

2018-2021 DNREC Capital Plan



Investing in Delaware's Conservation Economy



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL**

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Secretary

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Investing in Delaware's Conservation Economy

Members of the Bond Bill Committee,

I am pleased to present you with a copy of DNREC's 2018-2021 Capital Plan, which lays out our vision, composed of a series of key projects, each of which demonstrates that strategic environmental investments help drive economic prosperity and growth. By providing sustained funding for these critical infrastructure needs, we will help strengthen Delaware's economy, while we improve the health of our environment.

Through the leadership of Governor John Carney and the support of the Delaware General Assembly, we have focused on continuing investment in the environmental infrastructure that supports tourism, recreation, and public health and safety.

By purifying air and water, mitigating flooding, and supporting diverse species, as well as providing recreational amenities, we generate millions of dollars in economic value. Outdoor recreation options, such as biking and walking trails, can help reduce health care costs as Delawareans adopt healthier lifestyles – and more than 60 percent of our residents now participate in outdoor recreation. Visitors come to Delaware to experience our pristine beaches, navigable waterways, rustic landscapes, world-class birding, hunting, fishing, biking, and hiking. Clean air and water and memorable recreational experiences are vital to attracting visitors and new companies, as well as retaining businesses and their top talent. Thousands of Delaware jobs in businesses such as hotels, restaurants, retail outlets, bait and tackle shops, recreational equipment stores, marinas, and boat dealerships, as well as commercial watermen and farmers, depend upon maintaining a healthy environment.

Tourism spending in Delaware totals about \$4.8 billion annually, with \$1.2 billion in salaries and wages, and more than \$500 million generated in state and local taxes. A new study shows \$400 million was generated just by out-of-state visitors traveling 50 or more miles to visit Delaware's state parks – and every dollar of operating general fund support our parks receive brings a return of \$40 in economic activity.

So today, as many demands compete for limited resources, we encourage investment in Delaware's extraordinary natural environment and the thousands of jobs and billions of dollars of activity that depend upon their stewardship. I look forward to your support of our natural resources as a vital sector of our economy and an important part of our quality of life here in Delaware.

Sincerely,

Shawn M. Garvin,
Secretary

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Critical Infrastructure Investments

Shoreline and Waterway Management

Delaware's ocean and bay beaches are among the most prized in the nation. Bay beaches are a vital component of the Delaware Bayshore Initiative as a world-class conservation and low-impact recreation area.

Beach nourishment protects our infrastructure and property from flooding and storms and ensures that Delaware is prepared for the impacts of future storms. Nourished beaches are vital to tourism, job growth, and the state's economy.



Kevin Fleming

Broadkill Beach has been strengthened by beach nourishment. Final dune work is underway.

FY2019 Funding Request for Shoreline and Waterway Management: \$5 Million

Project Description

Shoreline

Funding is requested to carry out the state's Beach Preservation program along the Atlantic Ocean coast and Delaware Bay shoreline, including operation of the Indian River Inlet Sand Bypass Facility, the Delaware Inland Bays waterway management plan, and the University of Delaware Citizen Monitoring program efforts.

In FY2019, funding is requested to provide a match for federal funds to nourish Rehoboth, Dewey and Lewes beaches. The funds requested will also support the implementation of phase one of the 10-year Delaware Bay Beach Management Plan.

Waterway

Utilizing state resources and private contractors, the Delaware Inland Bays waterway management multi-year plan includes emphasis on waterway management projects and operations and environmental restoration initiatives in and near the state's Inland Bays. Funding is requested to construct a beneficial reuse dredging project in the federally-authorized channel in Massey's Ditch.

Funding is also requested to perform ongoing waterway management operations in the state's Inland Bays by: placing aids to navigation to properly mark channels for the boating public; removing nuisance accumulations of macro algae from near shore and shoreline areas; and removing abandoned vessels and derelict structures from waterways to ensure safe navigation. The University of Delaware provides training for volunteers to monitor macro algae accumulations and water quality improvements resulting from restoration activities.

Capital Request Funding

| | State | Federal | Other |
|--------------|---------------------|---------------------|---------------------|
| FY2017 | \$3,161,921 | \$1,400,000 | \$3,225,000 |
| FY2018 | \$2,198,191 | \$1,400,000 | \$3,800,000 |
| FY2019 | \$5,000,000 | \$20,990,000 | \$3,800,000 |
| FY2020 | \$5,000,000 | \$7,740,000 | \$3,800,000 |
| FY2021 | \$5,000,000 | \$11,740,000 | \$3,800,000 |
| Total | \$20,360,112 | \$43,270,000 | \$18,425,000 |

The sources of other funds are the Public Accommodation Tax and Waterway Management Fund.

Shoreline Management

Under the state's Beach Preservation program, work typically includes beach nourishment, structural erosion control measures, public dune maintenance, and emergency storm repair and cleanup. Work is done only on publicly-accessible beaches and may involve cost sharing with federal and local governments. Under plans prepared by the U.S. Army Corps of Engineers (USACE), federal and state cost-shared beach nourishment projects are undertaken on three- to five-year cycles for 50 years (generally, federal 65 percent and state 35 percent).

Economics:

Delaware's coastal economy has a significant impact on our overall economy, generating almost \$7 billion annually. Our coastal economy also generates \$711 million in tax revenue and supports almost 60,000 jobs.

