0	\$15,418
In-Kind Services	\$0	\$0	\$0	\$0	\$0	\$0
Other (explain below)	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$1,575</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$33,201</b>
<b>Share of Total Cost</b>	4.7%	0.0%	0.0%	0.0%	0.0%	100%

Proposed Handshake Funding Expenditures:

<i>Item</i>	<i>Estimated Cost</i>
<b>Bunchgrass seeds</b>	\$143.5
<b>Soil Test—pH only <i>UNH Cooperative Ext.</i></b>	\$7.00
<b>Pelletized Lime (<i>based on highest recommended application rate of 100 lbs per acre—actual application dependent on soil test</i>)</b>	\$10.00
<b><i>Multiple Interpretive signs for Project site</i></b>	\$2700
<b><i>Boulders for barriers</i></b>	\$3000
<b><i>Brontosaurus cut and grind trees</i></b>	\$2400
<b>Stump Removal</b>	\$2,695
<b>Total</b>	<b>\$10,955.50</b>

Citations:

New Hampshire Natural Heritage Inventory. 2000. A Natural Features Survey of the Edward MacDowell Lake Project. Submitted to the Department of the Army Corps of Engineers, New England Division, Concord MA.

Marchand M.N. and J.A.Litvaitis. 2004b. Effects of landscape composition, habitat features, and nest distribution on predation rates of simulated turtle nests. *Biological Conservation* 117 (2004): 243-251.

Massachusetts Division of Fisheries and Wildlife: The Natural Heritage and Endangered Species Program. 2009. Advisory Guidelines for Creating Turtle Nesting Habitat (Draft). Westborough, MA.



Figure 2: Treatment area delineations (image from Microsoft Bing Maps, Bird's Eye view).