

U.S. Fish & Wildlife Service

Delaware River Basin Restoration Program

A conservation action partnership



Vision Statement

The Delaware River Basin Restoration Program provides a foundation for a vast array of partners working in the Delaware River Basin to identify, prioritize, and collectively coordinate activities that address strategic goals identified in this document. Establishing the program will improve restoration and protection of the resources in the Delaware River Basin by enhancing coordination efforts of the many, already committed, partners. This program will maximize conservation, bolster the economy, further protect communities, improve human health, provide greater outdoor recreation opportunities, and help build a more resilient watershed for all citizens to enjoy today and into the future.

Introduction

The Delaware River Basin Conservation Act (Act), signed into law in December 2016, emphasizes the need for Federal, State, local governments and regional organizations to come together to identify, prioritize and implement restoration activities within the basin. The Act established the Delaware River Basin Restoration Program. The program includes efforts to implement conservation, stewardship and enhancement projects that conserve and restore fish and wildlife habitat, improve and maintain water quality, sustain and enhance water management and reduce flood damage, and improve recreational opportunities and public access in the Delaware River Basin. The program is supported by a diverse array of partners that are committed to a mission to improve ecological integrity throughout the basin, and in so doing, improve the economic health and quality of life for all citizens in the watershed. This report provides an overview of the program that Congress required the U.S. Fish and Wildlife Service to establish within 180 days of enactment, and meets the intent of the law to “submit to Congress a detailed letter on implementation.”

The program is non-regulatory and intended to implement the requirements of the Act through coordinating conservation and restoration activities among partners to improve the efficiency and cost effectiveness of existing and future work, providing strategic priorities, and establishing a grant funding mechanism for additional priority work that will complement existing efforts, as funds are appropriated. The program partners will establish a shared set of priorities to deliver science-based restoration and conservation activities in the Delaware River Basin with willing landowners. The program is not intended to replace existing work and its associated

funding in the basin, but rather increase coordination between partner agencies, and identify unfunded conservation and restoration priorities in the basin that would be eligible to compete for program funds, as funds are appropriated.

The Delaware River Basin

The Delaware River Basin encompasses over 13,500 square miles of land across the states of Delaware, New Jersey, Pennsylvania and New York. The river and watershed are crucial to the health and economy of the people not only of the Delaware River Basin, but also to the Mid-Atlantic Region and beyond. The Delaware River is situated in a densely populated area, with more than 6.4 million people living in the watershed and a total of over 15 million people, including New York City, that depend on the river for their drinking water.

As described in the Act, the watershed plays an invaluable role in the region’s economy, including hosting the world’s largest freshwater port complex and one of the nation’s largest oil and container ports. This port is the largest receiving center for crude oil, steel, paper, and meat imports in the country. In addition, seventy percent of the oil shipped to the East Coast passes through the Delaware Estuary, making it the second largest refining petrochemical center in the



David E. Soete

Skimmers Falls

“I’m glad that Congress came together to pass the Delaware River Basin Conservation Act and recognized the value of the Delaware River Basin. It’s a critical resource for our region, and it’s reassuring that our waterways will get the resources necessary to continue serving our communities.”

*– Governor John Carney
of Delaware*

U.S., generating more than \$19 billion in annual revenue. In addition to the economic benefits of the port complex and shipping, the basin contributes \$25 billion annually in economic activity and \$21 billion in ecosystem goods and services each year, and is directly or indirectly responsible for 600,000 jobs with \$10 billion in annual wages.

The basin has extensive natural landscapes, including 400 miles of designated National Wild and Scenic River. Half of the basin is forested and there are over 700,000 acres of wetland habitat contained in its borders. This exemplary landscape provides essential ecosystem services, including recreational, commercial, and water quality benefits, not only to the people within the basin, but also to people on a national and international scale.