Since 2005, the federal government has invested \$119.22 million in Delaware beach nourishment/restoration projects extending from Broadkill Beach to Fenwick Island. The state contributed \$28.5 million in cost share funds, approximately one half of which came from bond bill appropriations.

Accomplishments/Current Projects: FY2017-2018

The USACE completed the Broadkill Beach project in FY2017. DNREC supported this project, with \$1.2 million in a contract for dune grass planting, dune fencing, and crossings in FY2017-18.

The USACE conducted maintenance beach nourishment work in Rehoboth and Dewey Beaches in FY2017, which required a \$4.05 million state match paid to the USACE against their \$7.5 million. This is a scheduled maintenance for the 50-year duration project that was initially constructed in 2005. Maintenance nourishment work is scheduled for Rehoboth and Dewey Beaches every three years until 2055.

The USACE will be conducting maintenance beach nourishment work in Bethany Beach and South Bethany. The state-required match was disbursed for

\$3.5 million in the summer of 2017, with the project commencing in the spring of 2018 in accordance with the USACE work plan.

The USACE will be conducting maintenance beach nourishment work in Fenwick Island. The state required match of \$4.0 million was disbursed in the summer of 2017, with the project commencing in winter/spring of 2018 in accordance with the USACE work plan.

An addition to the sand bypass facility at Indian River Inlet was constructed in April 2017. The addition includes a new office, service bay, secure storage area, and bathroom. The work was funded primarily by the USACE (\$1.2 million), with the state providing \$350,000 in cost share funding. The bypass operates annually to pump sand from the south side of the Inlet to the north side to protect Route 1 and the Indian River Inlet Bridge.

The Beach Preservation program includes:

- Beach nourishment
- Structural erosion control measures
- Public dune maintenance
- Emergency storm repair and cleanup
- Regulations in support of the Beach Preservation Act to protect dunes and beaches

Delaware Bay Beaches Replenishment:

The "Delaware Bayshore Communities Economic Analysis of Options for Shoreline Management" report provides state and local governments with an economic-based study associated with making public investments in Delaware Bay beach communities.

The report highlights the need for local communities to share in the funding of beach management. With storms and erosion threatening several bay communities, an equitable and sustainable investment policy for beach replenishment repair is vitally important.

Waterway Management

DNREC has been responsible for performing waterway management operations statewide since 1970. To ensure safe navigation for the boating public, the agency maintains adequate depths in waterways through dredging and sediment management. A major emphasis is being placed on using dredged material for beneficial purposes, including nourishing eroded shorelines and restoring wetlands and island habitat.

DNREC also performs additional waterway management activities, including placing aids to navigation to properly mark channels, mechanically harvesting nuisance build-ups of macro-algae in the Inland Bays to improve water quality, aesthetics and boating access, and removing obstructions such as abandoned vessels, debris, and derelict structures that hinder navigation in the waters of the state.



Dredged materials can be reused to nourish eroding shorelines and restore wetlands.

Economics:

- With about 62,000 boats registered in Delaware, boaters rely on safe and navigable channels and waterways.
- Improving navigation of our waterways supports our economy, tourism, and commercial and recreational fishing.
- The beneficial use of clean, dredged material from navigation projects is the most cost-effective way to nourish eroded beaches.
- In recent years, insufficient funding of federally authorized waterway management projects has resulted in many of these projects shifting to the state.

Waterway Management Fund:

The 148th General Assembly of Delaware passed Senate Bill (SB) 261, which was enacted in July 2016. The legislation implemented recommendations made by the Delaware Waterways Management and Financing Advisory Committee, which was formed by the passage of Senate Concurrent Resolution 64 in 2014.

Effective Jan. 1, 2017, SB 261 established a sustainable and dedicated source of funding, known as the Waterway Management Fund, for the exclusive support of state waterway management operations to keep channels open and safe for boaters. The fund is supported by an increase in boat registration fees with all the increased fee revenues dedicated to the fund.

Waterway Management Operations:

Throughout the spring and summer of 2017, DNREC harvested 300 tons of algae from the state's Inland Bays. Utilizing state resources and private contractors, the Delaware Inland Bays sediment management multi-year plan includes emphasis on waterway management projects and operations and environmental restoration initiatives in and near the state's Inland Bays.



Installing channel markers in the Inland Bays makes it safer for boaters to navigate.

Accomplishments:

In FY2017, Bond Bill funds were used to complete maintenance dredging of the Assawoman Canal. Also in FY2017, navigational access improvement projects were completed at the University of Delaware College of Marine Studies Harbor in Lewes, the Indian River Marina and the Augustine Beach Boat Ramp.

FY2018-2019 Projects:

Projects planned for FY2018-19 include navigational channel improvement work in Indian River and continued maintenance work in Assawoman Canal, the Indian River Marina and the Augustine Beach Boat Ramp.



A waterway crew is shown removing downed trees and debris from a waterway.

Critical Infrastructure Investments

High Hazard Dams and Dikes Repair/Replacement

Dams are an important but aging part of Delaware's infrastructure. They were originally constructed for milling grain in the southern part of the state and for industrial purposes, including making gunpowder in the north. Today, dams provide recreational and fishing opportunities. However, if dams fail, downstream communities and infrastructure could be threatened.

