USACE Natural Resource Management

Insects

Purpose

As the manager of over 12 million acres of public lands and waters, the U.S. Army Corps of Engineers (USACE) works to manage and conserve natural resources while providing quality outdoor recreation experiences to the public. USACE employs both passive and proactive management which sustains healthy ecosystems, promotes vibrant biodiversity, and protects special status species. The following factsheets were developed by USACE's Natural Resources Management (NRM) Program in order to highlight species specific conservation efforts occurring at USACE projects.

Across USACE's projects there are over 300 unique, federally listed species for which conservation concerns exist. USACE expenditures relating to the Endangered Species Act average around $230 million each year. Recognizing that USACE missions occur in a complex environment of regulations, compliance requirements, and high costs, the Engineering Research and Development Center (ERDC) and USACE Headquarters formed the Threatened & Endangered Species Team (TEST). TEST works to accelerate the development of solutions for threatened and endangered species issues that will improve budget planning capabilities and operational flexibility to reduce future costs and adverse impacts to USACE mission execution. These factsheets are intended to complement the TEST initiative by highlighting unique project efforts and promote collaboration.

Fender's Blue Butterfly

As part of this effort, the NRM based factsheets also highlight species which are not federally listed. A goal of the NRM Program is to maintain a factsheet for each species reported annually through the NRM Assessment and those for which special conservation efforts at lake and river projects are ongoing. Often these species may be listed at the state level, in State Wildlife Action Plans, or are target species for specific conservation initiative(s).

Conservation occurs in a multifaceted, ever-changing set of circumstances which may challenge project-level efforts. For instance, unpredictable changes in temperature and precipitation stemming from climate change will likely influence species' distribution. This complicates planning for future impacts as species may emigrate from, or immigrate to, the project in unpredictable fashions. Similarly, habitat loss, degradation, and fragmentation on lands surrounding USACE projects will influence species' abundance and distribution at the local scale. Changes in habitat and climate may also allow for the increased spread of non-native, invasive species which have the potential to degrade habitat past the point of usability for a species. Funding can also be a hurdle to conservation efforts, as it fluctuates with fiscal years.

Staff at Woodruff-Seminole project pose with volunteers after installing a pollinator garden on National Public Lands Day. Learn more about pollinator protection on page 2!

Photos Above (left to right): Puritan Tiger Beetle (USFWS), Mitchell's Satyr Butterfly (USFWS), Hine's Emerald Dragonfly (P. Burton, USFWS), & Dakota Skipper (USFWS)

These factsheets have been informed by information provided by the USFWS, the NatureServe Explorer, and many other federal, state, and local organizations.

Natural Resources Management (NRM)

USACE Pollinator Protection Plan

Though not all insects are pollinators, approximately 80% of all pollinators are insects. Thus the USACE Pollinator Protection Plan has major impacts on the health of insect populations. The Pollinator Protection Plan was developed in response to a 2014 Presidential Memorandum titled “Creating A Federal Strategy to Promote the Health of Honey Bees and Other Pollinators,” which directs agencies to develop plans to enhance pollinator habitat.

Photo: A spring azure butterfly and bee share a poison hemlock flower at Caesar Creek Lake.

Photo Left: Volunteers at Sutton Lake in Sutton, WV creating a native pollinator garden at the project.

The USACE Pollinator Protection Plan outlines several overarching goals. First, to identify existing policy and guidance, and modify for pollinator health including access for commercial hives. Second, to incorporate pollinator work within budget guidance. Third, to increase awareness and education. Finally, to implement conservation and best management practices for pollinator health.

Other efforts undertaken as part of the USACE Pollinator Plan included the establishment of budget identifiers in the ENS Business Line budget development process and the inclusion of questions during the annual NRM Assessment which allow for easy tracking of pollinator efforts across the nation.

In the FY20 NRM Assessment, projects reported that nearly 13,000 acres of USACE lands were being managed or maintained for pollinator specific habitat. Additionally, over 7,000 acres were improved, restored, or enhanced for pollinators during the 2020 Fiscal Year. Throughout the year over 1,000 bee hives were being managed on USACE property.

Species Examples

Salt Creek Tiger Beetle

This beetle is one of the world’s rarest insets found in only two counties in Nebraska. There are three known sites where adult beetles may be found.

Karner Blue Butterfly

This butterfly has experienced habitat loss across its range due to land development and lack of natural disturbance.

Valley Elderberry Longhorn Beetle

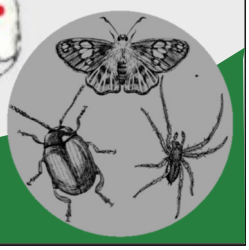
The VELB has declined in conjunction with the extensive destruction of California’s Central Valley riparian forests during the last 150 years. Some estimates suggest that riparian forest in the Central Valley has declined by 89%.

Rusty-patched Bumble Bee

This bee was once found in 28 states, but since 2000 it has only been reported in 13 states.

Bone Cave Harvestman

This cave-dwelling spider has undergone populations declines as a result of urbanization within the species’ range.

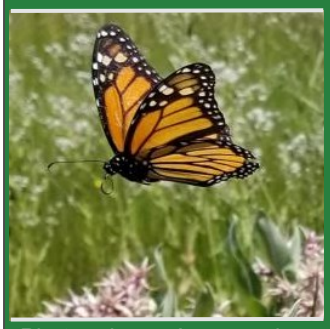


USACE Locations

- USACE Project

Xerces Society

The Xerces Society for Invertebrate Conservation is an international, nonprofit organization that works to conserve invertebrates and their habitat. The Xerces Society is a science-based organization and conducts its own research and utilizes the most up-to-date information to guide conservation work. The Society has three key program areas: the pollinator conservation program, endangered species conservation, and reducing pesticide use and impacts.



Photo, above: A monarch butterfly captured by Stephanie McKnight of the Xerces Society.

The Xerces Society's endangered species conservation program engages in education, research, community science, conservation planning, and advocacy to protect at-risk species and their habitats. The society collaborates with scientists as well as land managers to raise awareness about the plight of invertebrates and to gain protection for the most vulnerable species before they decline to a level at which recovery is impossible.

The Society provides an array of resources on their website. There is a publications library in which the society has created a searchable database of hundreds of science-based publications. The society also produces *Wings* magazine which offers beautiful photos from leading photographers as well as articles written by well-respected scientists and conservationists. There is also a comprehensive list of invertebrates in need of conservation attention for which the Society has created in-depth species profiles.

As part of the Xerces Society's pollinator conservation program, the Society has created the Pollinator Conservation Resource Center. Features of the Center include region-specific plant lists, local seed vendors, habitat guides, and more. The Center also offers the Milkweed Seed Finder which includes a comprehensive national directory of milkweed vendors to ensure land managers are obtaining the optimal milkweed for their region, target species, and goals.

Photo, above: the cover of the Xerces Society's Spring 2021 issue of *Wings*.