The Delaware River supports a diverse suite of fish and wildlife resources and their associated habitats that perform important ecological functions for the region. The Delaware River mainstem is one of the largest undammed rivers east of the Mississippi River. The river once supported millions of migratory fish, including American shad and Atlantic sturgeon. Poor water quality drastically reduced those populations in the 19th and 20th centuries, but

efforts to improve water quality in the basin have resulted in rebounding fish populations in recent decades. The basin is an important nursery area for migratory fish of the Atlantic Coast and supports commercial fisheries in the Mid-Atlantic region and beyond. The estuary itself supports many different commercial fisheries, including the eastern oyster, with landings valued at \$4 million annually. The river and estuary support important recreational fisheries, including a world class trout fishery in the upper basin. The river is also home to endangered aquatic species, such as the Atlantic and shortnose sturgeon and dwarf wedgemussel.



Brook trout

The Delaware Estuary supports the largest spawning population of horseshoe crabs in the world. Not only essential to thousands of migrating shorebirds, the horseshoe crab also provides important value to human health by supplying a compound that can detect bacterial toxins in pharmaceutical and medical devices. The watershed also supports the second largest population of migrating shorebirds in North America. In the fall, thousands of migrating songbirds and raptors pass through the watershed on their southbound migration. These fish and wildlife resources and their associated habitats provide millions of dollars to benefit the economies in the Delaware River watershed through hunting and fishing, ecotourism, and outdoor recreational opportunities.

Delaware River Basin Restoration Partnership and Program Framework

This document is a framework that will guide the development of a basin-wide business plan and set a foundation for a grant program that will further conserve and restore the Delaware River Basin, as funds are appropriated. This framework also describes an organizational structure for a

partnership of organizations working collectively to achieve the goals of the business plan.

Program Partnership

The Delaware River Basin Restoration Program seeks to conserve and restore a network of large natural areas, corridors, and waterways on public and private lands to support thriving populations of native wildlife, migratory birds, fish, and plants; and to contribute to the social health and economic vitality of the communities in the basin. The first step toward establishing the program is to identify and bring together the basin partners invested in restoration and conservation efforts to develop a governing body that will create the program's business plan. The program will be implemented through a joint venture partnership to be comprised of members of State and Federal agencies, the Delaware River Basin Commission, the Partnership for the Delaware Estuary, and other interested agencies and organizations invested in and active through various projects and programs related to the priorities of the program.

On March 29, 2017, the U.S. Fish and Wildlife Service convened more than 50 stakeholders representing the broad array of partners in the region for a one-day forum to discuss the program, the organizational structure, and provide an opportunity to receive feedback on implementation of the law and establishment of the program. A list of partners in attendance or otherwise contacted in developing this framework is attached in Appendix I.

In addition, the U.S. Fish and Wildlife Service did a comprehensive review of the existing plans established to support work in the basin, as required by the law, and a list of those plans is provided in Appendix II and provided context in establishing the program.

Project Spotlight

Projects featured in the Project Spotlights are example projects that have been completed or are currently being conducted by partner agencies that would benefit from funding from this program.

Saucony Creek Water Quality Improvements

William Penn Foundation, Partnership for the Delaware Estuary and the Schuylkill Action Network
Location: Berks County, PA
<https://williampennfoundation.box.com/s/ho6akhcshbex7k1ebonnuo7kikzc4nj6>

- The Saucony Creek water quality improvements were completed by partners in collaboration with farmers on agricultural lands within the 33-square-mile Saucony Creek watershed, a tributary to the Schuylkill River.
- The Saucony Creek watershed is an important drinking water source for Kutztown, PA and consists of exceptional value streams designated for both trout stocking and cold water fisheries. In addition, over half of the watershed is agricultural land.
- Improvements have consisted of implementing best management practices on farms in the area including stream bank fencing and manure management to reduce excess nutrients being released into the creek.
- The project has resulted in a significant reduction in average annual nitrate concentrations in the water supply wells for Kutztown Borough.

“The Delaware River Restoration Program, established by Congress last year, will help better protect this water system on which over 15 million Americans rely. Fully implementing this program will improve coordination among federal, state and local partners who work to restore and protect the basin and ensure that partners on the ground can work together to preserve the health of this vital resource for generations to come.”
– Senator Tom Carper, Delaware

“The Coalition is excited to see the partnership envisioned in the Act come to fruition and looks forward to working together with our Federal, state and NGO partners to identify funding and ramp up coordinated restoration efforts in the basin for the benefit of natural resources, public access and water quality.”