Dikes consist of low-wall earthen embankments with tide gauge structures designed to prevent flooding of adjacent properties and infrastructure. The five dikes, in and near the city of New Castle, were originally built by Dutch and Swedish settlers between 200 and 350 years ago. The dikes were repaired and restored in 2013-2014 to provide the city and surrounding areas with flood protection from the Delaware River and reduced impacts from coastal storms. While



Craigs Pond spillway improvements completed.

the improvements represent a milestone in coastal resiliency, the dikes continue to experience erosion and other issues from intense storms and waves that may require future repair and maintenance work.

FY2019 Funding Request for Dams and Dikes: \$1 Million

Project Description

Dams

Funding is requested to perform emergency planning and monitoring, dam engineering, maintenance repairs, and general construction for state-owned dams. Major capital improvements initiated by DNREC include Garrisons Lake, and Concord, Chipmans, Craigs, Trap, and Mud Mill ponds. Funding will be used for the construction of these improvements and priority will continue to be dependent on final construction estimates, environmental permitting, and final designs.

Dikes

A complete inventory of dikes and associated structures is currently underway.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2017 | \$1,500,000 | \$0 | \$0 |
| FY2018 | \$1,500,000 | \$0 | \$0 |
| FY2019 | \$1,000,000 | \$0 | \$0 |
| FY2020 | \$1,000,000 | \$0 | \$0 |
| FY2021 | \$1,000,000 | \$0 | \$0 |
| Total | \$6,000,000 | \$0 | \$0 |

Additional Information: See Appendix, High Hazard Dams and Dikes Repairs/Replacement, pages 63-64

Dams

Delaware's Dam Safety Law was passed by the state legislature in 2004. Regulations adopted in 2009 require upgrades to ensure dam safety. All state-owned and regulated dams have been inspected regularly since 2009, and emergency action plans have been prepared for all of them. DNREC receives a Dam Safety Grant of about \$50,000 annually from the U.S. Federal Emergency Management Agency.

Delaware has 47 regulated dams, 41 of which are state-owned dams, while the others are owned by New Castle County and the cities of Wilmington, Newark and Dover.

State-owned dams are classified based upon the risk posed to downstream communities and infrastructure in the event of a dam failure and are not based upon the condition of a dam. DelDOT and DNREC developed a dam deficiency ranking system which prioritizes state-owned dams for necessary upgrades and rehabilitation. A dam's ranking is based on factors such as condition, spillway capacity, and population that could be at risk should a dam fail.

DNREC and DelDOT partner on dam inspections, and on coordinating maintenance, operations, and emergency management activities. They also work cooperatively, leveraging state funding to perform dam break inundation mapping, engineering studies, and the design and construction of improvements and rehabilitation projects.

Hearns Pond Dam Rehabilitation

Completed in July 2017, the total dam rehabilitation project at Hearns Pond Dam near Seaford by DNREC and DelDOT represents the culmination of more than 10 years of work to develop a comprehensive dam safety program for the state. The dam's history of failing during storms made its reconstruction the state's highest priority. The project has importance beyond rehabilitating an historic dam, mill site, and boat ramp. The new Hearns Pond Dam is the first dam in Delaware to meet the state's new dam safety regulations.



The new Hearns Pond Dam in Seaford is the first to comply with Delaware's new dam safety regulations.

Current Projects FY2017-2018

Dams

Engineering:

- Final design on the Mud Mill Pond Dam has been completed. Permitting is currently underway, with the project expected to go to bid in summer 2018.
- Garrison Spillway improvement design is 90 percent complete. This project will be finalized and is expected to go to bid in calendar year 2019.
- Records Pond dam design is nearing completion. The project is currently delayed due to ongoing communications with the Town of Laurel. Future funding for this project will be budgeted by DelDOT.

Construction:

- Chipmans, Concord, and Craigs pond dams are currently under construction for replacement of existing water control structures and are scheduled to be completed by the end of 2018.

Dam repairs and replacement:

- \$150,000 remains for Red Clay Creek dam removals.

Dikes

Repairs:

- Annual funding of \$50,000 is requested for maintenance and repairs to Red Lion Di­ke, which is maintained by the state.

Engineering:

- The statewide dike inventory is underway, with completion expected in 2018.
- In 2016, \$100,000 was allocated and emergency repairs were completed to the Port Penn dike to alleviate flooding due to a dike breach. With \$55,800 allocated for a follow-up assessment of the mile-long dike's structure, DNREC staff completed survey work, vegetative clearing, and soil borings in early 2017.



DNREC is responsible for maintenance and repairs at Red Lion Dike, one of five historic dikes in New Castle County.

Critical Infrastructure Investments

Tax Ditches and Public Ditches

Tax Ditches

In 1951, the Delaware General Assembly passed the Tax Ditch Law, which authorized the creation of tax ditch organizations by Superior Court Order. Currently, 234 organizations statewide maintain more than 2,000 miles of tax ditches. These ditches are the backbone of Delaware's drainage infrastructure and provide drainage to more than 50 percent of our state roads, three counties, 23 municipalities, 38,000 properties, and 829 square miles, or about one-third of the state.

The Tax Ditch Law requires DNREC to provide technical and administrative assistance to the tax ditch organizations. As a result of severe flooding in 2010 and several large storms over the past few years, five new tax ditch petitions were received. Hudson Road Tax Ditch was formed in 2013, and construction was completed in 2015. Planning orders from Superior Court are active for the proposed Guinea Creek and Hollyville tax ditches. Lastly, the Kitts Hummock petition will be investigated to determine the feasibility of a tax ditch in this area.



