

**U.S. Army Corps of Engineers
Fiscal Year 2025
Handshake Program Application**

Please review instructions before completing application!

Corps Lake/River Project Name: **Atwood, Wills Creek, and North Branch of Kokosing**

District / Division:**Huntington / Great Lakes and River**

Handshake Proposal Title: **Habitat Enhancement and Linking MUR USACE to the Motus Wildlife Tracking System Network**

Corps POC Name:**Stacia Hatfield and Scott Kraynak**

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A. Checklist:

1. Will the Handshake funds be spent on Corps facilities and resources that are being fully maintained by the Corps? (not in outgranted parks) 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
 4. Have all of the NEPA requirements been considered for this project? Yes No
 5. I am aware the Challenge Partnership Agreement must be reviewed and approved by District Office of Counsel before sending to HQUSACE. Yes No
 6. If the full funding amount requested is not available, could a portion of this Handshake Project be completed with partial funding? Yes No
 7. I am aware that all government funds must be spent in accordance with FAR, DFAR and AFAR contracting laws and regulations, and that Handshake funds cannot be provided to the partner(s). Yes No
 8. Did you participate in a Handshake webinar in 2024 or review a 2024 Handshake webinar on the Gateway? Yes No
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B. Handshake Funding Request (maximum \$25,000): 25,000

C. Corps Foundation Bonus Request: (maximum \$5,000): 5,000

Separate bonus funding provided by the Corps Foundation for a selected Handshake Project. Please do not include bonus funds on your overall financial spreadsheet below. Provide an explanation of how the funds will be used in the Corps Foundation Bonus section.

D. Incentive Points Category: Check the appropriate box if your application qualifies to receive bonus points on the evaluation score.

- This lake/river project has never received Handshake funding. (100pts)

This lake/river project's Handshake application includes a NEW partner that the lake/river project has never worked with before. (50 pts) Please list the NEW Partner: The Wilds and Birds Canada

This lake/river project's Handshake application includes a Tribal partner. (200 pts) Please list who this Partner is:

E. Describe your partnership and the proposed Handshake Partnership Project:

Project applications will be evaluated on the categories below. Please complete each section as appropriate.

Summary Statement:

US Army Corps of Engineers (USACE) projects in the Muskingum Watershed (MUR) are public lands located in a geographic area where natural resources are historically understudied. USACE properties often provide suitable habitat embedded in an agricultural and fragmented landscape. Our position along large aquatic systems and successful efforts to convert idle mowed lawns to grasslands/pollinator ecosystems provide habitat for many migratory bird, insect, and bat species. Effective conservation of these species requires understanding their full life cycles, by identifying and protecting breeding, foraging, stopover, and wintering habitats. MUR properties are important for migratory wildlife because of their location between the Ohio River and Lake Erie and proximity to other aquatic systems. We aim to establish telemetry infrastructure to link MUR USACE to a network that tracks the movement of wildlife at record spatial and temporal scales. This Handshake Partnership Project will 1) establish 3 automated telemetry receiving stations; 2) support several USACE ER 1130-2-540 ENS requirements; 3) convert 8 acres of idle mowed lawn to suitable grassland/pollinator habitat; and 4) support expansion of Motus, an international collaborative network of researchers that use automated radio telemetry to simultaneously track hundreds of individuals of numerous species. The system enables a community of researchers, educators, organizations, and citizens to undertake impactful research.

Handshake Funding Cost Break Down:

GRASSLAND/POLLINATOR HABITAT ENHANCEMENT

Professional herbicide application services - \$3,400

Pollinator/Grassland native seed mix - \$3,500

INTERPRETIVE SIGNS

Three pollinator signs - \$3,100

Three Motus telemetry signs - see (Corp Foundation Bonus Cost Break Down section)

MOTUS TELEMETRY STATIONS

Antennas, mounting brackets, coax cables, receivers, hardware for 3 stations - \$15,000

O&M Impacts:

This Partnership Project meets ER 1130-2-540 and MUR Master plan Environmental Stewardship and Recreation objectives including 1) Contributing to level 2 inventories; 2) T & E species surveys; 3) Habitat Enhancement; 4) establishing new partnerships; 5) providing new opportunities for environmental education; 6) increasing bird watching opportunities; and 7) potential opportunities for future partnerships with universities interested in conducting research on our USACE properties.