– Maddy Urbish, Coalition for the Delaware River Watershed

The program and its associated partnership will serve as a forum for organizations to collaborate and prioritize activities to align with basin-wide conservation and restoration efforts. The partnership will work to identify and develop shared biological, ecological, and societal outcomes that reflect current and potential restored and conserved conditions of the natural lands, waters and resources. One way to develop and achieve shared goals is the use of a watershed conservation design that can guide decisions by this partnership. Watershed conservation design is a process for collaboratively agreeing on goals and measurable objectives for a geographic area and integrating information, maps, and tools to prioritize where partners can focus conservation actions with willing partners and landowners to achieve

objectives. Various conservation actions are then identified to help achieve the vision including ecological restoration, habitat management, various forms of community engagement, and more. Using the products available from the conservation design process, the program can develop a broad, watershed-wide, business plan that will allow conservation and restoration partners to align efforts with one another to achieve shared goals.

The program’s business plan will provide a mechanism to guide our collective conservation actions locally and at larger scales, achieving more than what individual organizations could achieve alone. The end result will be measurable gains for fish and wildlife conservation, clean water, access to outdoor recreation, and other values and natural and economic benefits for people living in the basin.

Program Framework

The program framework is organized around four major strategic program areas and five cross-program activities as described in the Act. The strategic program areas include:

- 1) Sustain and enhance fish and wildlife habitat restoration and conservation activities;
- 2) Improve and maintain water quality to support fish and wildlife, as well as habitats of fish and wildlife, and drinking water for people;
- 3) Sustain and enhance water management for volume and flood

- 4) Improve recreational opportunities for public access in the basin consistent with the ecological needs of fish and wildlife habitat.

The cross-program activities include:

- 1) Engage the public through outreach, education, and citizen involvement to increase capacity and support for coordinated restoration and protection activities in the basin;
- 2) Facilitate strategic planning to maximize resiliency of natural systems in changing watershed conditions;
- 3) Increase scientific capacity to support planning, monitoring, and research activities necessary to carry out coordinated restoration and conservation activities in the basin;
- 4) Provide technical assistance for restoration and conservation activities; and
- 5) Conserve areas of regional significance.

Each strategic program area and cross-program activity is discussed further based on the goals to support the achievement of the overall purpose and intent of the Act. The focus areas within the strategic program areas and cross-program activities align with and/or complement the efforts of existing partner organizations expected to support the program partnership.

Program areas were designated because of their unique focus areas needed to attain the goals of each strategic program area; however, there is overlap of focus areas among different strategic program areas. Therefore a project that primarily focuses on one strategic program area (i.e. fish and wildlife habitat protection) may also have ancillary benefits to water quality improvements, improving resiliency to flooding, and providing increased recreational opportunities. The program should support projects that can address as many strategic program areas as possible as well as explore ways to increase a project’s ability to address several strategic program areas. Conversely, each of the cross-program activities should be embedded in every project supported by the program. For example, a



Eric Rowe

Kayaking



Fishing

project that focuses on water quality improvements should have an outreach component, be selected based on strategic planning, have a monitoring component, and have opportunities for partners to provide technical assistance. Cross-program activities can also have stand-alone projects that address one or more of the focus areas in a particular cross-program activity.

This framework and the business plans developed through the program do not supersede any mandates or authorities that partners may have to manage resources in the basin, but provides an outline to identify areas for alignment of effort and resources of different organizations. Partners may affiliate or support one or more strategic program areas identified in the framework. The intent of the program is to bring together various stakeholders to create a body that can share experience and expertise aimed toward addressing all of the different strategic program areas and cross-program activities, building networks, and leading to greater efficiency and focus on a basin-wide scale.

Strategic Program Areas and Goals

Strategic Program Area 1: Sustain and Enhance Fish and Wildlife Habitat Restoration and Conservation Activities

The basin has diverse habitats that support an array of fish and wildlife, ranging from densely forested headwater streams in the upper basin to the bayshores of the estuary. The program will work to conserve and restore ecological function to the important habitats for which the fish

and wildlife resources in the basin depend. Conservation and restoration of these habitats will result in ecological, recreational, and commercial benefits.

Goal: To sustain and restore fish and wildlife populations through conservation and restoration of their associated habitats and promote native ecosystem restoration.