Tax ditches, such as Cart Branch in Greenwood, need regular maintenance for adequate drainage.

Public Ditches

In 1996, the Joint Committee for Capital Improvement authorized 21st Century Funds for resource, conservation, and development projects for watershed and drainage improvements. These projects became known as "public ditches" because public funding was used for construction.

FY2019 Funding Request for Tax Ditches and Public Ditches: \$1.4 Million

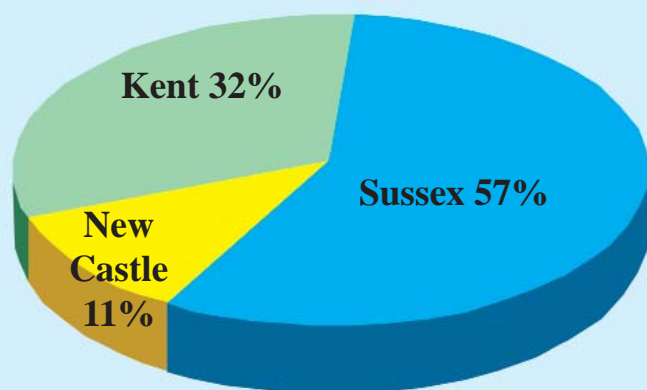
Project Description

Funding is requested for planning, surveying, engineering, permitting, inspecting, and constructing drainage infrastructure, channels, and related water management projects. Constructing environmentally-sensitive projects requires minimizing temporary and permanent disturbances to all natural resources in the project area. A portion of these funds will be used to investigate watershed and drainage resources to provide information for the completion of water management improvement projects and related construction. This funding also allows the drainage program to provide technical assistance to more than 215 tax ditch organizations, private landowners, and public agencies statewide.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2017 | \$1,148,700 | \$0 | \$0 |
| FY2018 | \$1,148,700 | \$0 | \$0 |
| FY2019 | \$1,400,000 | \$0 | \$0 |
| FY2020 | \$1,400,000 | \$0 | \$0 |
| FY2021 | \$1,400,000 | \$0 | \$0 |
| Total | \$6,497,400 | \$0 | \$0 |

Tax Ditches by County (Total: 234 ditches)



Tax Ditch Accomplishments: 2017

- Drafted 106 court order changes (90 percent were to reduce rights-of-way resulting from right of way inquiries)
- Attended 60 annual meetings
- Audited the financial reports of 120 tax ditches
- Provided environmental permitting for 28 tax ditch projects
- Provided updated tax ditch assessment information to county tax offices
- Provided updated certified lists of tax ditch watershed parcels and rights-of-way to the Recorder of Deeds in each county

Highlights:

- Tax ditch administration is a partnership among DNREC's Division of Watershed Stewardship, the Sussex, Kent, and New Castle conservation districts, and the tax ditch organizations.
- Constructing environmentally-sensitive projects requires minimizing temporary and permanent disturbances to all natural resources in the project area. Aging infrastructure is increasing the number of requests for technical and financial assistance.
- Severe flooding in 2010 and 2013 resulted in five new tax ditch petitions and millions of dollars of new public ditch/21st Century Fund project requests.



A repaired tax ditch.

Active Tax Ditch Petitions:

- Kitts Hummock Tax Ditch, Kent County
- Guinea Creek Tax Ditch, near Long Neck, Sussex County
- Hollyville Tax Ditch, near Harbeson, Sussex County

Public Ditch Accomplishments: 2017

- Drainage program and partners responded to 461 new drainage concerns. The concerns resulted in 90 new 21st Century Fund projects.
- Completed landowner contacts, surveying, engineering and environmental permitting.

Critical Infrastructure Investments

Resource, Conservation and Development 21st Century Fund Account

The Resource Conservation and Development (RC&D) 21st Century Fund Account was created in 1995 to make long-term investments that will enhance the state's infrastructure, economic development, and quality of life. A special fund appropriation account dedicated to improving the health of communities by addressing statewide watershed and drainage issues was created within DNREC. Since 1996, more than 1,600 projects totaling \$60 million have been completed out of this fund, which primarily funds small to mid-size drainage improvement projects.

The RC&D account currently holds \$4.4 million in funds which have been appropriated for active projects statewide. DNREC expects all remaining funds in the account to be encumbered by the end of FY2018.

Examples of projects ready for engineering and design:

- Oak Orchard and Bay Beach communities – final engineering and construction documentation for high priority drainage projects
- Persimmon Park Place, Dover, Kent County
- Port Penn dike project, New Castle County

FY2019 Funding Request for Resource, Conservation and Development: \$3 Million

Project Description

Funding is requested to continue the design and construction of resource, conservation, and development projects statewide. Currently, 871 active drainage and water management projects have been approved by the Joint Committee on Capital Improvement. The estimated cost to complete all of the approved projects is more than \$84 million.

Epilogue language in the annual bond bill requires tracking appropriated funds by county. All funds are currently obligated in New Castle County. All funds in Kent and Sussex County are expected to be obligated during FY2018. Construction of projects in Sussex County is being delayed until FY2019 due to lack of available funds.

Additional details can be found in the FY2017 Annual Report presented to the Joint Committee for Capital Improvement on June 27, 2017.