The Motus telemetry receiver stations do not require staff to inspect the station or regularly download data. Data is automatically downloaded and maintained by Birds Canada through cellular service paid for by our partner, the Muskingum Watershed Conservancy District (MWCD). These stations will not require any maintenance by USACE staff. Based on partners with existing Motus stations and the Motus website (Motus.org) annual maintenance is minimal. MWCD, The Wilds, and Tonra lab have also agreed to provide funds and/or staff to cover the costs of installation and any potential maintenance of the stations.

The grassland/pollinator habitat is expected to thrive and transform current idle mowed lawns to suitable habitat for beneficial insects, birds, bats, and other wildlife with minimal maintenance after the first 3 years. Native Ohio Prairie Nursery (OPN) seed mixes have proven successful in the MUR and Quail's Forever have agreed to provide expertise as needed in the establishment and management of this habitat. Project volunteers and summer interns will continue to monitor and maintain the pollinator field. We are in the process of establishing a USACE MUR volunteer group that is interested in helping with various REC and ENS projects. Management over the first three years will include some brush hog rotation and invasive species control. This project, partnerships, and volunteers will remove the need for regular mechanical mowing of eight acres, reduce the need for future herbicide treatment of invasive plant species, which in turn will decrease USACE O&M costs. With our partners commitment there will be no increase to O&M costs, no recurring labor or maintenance costs for installation or maintenance, and an overall decrease in project mowing costs.

Partnership Value:

The USACE and MWCD have had a strong partnership in the MUR since the 1930's, when both agencies collaborated on the massive Muskingum Watershed flood control project. Over the last few years this partnership has grown even stronger through several Recreation, Outreach, Cultural Resource, and Environmental Stewardship projects.

1. MWCD is extremely motivated to increase our knowledge of natural resources in the area by supporting this expansion of the Motus network, and paying for the required cellular data plan for the GPS units needed for these efforts (\$1800). MWCD has also agreed to provide funds, as needed, to assist with potential maintenance in the future (up to \$5,000).

The Handshake funds will cover the costs of interpretive signs, habitat enhancement prep and seed, and materials for three telemetry stations: Bracketed masts, antennae, coax cables, receivers, dongles, and hardware.

2. The Wilds is a new USACE partner that has already spent 18 volunteer hours (\$602.82) assisting us with reconnaissance of suitable sites. The Wilds is a private, non-profit safari park and conservation center that combines conservation science and education programs in southeast Ohio. This organization is extremely motivated in assisting the USACE with the expansion of the Motus network. Joe Smith, Vice-President of The Wilds, explained that "one of their main goals is worldwide conservation and the Motus network is providing unrivaled data with conservation implications globally". The Wilds already has expertise in the installation of these telemetry stations and will provide staff to assist with the installation of our three stations (\$3,884). The Wilds will also assist with any potential maintenance that may arise in the future (up to \$1,500).

3. Ohio Prairie Nursery will provide seed for one acre of pollinator plots (\$500). 4. Canton Audubon will provide expertise in wildlife identification to assist with Level 2 inventories, monitoring the success of our habitat enhancement, and use citizen science sites (e.g., ebird, iNaturalist, eButterfly) to increase visibility of our public lands (\$1,340). This has the potential to draw in visitors to these areas and give a small boost to the local economy. 5. Ohio Bluebird Society will donate more bluebird and kestrel boxes to install at each site (\$450). 6. The Ohio State University Tonra Lab has already contributed several advisory hours regarding site locations, equipment needed, potential hurdles and limitations (\$837). The Tonra Lab will donate equipment worth approximately \$3000, a \$1,000 funds contribution toward future maintenance, and is interested in conducting research on USACE Motus station properties in the future (\$\$ see Explanations below the partner spreadsheet) 7. By default Birds Canada is a partner because they manage all the data collected by Motus receivers. There is no specific contribution as they manage the data for all organizations and agencies with Motus stations for free. I've included them as a partner but no \$ values are attached.