Focus Areas for Conservation Prioritization and Design:

- Remove barriers and constrictions in streams that impede fish passage
- Restore instream habitat and streambanks in degraded areas
- Preserve contiguous forest areas
- Conserve and restore headwater forested areas
- Conserve and restore riparian buffers
- Conserve and restore non-tidal wetland areas
- Conserve, restore, and increase the resiliency of tidal marshes
- Conserve and restore beach habitat, and increase resiliency of shorelines to erosion and sea level rise
- Identify, conserve, and restore important wildlife corridors
- Improve habitat resiliency
- Preclude introduction or expansion of invasive species
- Control existing invasive species infestations and promote native communities
- Conserve and restore submerged aquatic vegetation
- Remediate contaminated areas and habitats

Project Spotlight



Prime Hook Marsh Restoration Project

U.S. Fish and Wildlife Service,
Army Corps of Engineers

Location: Milton, DE

<https://www.fws.gov/hurricane/sandy/projects/PrimeHook.html>

- Prime Hook National Wildlife Refuge is managed by the U.S. Fish and Wildlife Service and protects more than 10,000 acres of important bird habitat on the Delaware Bay.
- Over \$38 million in funding was appropriated through the Disaster Relief Appropriations Act of 2013 to restore a highly damaged coastal salt marsh system that was causing major flooding on the refuge and to nearby communities.
- The project restored the coastal salt marsh habitat by using scientific models to rebuild the natural system and make it more resilient to future storms.
- The Federal agencies worked closely with the State of Delaware, local communities and research institutions to design a restoration project using sound science.
- As soon as the coastal marsh restoration project was completed, thousands of shorebirds returned to this important birding area that provides recreational opportunities to visitors and enhances the local economy.

“To realize their shared vision of a cleaner, healthier and more sustainable Delaware River; the federal government and the four basin states in 1961 jointly enacted the Delaware River Basin Compact legislation that created the Delaware River Basin Commission (DRBC). The Delaware River Basin Conservation Act of 2016 advances that vision for a new era. The DRBC’s members and staff look forward to working with our Delaware River Restoration Program partners on shared conservation goals for ensuring the future health of the Delaware River and the economy and quality of life that it supports.”

*– Steve Tambini, Executive Director,
Delaware River Basin Commission*

Strategic Program Area 2: Improve and Maintain Water Quality to Support Fish and Wildlife, as well as Habitats for Fish and Wildlife, and Drinking Water for People

Over 15 million people rely on the water from the Delaware River and tributaries for their drinking water needs. The river also supports a diverse suite of fish and wildlife that depends on high quality water in the river. Historically, portions of the estuary near Philadelphia, Camden, and Wilmington suffered from poor water quality from pollution as a result of rapid population growth and industrial activities in the watershed. Great strides have been made in improving water quality in the basin since the 1970s but additional work is still needed to maintain and improve water quality for both people and wildlife. There are several regulatory programs working toward protecting and improving water quality in the basin. This program will coordinate with existing regulatory activities but will focus on non-regulatory efforts to provide additional focus on habitat protection and conservation activities with the objective to protect water quality for both drinking water and the health of the fish and wildlife resources that depend on clean water.

Goal: To protect and maintain water quality through projects and non-regulatory programs aimed at improving land and watershed management and reduce pollutants that can impair water quality.

Focus Areas for Conservation Prioritization and Design:

- Reduce non-point source pollution including sedimentation from agricultural, municipal, and urban landscapes
- Reduce nutrient inputs into the river and tributaries
- Reduce toxic discharges and pollution from point and non-point sources
- Identify and reduce contaminants that impact aquatic life
- Increase freshwater mussel and oyster populations to improve water quality and living shorelines
- Maintain healthy forests along the river with a focus on eradication of invasive species
- Promote conservation practices on working lands



David B. Soete

Hawk's Nest Highway

Strategic Program Area 3: Sustain and Enhance Water Resource Management for Volume and Flood Damage Mitigation Improvements to Benefit Fish and Wildlife Habitat

There are high demands on the water resources for the Delaware basin, ranging from municipal and industrial water supply to energy production and agricultural uses. Fish and wildlife also depend on water availability in the habitats where they live. Managing water use to meet drinking water needs and other human uses while still providing water to support fish and wildlife is challenging. Drought conditions can make management of water resources in the river more precarious. High flows, such as flooding, can cause different but equally challenging problems. Water resource management in the basin is regulated by the Delaware River Basin Commission (DRBC) and other entities. This program will coordinate with existing regulatory activities, but will focus on non-regulatory efforts to support the demands on the water resources of the basin and to enhance resiliency to potential drought and flood conditions.