Capital Request Funding

| | State | Federal | Other |
|--------------|---------------------|------------|------------|
| FY2017 | \$3,812,800 | \$0 | \$0 |
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$3,000,000 | \$0 | \$0 |
| FY2020 | \$3,000,000 | \$0 | \$0 |
| FY2021 | \$3,000,000 | \$0 | \$0 |
| Total | \$12,812,800 | \$0 | \$0 |

Critical Infrastructure Investments

Coastal Impoundments and Water Control Structure Rehabilitation/Replacement

Coastal impoundments are tidal marsh areas where tidal flow is restricted by levees to manage water levels for waterfowl, shorebirds, and other wetland wildlife. Water levels are manipulated using water control structures to encourage growth of vegetation and provide water habitats beneficial to wildlife, and to support other wetland functions.

The ability to control water levels in coastal impoundments also provides mosquito control and flood control benefits to surrounding communities. DNREC's Division of Fish & Wildlife manages five major impoundment systems statewide: Augustine, Woodland Beach, Little Creek, Ted Harvey, and Assawoman.



Impoundment work at Ted Harvey Conservation Area.

Benefits of Coastal Impoundments:

- Increase coastal ecosystem resiliency by absorbing storm surges;
- Provide flood mitigation and control for Bayshore communities and the Delaware Bayshore Byway (Route 9), a major coastal evacuation route;
- Increase opportunities for outdoor recreational pursuits and support local economies; and
- Increase habitat for shorebirds, waterfowl, muskrat, and juvenile fish populations, and reduce mosquito breeding areas.

FY2019 Funding Request for Coastal Impoundments and Water Control Structure Rehabilitation/Replacement: \$1 Million

Project Description

Funding is requested to restore and protect coastal impoundment habitats at the Augustine, Woodland Beach, Little Creek, and Ted Harvey wildlife areas along the Delaware Bay, and at Assawoman Wildlife Area along the Inland Bays from storm surge and extreme high tides. Repairs are needed to prevent loss of coastal impoundment wetlands to open water and, for the Delaware Bay impoundments, to reduce flooding and damage to Route 9. Projects will help protect adjacent communities from extreme storms; support management of gradual adaptation as sea levels rise, and restore quantity, quality, and stability of habitat for more than 25 species of waterfowl and more than 40 species of shorebirds, marsh birds, and wading birds. This funding will help leverage federal grant funds and Natural Resource Damage Assessment funds.

Capital Request Funding

| | State | Federal * | Other |
|--------------|--------------------|--------------------|------------|
| FY2018 | \$0 | \$1,762,500 | \$0 |
| FY2019 | \$1,000,000 | \$1,500,000 | \$0 |
| FY2020 | \$1,000,000 | \$1,500,000 | \$0 |
| Total | \$2,000,000 | \$4,762,500 | \$0 |

** The source of federal funds is Wildlife Restoration program, and National Fish & Wildlife Foundation.*



New water control structure installation in progress at Ted Harvey Conservation Area.

Urgency of Rehabilitation

Repair and rehabilitation are urgently needed to stabilize and increase the resiliency of impoundments to coastal storms and sea level rise. Impoundments are highly vulnerable to erosion under current degraded conditions; repairs will proactively extend key ecological and economic benefits. Delays will risk catastrophic loss of coastal wetlands.

FY2019 Projects

Little Creek Wildlife Area Main Impoundment:

Restore levee system within the main impoundment unit and create an adjacent salt marsh and beach buffer to protect 450 acres of fresh/brackish marsh and provide protection for adjacent farmlands and the Town of Little Creek.

Augustine Wildlife Area Lang Marsh:

Complete levee restoration and install a water control structure to protect 100 acres of marsh habitat and Route 9 from flooding.

Accomplishments: FY2017-2018

Little Creek Wildlife Area Main Impoundment:

Installed one water control structure and completed restoration design for more than 100 acres of salt marsh habitat and beach along the bayfront levee to protect 450 acres of coastal impoundment marsh habitat and provide protection for adjacent farmlands and the Town of Little Creek.

Little Creek Wildlife Area Mahon Impoundment:

Designed dikes and circulation channels for the Mahon impoundment unit to protect 510 acres of coastal impoundment marsh habitat.

Woodland Beach Wildlife Area Taylors Gut Impoundment:

Replaced an aging water control valve severely damaged by repeated storm events to increase resiliency of 250 acres of fresh/brackish impoundment marsh habitat that supports waterfowl hunting, provides a popular wildlife-viewing area, and protects Route 9 from erosion.

Ted Harvey Conservation Area South Impoundment:

Restored 4,100 feet of levee, retrofitted the emergency spillway, and replaced one water control structure designed to improve the resiliency of 880 acres in three impoundments and to provide a protective buffer along the St. Jones River and provide protection for the community of Kitts Hummock.

Critical Infrastructure Investments

Critical Equipment for Operations

DNREC's critical equipment assets have an average useful life of 10 years and provide public service and infrastructure support to nearly 100,000 acres of public land, 700 buildings, 16 state parks, 19 wildlife management areas, 10 natural preserves, two national estuarine research reserves, 65 freshwater ponds and marine access areas, all Delaware waterways, and environmental laboratory services.



Critical equipment has an average useful life of 10 years.