Recreational Value:

The proposed project is heavily focused on the USACE Environmental Stewardship mission; however, by default, there are recreation and environmental education opportunities that arise from this project. At each of these stations we will have Motus interpretive signs (Figure 1) and pollinator interpretive signs (Figure 2). Each of these projects also host annual events that draw in visitors such as the dam tour day at Atwood, the Earth day event and hiking trail at Wills Creek, and the disc golf course at North Branch of Kokosing. These events and

recreation attractions provide opportunities for us to highlight our ENS efforts. During these events we plan to educate visitors on wildlife tracking conservation, and how the USACE uses this technology to achieve our mission of managing our natural resources. These may include a StoryMap, website articles, social media posts, interpretive signs, and will highlight all species detected within the vicinity of our USACE lands. Additionally, as mentioned above this will increase birdwatching opportunities and through Canton Audubon's partnership increase the visibility of our projects as public land recreation opportunities that many people do not know about.

Environmental Stewardship Value:

This proposed project focuses on ENS. Increasing grassland/pollinator habitat and decreasing idle mowed lawns by 8 acres greatly improves our public lands for all wildlife. Through ongoing surveys with USACE staff and volunteers we are currently monitoring the success of our existing habitat and already see an increase in beneficial insects. Increasing insect populations increases the survivorship of birds and bats (among other species), many of which are in decline or on the Federally Endangered Species list. Adding another 8 acres will continue to support our ongoing efforts to improve our public lands, decrease mowing costs, and increase habitat for federally listed vulnerable, threatened, and endangered migratory species including monarch butterflies, indiana bats, tri-colored bats, Northern long-eared bats, as well as species protected under the Migratory Bird Treaty Act of 1918. These efforts support the USACE mission, Engineer Regulations, the MUR Master Plan, Presidential directives, and the Ohio State Wildlife Action Plan.

The Motus telemetry stations are not a one-and-done investment in technology for a single project, but rather an investment in the future of research and monitoring for the USACE, the entire Midwest, USACE partners, and other conservation organizations trying to improve their properties. This data will provide the USACE and our partners with insight on best management practices for our public lands by informing us of species using our properties, stopover site-based knowledge, and assist researchers in population dynamics, site-fidelity, survivorship, the use of flyways and landscapes, and other valuable information for conservation.

Communication & Education Value:

USACE staff at the proposed projects will incorporate the grassland/pollinator habitat and Motus stations into new and existing educational events such as the Earth day event at Wills Creek. The earth day event hosts between 300 and 600 5th and 6th graders annually from all Coshocton county schools to engage in agricultural and environmental topics. With the assistance of our CESU institution partner, Ohio State University, we plan to discuss bird conservation at one of the three projects. This will include information on bird banding, conservation efforts, pollinator habitat, the Motus tracking system, and what private landowners can do for conservation in their backyards.

Although not yet coordinated, graduate students from The Ohio State University Tonra lab may conduct their research on migratory wildlife at any of our USACE properties that have a Motus telemetry station installed. Interpretive signs will also be installed at each site providing educational information about Motus stations, research, and habitat enhancement. We plan to attach Motus stations to an existing non-historic building, an existing tower, and a free standing mast. Examples of Motus stations are included in Figures 3, 4, and 5.

Supporting Diversity, Equity, Inclusion, and Access Goals:

The Motus network does not have a paywall and is open to anyone interested in reviewing the migratory patterns of species being studied across the world. Motus is an equal access platform allowing anyone to view the scientific data. Scientists doing research on migratory species across North, Central, and South America benefit from the increased coverage provided by installing antennae in locations that currently have gaps in the network. As mentioned earlier in the application there has been limited natural resources information collected in this part of the state. This includes a large gap in the Motus network (Figure 4). There's also a large hispanac population in these locations so all interpretive signs will be printed in English and Spanish with translation proofed by one of our volunteers.