“With the Delaware River Basin Conservation Act now signed into law, watershed and conservation organizations in Pennsylvania will be supported in continuing their important work in protecting and conserving the basin. These activities are critical to our economy and to residents who receive drinking water from the basin, as well as to the fish and wildlife who rely on the basin.”

– Congressman Ryan Costello (PA-06)

Goal: To provide non-regulatory support to the management of water resources to meet the various human and ecological needs and legal requirements in the basin and restore ecological function to the watershed, river, and tributaries in order to provide enhanced resiliency to potential drought and flood conditions.

Focus Areas for Conservation Prioritization and Design:

- Maintain flow and salinity objectives at key locations
- Support water resource uses and needs in the basin, including drinking water
- Improve groundwater baseflow recharge and infiltration
- Conserve and restore riparian corridors to improve habitat and reduce flooding
- Reconnect floodplains to adjacent waterways to improve resiliency and reduce flood damage
- Conserve and restore wetlands and improve buffer areas to aid in flood protection
- Improve protection for fish populations at water withdrawal facilities
- Identify stormwater management challenges and work with local governments to increase opportunities for natural stormwater management to reduce flooding
- Improve forest management to increase baseflows
- Determine minimum ecological flows for priority watersheds and maintain those flows for fish and wildlife resources

Strategic Program Area 4: Improve Opportunities for Public Access and Recreation in the Basin Consistent with the Ecological Needs of Fish and Wildlife Habitat

Because of its location within a densely populated part of the country, the basin offers easy access to outdoor recreational opportunities to millions of people. The basin provides high-quality recreational experiences, including boating, hunting, fishing, hiking, biking, wildlife viewing, birding, and scenic touring, thus providing significant revenue to the basin.

Goal: To maintain and improve recreational opportunities which are compatible with the conservation of natural resources.

Focus Areas for Conservation Prioritization and Design:

- Increase and maintain public river access
- Increase and maintain access to protected land with public benefits
- Improve urban and working waterfronts, including increasing public access
- Increase and maintain amount of recreational opportunities and experiences
- Increase hunting and fishing opportunities and access

Cross-Program Activities

Cross-Program Activity 1: Engage the Public through Outreach, Education, and Citizen Involvement to Increase Capacity and Support for Coordinated Restoration and Protection Activities in the Basin

Millions of people rely on the natural resource services provided by the Delaware River Basin, including clean air and water, recreational, and commercial opportunities. It is important to engage all members of society to improve their understanding of direct connections between the river ecosystem and their daily lives in their communities and surrounding areas. Improved community education and engagement will increase stewardship and ensure a healthy future of the river system and its associated communities.

Goal: To increase public awareness of the recreational, educational, and economic contributions made by the Delaware River Basin and its ecosystems in order to increase the sense of stewardship of natural resources by residents and visitors.

Focus Areas for Conservation Prioritization and Design:

- Convey to the public the economic and quality of life benefits that a healthy Delaware River provides for all individuals
- Improve access to information about the program through various means including websites, newsletters and/or social media
- Enhance engagement of citizen scientists in programs and volunteer activities
- Enhance interpretive programming focused on the basin's natural history

- Develop mechanism to provide public with information on public access points and recreation opportunities in the basin

Cross-Program Activity 2: Facilitate Strategic Planning to Maximize Resiliency of Natural Systems in Changing Watershed Conditions

Improving resiliency of the landscape is necessary to ensure resources and ecological functions are maintained during changing environmental conditions and land use. To conserve fish and wildlife resources, as well as water quality and quantity, implemented projects should not only conserve existing resources but also make them more resilient to changing conditions.