FY2019 Funding Critical Equipment for Operations: \$2 Million

Project Description

Funding is requested for the acquisition/replacement of critical equipment essential to performing environmental and natural resource operations, conservation, protection, and research activities. Equipment requested includes mowers, utility vehicles, dump trucks, and picnic tables.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$2,000,000 | \$0 | \$0 |
| FY2020 | \$2,000,000 | \$0 | \$0 |
| FY2021 | \$2,000,000 | \$0 | \$0 |
| Total | \$6,000,000 | \$0 | \$0 |

Additional Information: See Appendix, DNREC Critical Equipment for Operations, pages 65-66

Critical Infrastructure Investments

Environmental Laboratory Relocation

DNREC's full-service Environmental Laboratory processes approximately 80,000 to 100,000 samples and conducts up to 2.5 million tests each year, including testing of contaminated water and soils and performing biological evaluation of streams, lakes, and rivers. Many of the tests involve examining water quality for excess nutrients and other pollutants that can impact public health, animal welfare, and the environment.

To continue serving the public by performing chemical and biologic environmental testing, monitoring, assessments, and timely informational services, the present facility needs updating to accommodate current technologies and testing procedures. Originally developed using 1970s laboratory design criteria and last renovated in 1983, DNREC's existing lab occupies 36,000 square feet in the Richardson & Robbins Building in Dover.



Concept drawing of expansion option

FY2019 Funding Request for Environmental Laboratory Relocation: \$1 Million

Project Description

Funding is requested to co-locate DNREC's Environmental Laboratory next to the Department of Health and Social Services' Public Health Laboratory, in Smyrna. A complete architectural review and conceptual design study has been completed, including details of costs, construction, and benefits of the proposed relocation. Co-locating DNREC's lab next to the Public Health lab will provide savings of approximately \$234,000 per year and reduce the space occupied by the lab to 18,000 square feet.

After constructing a new building to house DNREC's lab, the existing spaces at the R&R Building can be renovated to create additional much-needed office space. This will lead to more effective use of both office and lab spaces. The project also includes integrating legally allowable laboratory functions, removal of offices from testing spaces, and safer, more effective and productive laboratory operations.

Co-locating the two labs while consolidating laboratory and office spaces will significantly increase efficiencies and decrease operational costs. Other benefits include expanded opportunities for cross-collaboration among DNREC and DHSS expert staff to enhance research, knowledge, and expanded testing to benefit public health, animal welfare, and the environment.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$1,000,000 | \$0 | \$0 |
| FY2020 | \$7,000,000 | \$0 | \$0 |
| FY2021 | \$0 | \$0 | \$0 |
| Total | \$8,000,000 | \$0 | \$0 |

Critical Infrastructure Investments

Debris Pit Remediation

DNREC's Debris Pit Program has identified more than 150 debris pits that can pose threats to human health. Created when trees and stumps were buried underground when land was being developed in the 1960s, 70s and 80s, debris pits can form sinkholes in the landscape that can literally open up and create holes in the ground. These voids are sometimes narrow and devoid of oxygen, making them difficult to escape and potentially lethal.

Decaying wood in debris pits can also host concentrated pockets of methane, a health hazard. In addition, if structures have been built over debris pits, the settling of debris can lead to significant structural damage.



Work is underway to backfill dirt and restore property.

Since 2001, DNREC has responded to more than 1,400 calls from constituents statewide regarding debris pits. Most debris pit inquiries come from property owners in New Castle County.

FY2019 Funding Request Debris Pits: \$500,000

Project Description

Funding is requested for the remediation of debris pits on private property where ground subsidence has caused significant property and/or structural damage to primary residences and related structures. The average cost of remediating a property is between \$30,000 and \$50,000. More than 150 properties are presently on the waiting list for remediation, with an estimated seven- to eight-year wait time for remediation.

Capital Request Funding

| | State | Federal | Other* |
|--------------|--------------------|------------|------------------|
| FY2018 | \$0 | \$0 | \$100,000 |
| FY2019 | \$500,000 | \$0 | \$100,000 |
| FY2020 | \$500,000 | \$0 | \$100,000 |
| FY2021 | \$500,000 | \$0 | \$100,000 |
| Total | \$1,500,000 | \$0 | \$400,000 |

** The source of other funds is voluntary match.*

Facts and Figures:

- Debris pits are located on private properties in all three counties.
- Currently, more than 150 properties with debris pits are on the waiting list to be remediated.
- Wait time for remediation is estimated at seven to eight years.
- The average cost of remediating a property is \$40,000.
- New Castle County allocated \$50,000 in funding to remediate debris pits in FY2018. This was down from FY2017 because of the lack of state matching funds. Bond Bill funds were not allocated in FY2016, FY2017, or FY2018.

Critical Infrastructure Investments

Renovation of Dover Campus Offices

Richardson & Robbins Building

Now serving as DNREC's main office complex, the 85,420-square-foot Richardson & Robbins (R&R) Building was built in 1881 by food-canning pioneers Alden B. Richardson and James Washington Robbins to house their Dover canning operation. In 1959, the company and its cannery complex were sold to the William Underwood Company, which continued to make some of R&R's products. The landmark Dover cannery was closed by Underwood in 1976.

In 1979, the same year the State of Delaware purchased the empty cannery complex, R&R was placed on the National Register of Historic Places. The abandoned complex was extensively renovated, while retaining its tall arched windows, ornate exterior brickwork and massive, rough-hewn exposed ceiling beams. It was dedicated as DNREC's new main office in April 1983.

The R&R Building Today

Today, R&R provides workspace for approximately 350 employees. Since relocating to the building in 1983, the department's staff has increased by 100 percent. Due to the growth in the department, the



Originally built in 1881 as the Richardson and Robbins cannery, the R&R building at 89 Kings Highway in Dover has served as DNREC's main campus since 1983.

