

Delaware Watershed Conservation Fund

HIGH CONSERVATION CONCERN SPECIES, ESA, AND NFWF BUSINESS PLAN SPECIES

Proposals addressing species of high conservation concern, including species designated under state or federal Endangered Species Acts, state designated Species of Greatest Conservation Need or Regional Species of Greatest Conservation Need listed species, or NFWF business plan priority species listed below will be considered most competitive if they incorporate the eligible high-priority actions identified in Table A1 and are consistent with conservation or [recovery plans](#), where applicable, or with actions listed for the species within [State Wildlife Action Plans \(SWAPs\)](#), and [NFWF's Delaware River Watershed Business Plan](#). We encourage you to contact the State agency in your project area for up-to-date technical assistance to maximize the benefits of your project for species of concern.

Applications should provide narrative, with citations, as to how the proposed activities will contribute toward the improved conservation of the priority species, how efficacy will be measured or monitored, and how any potential adverse impacts will be addressed and mitigated. Letters of support from state wildlife agencies and prior coordination with agency contacts for state-listed species are highly encouraged.

To identify the potential for rare species or ecosystems on project sites, applicants may find the following tools useful for planning purposes (note that formal environmental review may also be required): [U.S. Fish and Wildlife Service's Information for Planning and Consultation \(IPaC\) tool](#), [New York State Environmental Resource Mapper](#), [Pennsylvania Conservation Explorer](#), [New Jersey's Landscape Project](#), and [information about Environmental Review in Delaware](#).

In 2025, NFWF has additional, dedicated funding from NRCS to support projects providing technical assistance to interested farmers, ranchers, and private forestland owners to develop management plans, design and implement conservation practices, share their experiences and lessons learned, and participate in Farm Bill programs, especially the Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP). A particular emphasis should be placed on promoting, designing, and implementing conservation practices that improve soil health, support grazing system resiliency, restore wetlands, develop perennial wildlife habitat, improve nutrient management, and enhance forest health. Applicants should ensure the project is in alignment with NRCS goals and priorities by conferring with the NRCS State Conservationist and their staff in the state in which your project is located. A list of NRCS contacts can be found [here](#).

Table A1. Priority actions, conservation plans, and other prioritization tools available for priority species. The * notes a focal species in NFWF’s Delaware River Watershed [Business Plan](#).

Species	High Priority Actions Eligible for Funding	Conservation or Recovery Plan Link (s) and Designated Locations for Actions	Other Resources or Prioritization Tools	State Wildlife Agency Contacts or other contacts
<p>Alosine species* (American Shad, Alewife, and Blueback Herring)</p>	<p>Within 13 identified high priority tributaries (see Fig. ES-2 and Table ES-1 on pages 9 and 10 of the Restoration Roadmap): provide alternative fish passage, undertake barrier removal for fish passage, conduct population monitoring, or engage dam owners/operators and communities to increase awareness of fish passage needs and the importance of native fish populations and habitat connections.</p>	<p>TNC Delaware River Basin Restoration Roadmap</p> <p>Locations:</p> <p>Delaware River Basin Fish Passage Prioritization Tool</p>	<p>Amendment 2</p> <p>State-specific Stock Assessment</p>	<p>Delaware:</p> <p>Johnny Moore</p> <p>New Jersey:</p> <p>Brian Neilan</p> <p>New York:</p> <p>William Eakin</p> <p>Pennsylvania:</p> <p>Doug Fischer</p> <p>Daryl Pierce</p>
<p>Forest Songbirds* (Golden-winged Warbler, Cerulean Warbler, Wood Thrush)</p>	<p>Implement forest management projects within designated focal areas (upper Delaware River watershed) that improve breeding habitat suitability for one or more of the target species (golden-winged warbler, cerulean warbler, wood thrush). Successful proposals will follow forest management guidelines for these species, thereby creating healthy and dynamic forest landscapes that sustain a diversity of</p>	<p>Locations: Forested areas of the upper Delaware River watershed.</p>	<p>Golden-winged Warbler Conservation Plan (See Ch. 3)</p> <p>Breeding habitat management</p>	<p>Pennsylvania:</p> <p>Sean Murphy</p> <p>New Jersey:</p> <p>Sharon Petzinger</p> <p>New York:</p> <p>Matt Palumbo</p>

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	all forest age classes and maintain structural diversity within forest stands.		guidelines for Cerulean Warblers Breeding habitat management guidelines for Wood Thrush NRCS Conservation Insight: Golden Wing Warbler	NRCS Contacts
Northeast Turtles (Spotted Turtle and Wood Turtle)	Land acquisition in “focal areas” and habitat management/restoration in “management opportunity areas” as defined in the 2018 and 2022 Conservation Plans developed for the species, or other priority actions identified in the Plans (Spotted Turtle : Part VI, pp. 210-219; Wood Turtle : Part V, pp. 142-187), including additional sampling and monitoring in focal core areas and sampling landscapes for Spotted Turtles, reducing threats, and research addressing data gaps outlined in the Plans.	Eastern Spotted Turtle Working Group 2022 Conservation Plan NE Wood Turtle Working Group 2018 Conservation Plan Locations: Contact state wildlife agency	Wood Turtle habitat management brochure	Delaware: Nathan Nazdrowicz New Jersey: Brian Zarate New York: Lisa Pipino Pennsylvania: Kathy Gipe