Goal: To ensure that important areas and habitats are protected during changing land use and environmental conditions in order to maintain or improve ecological function.

Focus Areas for Conservation Prioritization and Design:

- Identify, conserve, and restore important natural habitats that are negatively impacted by changing land use
- Identify, conserve, and restore areas of unique habitats that may be threatened by changing environmental conditions
- Promote connectivity of floodplains to watersheds as well as removing barriers and conserving and restoring non-tidal wetlands to improve resiliency and reduce damage during flooding conditions
- Promote tidal wetland restoration and shoreline protection to improve resiliency of coastal habitats against threats of sea level rise and extreme weather events

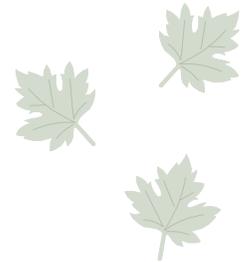
Project Spotlight



Highlands Greenway Land Protection Project

State of New Jersey, U.S. Fish and Wildlife Service, Jefferson Township, Morris County, Trust for Public Land
Location: Morris County, NJ

- The Highlands Greenway project permanently protected 835 acres of forested and wetland habitat in Morris County, NJ that was slated for development.
- The State of New Jersey used Federal funds from the Highlands Conservation Act Grant Program to acquire 646 acres as an addition to the Rockaway River Wildlife Management Area; and an additional 188 acres were acquired using state and local funds and now managed by Jefferson Township.
- These newly protected lands protect critical drinking water supplies, provide habitat for the Federally endangered Indiana bat, and Federally threatened bog turtle, and are open to the public for recreation.
- The acquisition created a critical wildlife corridor to more than 3,000 acres of previously conserved lands.



“Pennsylvania Department of Conservation and Natural Resources (PADCNR) is truly excited to be part of the Delaware River Basin Restoration Partnership. We recently launched a riparian forest buffer initiative with a goal of adding 95,000 acres of stream buffers by 2025. Linking restoration priorities like our ambitious buffer program with similar work in adjacent states, and deciding together with other partners what can be done to achieve our shared goals, is a good way to ensure that our work and investments are efficient.”

*- Cindy Dunn,
Secretary, PADCNR*

Cross-Program Activity 3: Increase Scientific Capacity to Support Planning, Monitoring, and Research Activities Necessary to Carry Out Coordinated Restoration and Conservation Activities in the Basin

There are many different organizations currently working on natural resource conservation issues in the Delaware River Basin. Increased coordination between those organizations can improve current scientific capacity, reduce duplication of efforts, and identify gaps where additional capacity is needed. Improving existing monitoring and identifying new priority monitoring programs will also assist in measuring project related outcomes that conserve and restore our natural resources. The program can guide future priority setting and decision making and preparing for future changes to the landscape.

Goal: To increase coordination of scientific resources among partners in the basin to support decision making for project planning and measure improvements to natural resources after project implementation.

Focus Areas for Conservation Prioritization and Design:

- Improved inventory and monitoring of existing waterways, land use, and ecological conditions to determine priority areas for project implementation
- Provide monitoring capabilities to assess improvements to natural resources based on implementation of Program projects
- Establish science-based decision support tools to determine priority areas for conservation and restoration projects
- Evaluate effectiveness of projects to increase citizen's stewardship of natural resources
- Document economic benefits of project implementation
- Establish data management and data analysis capabilities, as well as provide a mechanism for data sharing between Program partners to support Program projects and priorities

Cross-Program Activity 4: Provide Technical Assistance for Restoration and Conservation Activities

Technical expertise for a variety of resource conservation and restoration work can be found in Federal, State,

"We have long known that the basin is a true environmental treasure that supports countless wildlife and directly affects the public health of communities in South Jersey and surrounding states. Protecting and preserving the Delaware River Basin is a monumental task that requires a unified effort and public-private partnerships to succeed."

– Congressman Frank LoBiondo (NJ-02)

and local government entities and non-government organizations across the basin, but capacity is limited. For more effective use of the limited existing resources and technical expertise that exists for project planning and implementation, organizations collaborate and share these resources across projects.

Goal: Provide a process for providing technical assistance for project development and implementation across the partnership.