R&R building is not functionally adequate for the agency's needs.

Renovations will expand the building's capacity to house additional staff and provide better services to the public. The increased capacity will allow DNREC to eliminate other leased space and create a more cohesive environment to improve productivity and establish a walkable campus within downtown Dover. The plan is to renovate the R&R building over a three-year period.

FY2019 Funding Request: \$1,300,000

Project Description

Funding is requested to renovate the Richardson & Robbins Building over three years. With movement of certain DNREC offices (Human Resources, Fiscal Management, and Environmental Laboratory) to newly leased and/or constructed locations, renovations are necessary to allow the building to function adequately within the newly vacated areas. Renovations will include rearrangement of office areas to allow more efficient layouts, improvements to indoor air quality and circulation, increased use of alternate work locations and improved accessibility for the public.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$1,300,000 | \$0 | \$0 |
| FY2020 | \$1,300,000 | \$0 | \$0 |
| FY2021 | \$1,300,000 | \$0 | \$0 |
| Total | \$3,900,000 | \$0 | \$0 |

Critical Infrastructure Investments

Groundwater Monitoring Network

The Delaware Geological Survey's long-term operations of a groundwater monitoring network found large areas within the state where crucial information on the condition of aquifers is largely unknown and existing monitoring infrastructure has reached the end of its useful life.

Following discussions with the Governor's Water Supply Coordinating Council, DNREC and the Delaware Geological Survey have developed work plans and budgets for priority areas, including eastern Sussex County. This area is undergoing significant population growth resulting in increased water demands. This combination, coupled with threats of saline water intrusion due to rising sea levels and close proximity to tidal water bodies, will require better monitoring of coastal aquifers, the sole source of freshwater in the area. Information gained from this project will enable the agencies to define areas of acceptable and unacceptable water quality and quantity, ensuring a sustainable supply for future generations.

The Delaware Geological Survey will be the lead agency in the design and installation of the network, in cooperation with DNREC and public and investor-owned water purveyors.



New monitoring wells are needed in eastern Sussex County where significant population growth has occurred and where groundwater use is increasing for all water supply - public, agricultural irrigation, industry, and private domestic users. These wells will monitor both water supply and quality, helping state agencies assure safe yields are being maintained, particularly important because of saltwater intrusion. Drilling will be needed into the major aquifers supplying all fresh water throughout eastern Sussex County.

FY2019 Funding Request for Water Supply Monitoring Network: \$810,000

Project Description

The Coastal Sussex Water Supply Monitoring Network is needed to better monitor and protect our vital coastal aquifers, which are our only sources of drinking water in the region. The increasing water demands from the expanding population in the area continue to magnify the threat of saltwater intrusion from nearby tidal water bodies and rising sea levels.

Capital Request Funding

| | State | Federal | Other |
|--------------|------------------|------------|------------|
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$810,000 | \$0 | \$0 |
| FY2020 | \$0 | \$0 | \$0 |
| Total | \$810,000 | \$0 | \$0 |

Critical Infrastructure Investments

Poplar Thicket Erosion Control

Poplar Thicket is a 118-acre property consisting of forest, marshes, and wetlands spread across a quarter-mile of undisturbed Indian River Bay shoreline. The property was donated to The Nature Conservancy in October 2007 by landowner Austin Okie to serve as a bird refuge. In 2008, the property was transferred to the State of Delaware, establishing the Marian R. Okie Memorial Wildlife Preserve at Poplar Thicket. The preserve, managed by DNREC's Division of Fish & Wildlife, has been restored as a refuge for birds and opened to the public for hunting in designated areas, conservation education, and low-impact activities such as hiking and bird watching.

As part of the agreement between The Nature Conservancy and Mr. Okie to transfer the property to the state, the state agreed to investigate a shoreline stabilization project at the property along the Indian River Bay. Preliminary engineering for erosion control design has been completed.



Poplar Thicket, a quarter-mile property along the Indian River Bay shoreline, serves as a refuge for a variety of birds.

FY2019 Funding Request for Poplar Thicket Erosion Project: \$750,000

Project Description

Funding is requested to update design engineering and begin shoreline stabilization construction in FY2019 and to complete construction in FY2020 at the Poplar Thicket property along the Indian River Bay.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2019 | \$750,000 | \$0 | \$0 |
| FY2020 | \$2,000,000 | \$0 | \$0 |
| Total | \$2,750,000 | \$0 | \$0 |

Additional Information: See Appendix, Fish & Wildlife Capital Project Priorities, page 75

Clean Water Infrastructure

Conservation Cost Share

Delaware's Conservation Cost Share Program promotes conservation practices that improve soil and water quality by preventing agricultural and urban pollutants from reaching surface and ground waters. The program provides funding to landowners and producers by paying a portion of the cost to design, install, and maintain conservation practices or systems. Conservation cost share programs include planting cover crops and other conservation practices – important components of a successful nutrient reduction plan.

Cover crops are one key to reducing agricultural runoff that contributes nitrogen and phosphorus to our streams, rivers and bays. Producers plant cover crops, including grains like wheat, rye, and barley in the fall after the autumn harvest. Growing cover crops absorb under-utilized nutrients in the soil and reduce erosion from rain, snow, and wind. Cover crops also help producers by inhibiting noxious weeds and increasing organic matter in the soil.