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		biologists for specific location information		
<p>Pine Barrens Species (Frosted Elfin and Whip-poor-will)</p>	<p>Design and implement population studies for the frosted elfin butterfly and/or eastern whip-poor-will on sites currently or historically occupied by the species frosted elfin within the watershed (reference State occurrence data). Studies that measure population responses to habitat management may be particularly valuable.</p> <ul style="list-style-type: none"> ● <u>Frosted elfin</u>: Conduct population studies that focus on inter-patch movements and estimation of abundance using mark-release-recapture. ● <u>Whip-poor-will</u>: Conduct studies that evaluate measures of success such as population size/density, confirm nest locations and estimate reproductive parameters including clutch size, and nest success, and number of young fledged. <p>Frosted elfin populations are largely restricted to pine barrens and other dry habitats that are patchily distributed throughout the watershed. Management/restoration activities that would support the species include:</p>	<p>Locations: Contact state wildlife agency biologists for specific location information</p>	<p>Partner in Flight, Species Conservation Profile; Eastern Whip-Poor Will</p> <p>Species Status Assessment Report for the Frosted Elfin</p>	<p>Delaware: Jason Davis</p> <p>New Jersey: Robert Somes</p> <p>Pennsylvania: Cathy Hafner</p> <p>USFWS: Nicole Ranalli</p>

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	<ul style="list-style-type: none"> ● maintain and expanding existing host plant patches of native blue lupine (<i>Lupinus perrennis</i>) and wild indigo (<i>Baptisia tinctoria</i>) by reducing canopy closure over existing populations and introducing fire or mowing practices to maintain an open understory and promote host plant growth. ● Creating new habitat within 0.5 km of habitat currently or historically occupied by frosted elfin (reference State occurrence data), or within 0.5 km of habitat under active restoration with long-term management potential for frosted elfin. ● Developing capacity for host plant propagation and/or captive breeding for frosted elfin. ● 			
Shorebirds (Ruddy Turnstone, American Oystercatcher, and Whimbrel)	Ruddy Turnstone & Whimbrel: Identify migration routes and key stopover and wintering areas using tracking technologies, eBird, surveys, and band resight data (including compiling & analyzing existing data and collecting new data).	2010 AMOY Hemispheric Plan 2010 WHIM Hemispheric Plan	AFSI Best Practices for predation management AFSI Best Practices and resources for	Delaware: Katherine Christie New Jersey: Bill Pitts

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	<p><u>American Oystercatcher:</u></p> <ul style="list-style-type: none"> ● Better identify importance of marsh habitat for breeding and non-breeding to prioritize acquisition, restoration, and management activities including: <ul style="list-style-type: none"> ○ Testing management actions and identifying overlap with other priority species that benefit American Oystercatchers and other shorebird species (e.g., Saltmarsh Sparrow). ● Increase efficacy and stability of predation management on managed lands experiencing poor outcomes using the Atlantic Flyway Shorebird Initiative. Develop improved management tools (e.g., risk-based decision support; guidance on camera use) and coordinated management across sites/managers. <p><u>All Focal Species:</u></p> <ul style="list-style-type: none"> ● Address threats and coordinate human disturbance management at priority managed lands during all seasons. Proposals should be modelled after existing efforts by the Atlantic Flyway Shorebird Initiative Human Disturbance 	<p>Atlantic Flyway Shorebird Initiative (AFSI) Business Plan (2015; rev 2017)</p> <p>NFWF Atlantic Flyway Shorebird Business Plan (2018)</p> <p>NFWF American Oystercatcher Business Plan (2008; rev 2018)</p>	<p>human disturbance management</p> <p>USFWS National Wildlife Refuges also have refuge-specific plans that highlight shorebird resources</p>	<p>USFWS</p> <p>Brian Marsh</p>