Corps Foundation Bonus Cost Break Down:

As part of our environmental education outreach initiative we are interested in including one Motus network interpretive sign (Figure 1) at each of the three receiver station locations. These signs explain that the antennas are used for wildlife movement conservation and will assist us in our outreach efforts. The cost to design the graphics, print the signs, and hardware will be approximately \$5,000.

Conclusion:

This project supports the USACE mission by strengthening and adding partnerships, volunteers, decreasing mowing costs, inform and improve habitat management, and outreach. Motus links USACE MUR to an international conservation community and demonstrates the USACE commitment to environmental stewardship and how international organizations are working together to improve our natural resources. Thousands of species, including humans, benefit from habitat enhancement and sound scientific information.

NOTE: To show foresight, commitment, and planning, it is REQUIRED to include maps/pictures/plans/specs as part of your overall package. Failure to include supporting attachments will result in points deductions.

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

You MUST enter partner names into the spreadsheet:

	Local Corps Office	Handshake Funds	The Wilds	MWCD	Ohio Prairie Nursery	Ohio Bluebird Society
Salaries	\$2,200	N/A	\$0	\$0	\$0	\$0
Travel	\$0	N/A	\$0	\$0	\$0	\$0
Materials and Supplies	\$0	\$25,000	\$0	\$0	\$500	\$450
Equipment Use	\$700	\$0	\$1,000	\$0	\$0	\$0
Funds Contributed	N/A	N/A	\$1,500	\$5,000	\$0	\$0
Personal Property	N/A	N/A	\$0	\$0	\$0	\$0
Volunteer	N/A	N/A	\$3,884	\$0	\$0	\$0
In-Kind Services	N/A	N/A	\$0	\$0	\$0	\$0
Other (explain below)	\$0	\$0	\$0	\$1,800	\$0	\$0
Total	\$2,900	\$25,000	\$6,384	\$6,800	\$500	\$450
Share of Total Cost	5.7%	48.8%	12.5%	13.3%	1.0%	0.9%
	54.5%					

	Canton Audubon	Tonra Lab OSU	Birds Canada	Partner 8	Partner 9	Partner 10
Salaries	\$0	\$0	\$0	\$0	\$0	\$0
Travel	\$0	\$0	\$0	\$0	\$0	\$0
Materials and Supplies	\$0	\$3,000		\$0	\$0	\$0
Equipment Use	\$0	\$0	\$0	\$0	\$0	\$0
Funds Contributed	\$0	\$1,000		\$0	\$0	\$0
Personal Property	\$0	\$0	\$0	\$0	\$0	\$0
Volunteer	\$1,340	\$837		\$0	\$0	\$0
In-Kind Services	\$0	\$0	\$0			\$0
Other (explain below)	\$0	\$3,000		\$0	\$0	\$0
Total	\$1,340	\$7,837	\$0	\$0	\$0	\$0
Share of Total Cost	2.6%	15.3%	0.0%	0.0%	0.0%	0

	Partner 11	Partner 12	Partner 13	Partner 14	Partner 15	Total
Salaries	\$0	\$0	\$0	\$0	\$0	\$2,200
Travel	\$0	\$0	\$0	\$0	\$0	\$0
Materials and Supplies	\$0	\$0	\$0	\$0	\$0	\$28,950
Equipment Use	\$0	\$0	\$0	\$0	\$0	\$1,700
Funds Contributed	\$0	\$0	\$0	\$0	\$0	\$7,500
Personal Property	\$0	\$0	\$0	\$0	\$0	\$0
Volunteer	\$0	\$0	\$0	\$0	\$0	\$6,061
In-Kind Services	\$0	\$0	\$0	\$0	\$0	\$0
Other (explain below)	\$0	\$0	\$0	\$0	\$0	\$4,800
Total	\$0	\$0	\$0	\$0	\$0	\$51,211
Share of Total Cost	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Explanations:

1. MWCD “Other” category is the annual cellular data plan for GPS receivers that MWCD has agreed to pay for three (3) Motus stations on USACE fee lands for 5 years (with a plan to review after 5 years and consider extending).
2. The OSU Tonra Lab “Other” category is the potential for migratory bird research and educational outreach on our USACE properties. I placed \$3,000.00 in “Other” because I can’t currently place an accurate value on this potential contribution. The Tonra Lab is interested in using our projects as research sites in the future. This could lead to several environmental outreach opportunities, scientific publications with USACE partnership recognition, and 100’s of volunteer hours. One season of migratory bird research at one USACE project with one public interpretive program has the potential to be over 360 volunteer hours. This would equal more than \$12,000 in volunteer staff hours each year that research is completed at one of our project fee lands due to the Motus stations. Even if this \$3,000 estimated contribution was removed the USACE local office and Handshake funds for this project would be less than 55%.

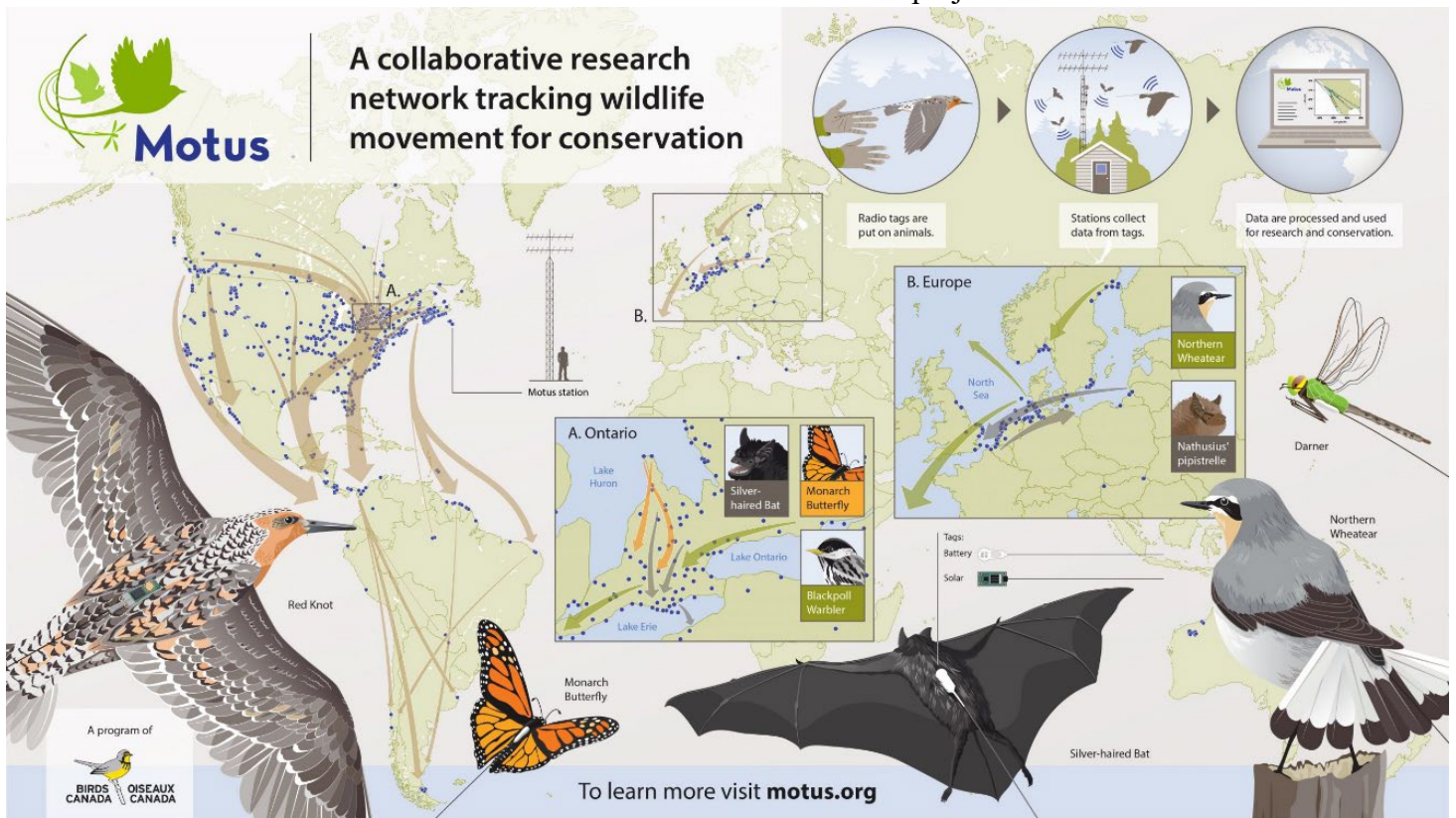


Figure 1) Example of a Motus Interpretive Sign.



POLLINATOR HABITAT

Pollination is Vital to Life on Earth

RUBY-THROATED HUMMINGBIRD
Archilochus colubris

MASON BEE
Osmia

WHAT IS POLLINATION?
Pollination is the transfer of pollen from one plant to another, enabling fertilization.
La polinización es la transferencia de polen de una planta a otra, lo que permite la fertilización.

NATIVE WILDFLOWERS FOR POLLINATORS
Flores silvestres nativas para polinizadores

 SCARLET BEE BALM <i>Monarda didyma</i>	 WILD BERGAMOT or BEE BALM <i>Monarda fistulosa</i>	 BLACK-EYED SUSAN <i>Rudbeckia hirta</i>
 BUTTERFLY MILKWEED <i>Asclepias tuberosa</i>	 COMMON MILKWEED <i>Asclepias syriaca</i>	

WHAT IS A POLLINATOR?
