



2019 Targeted Grant Priorities

WRCP is soliciting grant applications for priorities in the following categories –climate change, surveys, and conservation & management. Detailed priorities within each of these categories are outlined below.

It is recommended that projects/grant applications address one of the priorities listed below. However, applications may be accepted that address priorities outlined in the Pennsylvania State Wildlife Action Plan and/or address the needs of plant species or plant communities of concern within the Commonwealth. The applicant should contact the WRCP Agency Coordinator to discuss the project, how it may fit into flora or fauna priorities and potential for funding. Please refer to the “Application Submission Information” section below for further information.

Climate Change

Climate Refugia

Climate change impacts are expected to vary across the landscape according to topography, elevation, aspect, slope, and other variables. Most areas will see significant impacts, but some may be more resistant to change. Conservation of these climate refugia, which may harbor relict populations of rare species, will become increasingly more important as climate change progresses. This project will identify and provide data and spatial information (GIS shapefiles) on potential climate refugia across the commonwealth. The successful applicant will work closely with the PA Natural Heritage Program to ensure compatibility and continuity with their habitat connectivity analyses.

Climate Change Vulnerability Analyses

Use NatureServe’s Climate Change Vulnerability Index (CCVI) to evaluate plant species potentially at risk from climate change, including state listed, proposed, and common species that may be impacted in the future. This information will be used to help inform status change justifications for species of concern or those that are proposed for listing.

- a. Assign climate vulnerability ranks for approximately 25-50 species of concern and provide detailed accounts for each species. The reports must follow the same format as currently used on the PA Natural Heritage Program CCVI web page.

- b. The grantee will work with the Bureau of Forestry to determine which species to evaluate. The list will likely include edge-of-range species that may be positively or negatively affected by climate change.
- c. Also include recommendations for mitigation such as assisted migration, suggestions for additional surveys in targeted areas, or seed saving.

Surveys

Desmodium Identification and Distribution

Tick-trefoils (*Desmodium* spp.) can be a difficult group to identify. They also are under threat from habitat conversion and invasive species. Many *Desmodium* species are either currently listed by DCNR or have been proposed for listing in the past, however there are questions about the taxonomy of this group. DCNR requests an investigation into this group to determine correct identification of the species and extent of the populations to help determine the correct status of these species. Field work, taxonomic, herbarium work and potentially genetic work is anticipated. The species for which we seek investigations are: *Desmodium glabellum*, *D. humifusum* (potentially), *D. laevigatum*, *D. nuttallii*, *D. obtusum*, and *D. viridiflorum*.

Spiny Cheek Crayfish Assessment

The Spiny Cheek crayfish was designated as a Species of Greatest Conservation Need in the 2015 PA Wildlife Action Plan, mainly due to its extirpation from much of the Susquehanna and Potomac River Basins of Pennsylvania. These losses were likely the result of exotic crayfish invasions. Additional surveys, particularly above barriers that may prevent crayfish invasions and protect populations of Spiny Cheek Crayfish, are needed to determine if the species is a candidate for listing (threatened, endangered) in Pennsylvania. Proposed sites for sampling are throughout the Susquehanna, Potomac, and Delaware drainages of Pennsylvania, including areas last surveyed in the early 2000s, as well as additional areas that have never been sampled for crayfishes.

Secretive Marsh Bird Survey

This project, which will be a part of a statewide assessment of endangered and threatened marsh bird populations in 2020, will focus on the inventory of the state's largest wetlands in Crawford and Erie counties, including intensive surveys in Conneaut Marsh, Hartstown, and the Pymatuning complex. The surveys will provide updated population assessments of some of the largest populations of several priority species (Virginia rail, king rail, sora, least bittern, American coot, and common gallinule). Survey effort will be in collaboration with local Pennsylvania Game Commission Land Management staff and game bird biologists and may be augmented with concurrent efforts throughout the state. Habitat mapping and management recommendations will be developed as part of a comprehensive effort. The outcome will be to help advise wetland management practices in the area to enhance benefits and reduce risks to marsh birds at the state's larger wetland complexes.

Conservation & Management

Effects of Non-native Darters on the Chesapeake Logperch

The threats posed by fishes introduced across drainage divides to those native fishes of the receiving drainage have been poorly studied. This is concerning to managers of native fishes given the potential of the species with the extralimital distribution to interact invasively with the native fauna. Such interactions have not been investigated for the PA Endangered Chesapeake logperch and the non-native Greenside and Banded darters in the lower Susquehanna River drainage. This project would assess such issues as the potential effects of non-native darters on the substrate choice of the Chesapeake Logperch, assess the potential for a habitat shift for the Chesapeake Logperch, and the occurrence of aggressive interactions initiated by non-native darters.

Assessing Western Pennsylvania Stream Readiness for Mussel Recovery/Restoration

Using mussel silos (small, concrete structures designed with PVC pipes to hold juvenile mussels), estimate juvenile mussel survival and growth rate at potential restoration sites (e.g., Tionesta Creek, Mahoning Creek, Sandy Creek, Tenmile Creek, Beaver River, Kiskiminetas River watershed, Allegheny River pool 6, etc.). Compare these results to reference sites in French Creek, Little Mahoning Creek, and the free-flowing Allegheny River.

Response of Wildlife to Fire Management

Increased use of fire as a management tool on State Game Lands, State Forest lands and other conservation properties calls for an adaptive management framework to evaluate species' response. There is a need to better understand the effects of fire management on Allegheny Woodrats and herpetofauna. This project should develop the monitoring framework and test that framework at three locations. The outcome will be used to advise future applications of fire management to enhance benefits and reduce risks.

Locating Indiana Bat Hibernacula

Preliminary work in 2018 indicated that an Indiana bat hibernaculum exists in southeastern Pennsylvania. This project will help identify the location of that site. The best approach to finding the site will be to tag bats at known maternity locations using nanotags and track their movements using the MOTUS infrastructure. Several temporary receiver stations could be erected at potential hibernacula to evaluate specific sites. The outcome will be protection and potential enhancement of these hibernacula.