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	<p>group and/or Northeast Region Wildlife Refuge system.</p> <ul style="list-style-type: none"> ● Plan and pursue opportunities for habitat acquisition, restoration, & enhancement that incorporate best available knowledge of shorebird habitat needs including: <ul style="list-style-type: none"> ○ Identify and initiate restoration and enhancement opportunities on priority managed lands ○ Identify and institute best management practices for coastal engineering and dredge management. 			
<p>Freshwater Mussels (Brook Floater, Green Floater, Tidewater Mucket, Yellow Lampmussel)</p>	<ul style="list-style-type: none"> ● Plan and pursue opportunities for habitat acquisition, restoration, enhancement, and propagation and stocking species into suitable habitats in the watershed. <ul style="list-style-type: none"> ○ Restore mussels in urban corridors and where habitats will realize the greatest lift from restoring species that are not federally listed. ○ Tidewater mucket: Restore tidal fresh zones of the Delaware River, focusing on submerged vegetation / grasses and living shorelines. 	<p>TNC Delaware River Basin Restoration Roadmap</p> <p>Partnership for the Delaware Estuary Freshwater Mussel Scientific Studies and Reports:</p>		<p>USFWS contact: Catherine Gatenby</p>

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	<ul style="list-style-type: none"> ○ Yellow lampmussel: Restore habitats and protect lands in the upper freshwater tidal zone and the lower Delaware River nontidal zones. ○ Brook floater & host fish: Restore riparian habitats in the upper Delaware River. ● Research and Monitoring: <ul style="list-style-type: none"> ○ Develop BMPs to address threats associated with continued development changing water chemistry, acidification, and encroaching salinity from climate change. ○ Advance understanding of at-risk mussel declines. ○ Conduct surveys for all species, throughout NJ and the upper Delaware River basin. 	Freshwater Mussel Recovery Strategy, Delaware Estuary and River Basin		

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<p>Pollinators (Native Bumblebees and Monarch Butterflies)</p>	<p>Provide food and shelter for pollinators throughout the watershed. The larvae of many insect pollinator species have a very narrow range of foods (plants) they can eat—like the monarch butterfly larvae and milkweeds. All pollinators (including birds, bats, and insects) need appropriate nesting sites whether they're located on the ground or in a cavity, like a tree. Migratory pollinators also require overwintering sites. Actions that can benefit pollinators include: considering pollinator conservation in project planning, installation of pollinator gardens that incorporate a diverse suite of native plants, providing nesting sites and avoiding or limiting pesticide use. Proposed actions should be consistent with plans and management guidelines listed to the right. Distributions and population status for many bumble bee species remains largely unknown, highlighting the need for additional surveys.</p>	<p>USFS Plan for Monarch Butterflies</p>	<p>Management Guidelines for Bumblebees</p>	<p>USFWS Field offices in each state can provide guidance on pollinator habitat conservation:</p> <p>Delaware: Flavia Rutkosky</p> <p>New Jersey: Beth Freiday</p> <p>Pennsylvania: Betsy Leppo</p> <p>New York: Tim Sullivan</p>

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Saltmarsh Sparrow*	Actions consistent with Atlantic Coast Joint Venture (ACJV) restoration priorities using practices outlined in the Saltmarsh Sparrow Conservation Plan . Highest priority projects will include practices that build marsh elevation and restore hydrological function (e.g., ditch remediation, runnelling, beneficial use of sediment, microtopography) while minimizing impacts to existing populations, and that evaluate these practices for efficacy through monitoring.	Restoration Priorities - Atlantic Coast Joint Venture (acjv.org) Mapper: ACJV priority marshes		USFWS contact: Maureen Correll Brian Marsh
Eastern Brook Trout*	Actions consistent with NFWF business plan and other planning resources listed to the right	2018 EBTJV Plan	Trout Unlimited Conservation Portfolio	Lori Maloney
American Black Duck	Promote initiatives that contribute to the expansion of breeding and feeding habitats within the species range. High-priority actions encompass safeguarding, maintaining, and restoring critical habitats. This includes reclaiming converted wetlands in cropland and woodland, restoring the natural flow of streams and floodplains, and overseeing riparian buffers. Furthermore, emphasis should be placed on reinstating native wetland vegetation, managing invasive plant species, and restoring tidal marsh hydrology. These measures collectively enhance the	ACJV American Black Duck Conservation Plan NRCS Working Lands for Wildlife, Black Duck fact sheet .	ACJV Black Duck Decision Support Tool	Delaware: New Jersey: Austin Dammingier NRCS Contacts

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	overall breeding and feeding environment for the species.			
ESA listed species (Rufa Red Knot*, Bog Turtle, Eastern Black Rail, Dwarf Wedgemussel, Northern Long-eared Bat, Shortnose and Atlantic Sturgeon, Monarch Butterfly, pre listing status, and Swamp Pink)	Actions consistent with species recovery plans.	Red Knot Recovery Plan and Recovery Implementation Strategy Bog Turtle Recovery Plan Dwarf Wedgemussel Recovery Plan Black Rail ACJV 2020 Plan Recovery Plan for the Shortnose Sturgeon (<i>Acipenser brevirostrum</i>)		USFWS contacts: Delaware: Julie Slacum New Jersey: Wendy Walsh New York: Sandra Doran Pennsylvania: Robert Anderson

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		Recovery Outline for the Atlantic Sturgeon Distinct Population Segments		