Pollinators play an important role in the life of flowers and production of fruits and vegetables. Insects, birds, and mammals that carry pollen from one plant to another are called pollinators. These include mosquitoes, wasps, native bees, honeybees, beetles, bats, hummingbirds, and flies. Today pollinators face many dangers, including loss of habitat, pesticides, disease, and pollution.
Los polinizadores juegan un papel importante en la vida de las flores y la producción de frutas y verduras. Los insectos, las aves y los mamíferos que transportan el polen de una planta a otra se denominan polinizadores. Estos incluyen mosquitos, avispas, abejas nativas, abejas, escarabajos, murciélagos, colibríes y moscas. Hoy en día, los polinizadores enfrentan muchos peligros, incluida la pérdida de hábitat, pesticidas, enfermedades y contaminación.

WHY ARE POLLINATORS IMPORTANT?
Pollinator plants are responsible for one-in-three bites of food we eat every day. Pollinators sustain our ecosystems and produce natural resources by helping plants reproduce.
Las plantas polinizadoras son responsables de uno de cada tres bocados de alimentos que comemos todos los días. Los polinizadores sustentan nuestros ecosistemas y producen recursos naturales al ayudar a las plantas a reproducirse.

BEE FLY
Bombyliidae

PENNSYLVANIA LEATHERWING BEETLE
Chauliognathus pensylvanicus

TREEHOLE MOSQUITO
Aedes triseriatus

US Army Corps of Engineers

THE CORPS FOUNDATION
AMERICAN LAKES AND WATERWAYS

OPN
GREEN

Figure 2) Example of a Pollinator Interpretive sign



Figure 3) Motus antenna attached to a building.



Figure 4) Free standing Motus station.



Figure 5) Motus antenna attached to existing tower.



Figure 6) Existing Motus stations as of September 2024 (yellow). A large gap exists where the USACE Muskingum projects are located including North Branch of Kokosing, Wills Creek, and Atwood (red).