Focus Areas for Conservation Prioritization and Design:

- Identify and utilize existing resources (individuals, committees, organizations, etc.) for technical expertise among programs and organizations in the partnership
- Provide coordination in the form of technical support and project review where partner's expertise lines up with priority projects
- Build and enhance partner capacity to provide technical assistance
- Provide assistance with project permitting

Cross-Program Activity 5: Conserve Areas of Regional Significance

The Delaware River Basin watershed is rich with places of outstanding significance to communities and our nation. These areas support tourism, the economy, our shared heritage, and our cultural identity. Many of these unique places face significant pressure for land use; therefore, conservation of these places is vital to the economy and cultural identity to residents in the watershed.

Goal: To use available tools and resources to identify unique landscapes throughout the basin, and avoid and mitigate impacts of changing land use that would alter the function of those landscapes in the basin while conveying their importance.

Focus Areas for Conservation Prioritization and Design:

- Identify regional landscape areas of significance through existing and new tools
- Maintain and restore regional areas of significance

Project Spotlight



Sands Creek Restoration

Friends of the Upper Delaware River with Trout Unlimited and National Fish and Wildlife Foundation

Location: Delaware County, NY
<http://www.fudr.org/2015/09/08/sands-creek-restoration-project-completed/>

- The Sands Creek restoration project was completed by partners on Sands Creek located on the West Branch of the Upper Delaware River in Hancock, NY.
- Sands Creek is a critical trout spawning tributary and the restoration project will increase recreational opportunities.
- The work on the project stabilized shorelines and reconnected floodplains in a stretch of the creek.
- The project will ultimately have both economic and environmental benefits for the community including flood mitigation, stream bank stabilization, sediment control, and improved aquatic habitat.



Sands Creek Site 5

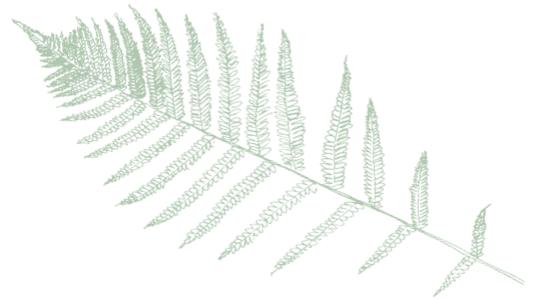
Appendix I

Partner organizations in the Delaware River Basin that have participated in the development of the Delaware River Basin Restoration Program's Framework document.

Academy of Natural Sciences of Drexel University
 American Littoral Society
 American Rivers
 Appalachian Mountain Club
 Audubon Pennsylvania
 Coalition for the Delaware River Watershed
 Delaware County Department of Watershed Affairs
 Delaware Department of Natural Resources and Environmental Control
 Delaware Nature Society
 Delaware River Basin Commission
 Delaware River Basin Fish and Wildlife Management Cooperative
 Delaware Riverkeeper
 Ducks Unlimited
 Environmental Protection Agency
 Friends of the Upper Delaware River
 National Fish and Wildlife Foundation
 National Oceanic and Atmospheric Administration
 National Park Service
 National Parks Conservation Association
 National Wildlife Federation
 Natural Resources Conservation Service
 New Jersey Audubon
 New Jersey Department of Environmental Protection
 New Jersey Farm Bureau
 New York Farm Bureau
 New York State Department of Environmental Conservation
 Partnership for the Delaware Estuary
 PennFuture
 Pennsylvania Department of Conservation and Natural Resources
 Philadelphia Water Department
 The Nature Conservancy
 Trout Unlimited
 U.S. Geological Survey
 U.S. Army Corps of Engineers
 Upper Delaware Council
 William Penn Foundation

“New York Farm Bureau appreciates being included in the important process of promoting a healthy Delaware River Basin. The voluntary efforts proposed are workable solutions for farmers to engage in conservation practices that will improve water quality. At the same time, the report addresses ways to combat invasive species that can threaten our valuable forests. We look forward to continuing the partnership with other stakeholders as the Delaware River Basin Restoration process moves forward.”

– David Fisher, New York Farm Bureau President.



Appendix II

Existing Delaware River Basin Plans considered during development of the Delaware River Basin Restoration Program's Framework document.

Author Organization	Document Title	Website Link	Year
Agreement of the Parties to the 1954 U.S. Supreme Court Decree	Flexible Flow Management Program	https://water.usgs.gov/osw/odrm/ffmp/2016/2016_FFMP_Agreement_Signed.pdf	2016
Delaware River Basin Commission	Delaware River Basin Comprehensive Plan	http://www.nj.gov/drbc/library/documents/comprehensive_plan.pdf	2001
Delaware River Basin Commission	Delaware River Basin Compact	http://www.nj.gov/drbc/library/documents/compact.pdf	1961
Delaware River Basin Commission	DRBC Water Code	http://www.nj.gov/drbc/library/documents/watercode.pdf	2013
Delaware River Basin Commission	DRBC Water Resource Program	http://www.state.nj.us/drbc/library/documents/WRP2017-2019DRAFT.pdf	2017
Delaware River Basin Commission	DRBC Water Resources Plan for the Basin	http://www.state.nj.us/drbc/library/documents/BasinPlan_Sept04.pdf	2004
Delaware River Basin Fish & Wildlife Management Cooperative	American Shad Habitat Plan for the Delaware River	http://www.asmfc.org/files/ShadHabitatPlans/AmShadHabitatPlan_DE_RiverCoop.pdf	2014
Delaware River Watershed Initiative	Investing in Strategies to Accelerate Conservation and Measure Impact in the Delaware River Watershed	http://www.drwi.net/downloads	2014
Delaware Division of Fish and Wildlife	Delaware Wildlife Action Plan 2015-2025	http://www.dnrec.delaware.gov/fw/dwap/Pages/WAP-Progress.aspx	2014
National Fish and Wildlife Foundation	Delaware River Watershed Business Plan	N/A – Draft only	2017
National Park Service	Final River Management Plan - Upper Delaware Scenic and Recreational River	https://www.nps.gov/upde/learn/management/upload/Upper-Delaware-River-Management-Plan-1986.pdf	1986
Natural Resource Conservation Service	Regional Conservation Partnership Program	https://www.nrcs.usda.gov/wps/portal/nrcs/main/nj/programs/farmbill/rcpp/	2015



Female and young bald eagle



Red knot

Author Organization	Document Title	Website Link	Year
National Wildlife Federation	Delaware River Watershed Vision Campaign	http://www.nwf.org/What-We-Do/Protect-Habitat/Waters/Delaware-Watershed.aspx	2016
The Nature Conservancy	Delaware River Basin Priority Conservation Areas and Recommended Conservation Strategies	http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/ED_marine_DEbasin_fullreport2011.pdf	2011
The Nature Conservancy	Delaware River Basin National Blueways Goals	N/A - Draft only	2013
New Jersey Dept. of Environmental Protection	New Jersey Wildlife Action Plan for Wildlife of Greatest Conservation Need	http://www.state.nj.us/dep/fgw/ensp/waphome.htm#plan	2008
New York State Dept. of Environmental Conservation	The 2001 Delaware River Basin Waterbody Inventory and Priority Waterbodies List	http://www.dec.ny.gov/docs/water_pdf/pwldela02a.pdf	2002
New York State Dept. of Environmental Conservation	New York State Wildlife Action Plan	http://www.dec.ny.gov/docs/wildlife_pdf/swapfinaldraft2015.pdf	2015
Pennsylvania Dept. of Conservation & Natural Resources	Middle Delaware River Conservation Plan	http://www.dcnr.state.pa.us/cs/groups/public/documents/document/D_001528.pdf	2004
Partnership for the Delaware Estuary	Comprehensive Conservation Management Plan (CCMP)	https://s3.amazonaws.com/delawareestuary/2019+DelEst+Revised+CCMP.pdf	2019
Pennsylvania Game Commission & Pennsylvania Fish & Boat Commission	2015-2025 Pennsylvania Wildlife Action Plan	http://www.fishandboat.com/Resource/StateWildlifeActionPlan/Pages/default.aspx	2016
U.S. Army Corps of Engineers	FY17 Congressional Book	http://www.nap.usace.army.mil/Portals/39/docs/Civil/FY17_CongressionalBook.pdf	2016



Horseshoe crabs



Snow geese

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