Edwin Remsburg/SARE

Sussex Conservation District's air seeder planting cover crops into a field of standing corn.

The Conservation Cost Share Program is the state's principal financial support mechanism for the design and installation costs of practices that provide critical water quality improvements and wildlife habitat and protect human health, natural resources, water supplies, and Delaware's farmland soils. The program provides funds as incentives for landowners or users for public benefit. Landowners who receive benefits must pay a portion of the cost to locate, design, install, and maintain conservation practices and systems.

FY2019 Funding Request for Conservation Cost Share: \$3 Million

Project Description

Funding is requested to expand Delaware's Conservation Cost Share Program. Of the amount needed for this program, 70 percent will be divided equally among the three counties to expand their programs. The remaining balance will be directed toward statewide nutrient management efforts.

Capital Request Funding

| | State | Federal | Other |
|--------------|---------------------|---------------------|------------|
| FY2017 | \$1,500,000 | \$2,000,000 | \$0 |
| FY2018 | \$1,500,000 | \$2,000,000 | \$0 |
| FY2019 | \$3,000,000 | \$2,000,000 | \$0 |
| FY2020 | \$3,000,000 | \$2,000,000 | \$0 |
| FY2021 | \$3,000,000 | \$2,000,000 | \$0 |
| Total | \$12,000,000 | \$10,000,000 | \$0 |

Accomplishments and Current Projects: 2018

- Cover crops planted: more than 50,000 acres; approximate cost \$2.5 million
- Cover crops requested: 150,000 acres; approximate cost \$7.5 million
- Requests for cover crop funding were more than three times the amount of funding that was available in 2018.

Cost/Benefit of Cover Crops:

Through the Conservation Cost Share Program, producers receive an average of \$50 per acre for cover crops planted, depending on the species of crop, timing, and application method.

Meeting Pollution Reduction Goals with Cover Crops:

The Chesapeake Bay Watershed Implementation Plan (WIP) and the Pollution Control Strategy for the Inland Bays Watershed call for significant increases in cover crop acreage.

149,500 acres of cover crops is the minimum acreage recommended annually to meet water quality goals in watersheds across the state; 92,765 of those acres are needed in the Chesapeake Bay Watershed.

In 2018, Delaware producers planted cover crops that reduced nitrogen by about 690,000 pounds per year and phosphorus by about 1,900 pounds per year, significantly reducing nutrients from entering our waterways.

Without the support of the Conservation Cost Share Program, Delaware will not be able to fully implement the WIP or Pollution Control Strategy goals for most of its impaired watersheds.



Early cover growth emerges in a standing field of corn.

Conservation Cost Share Practices:

In addition to cover crops, conservation cost share funding is used for a number of other practices that prevent nutrient runoff. Some of these practices are:

- Manure storage sheds
- Animal waste systems
- Heavy-use area protection
- Poultry windbreaks
- Composters
- Water control structures
- Manure handling equipment
- Large animal mortality rendering
- Urban conservation practices

Conservation Cost Share Program is a partnership among:

- DNREC's Division of Watershed Stewardship
- USDA Natural Resources Conservation Service
- Sussex, Kent and New Castle Conservation Districts
- Delaware Department of Agriculture
- U.S. Environmental Protection Agency (EPA)
- Landowners

Clean Water Infrastructure

Conservation Reserve and Enhancement Program (CREP)

CREP, a state and federal partnership, provides land owners with payments to remove environmentally sensitive areas from agricultural production, with the goal of reducing pollution of surface and subsurface waters associated with cropland tillage.

Stream buffers and restored wetlands, established through CREP, reduce nutrient and sediment loadings and improve water temperature and levels of dissolved oxygen, which are necessary to support biology and wildlife, increase upland wildlife habitat, and create wildlife corridors.

CREP is a partnership among DNREC's Division of Watershed Stewardship, the USDA Natural Resources Conservation Service and the USDA Farm Service Agency.



Drone footage of wetland restoration site in Smyrna.

FY2019 Funding Request for CREP: \$500,000

Project Description

Funding is requested for the renewal of approximately 1,000 acres of marginal agricultural land currently protected by expiring CREP contracts. The state share of these contract renewals varies from 27 percent to 37.5 percent, depending on the conservation practice. The requested funding will leverage between \$2.0 and \$2.4 million in federal funds.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|--------------------|------------|
| FY2017 | \$1,000,000 | \$2,000,000 | \$0 |
| FY2018 | \$160,000 | \$1,000,000 | \$0 |
| FY2019 | \$500,000 | \$1,000,000 | \$0 |
| FY2020 | \$100,000 | \$1,000,000 | \$0 |
| FY2021 | \$100,000 | \$1,000,000 | \$0 |
| Total | \$1,960,000 | \$6,000,000 | \$0 |

Current Program:

- 5,810 acres are in CREP practices, with the goal of 10,000 acres statewide.
- The state pays up to 37.5 percent of project installation costs.
- Landowners receive incentive payments that range from \$165 to \$225 per acre per year. Landowners in the Chesapeake Bay watershed that implement riparian forest buffers are eligible for additional one-time incentive payments, up to \$200 per acre.
- Delaware's current CREP acreage reduces more than 212,265 lbs. of nitrogen and 4,290.98 lbs. of phosphorus annually from entering the state's waterways.
- CREP provides environmental protection to Delaware's waterways and is key to helping meet the water quality goals of the Chesapeake Bay Watershed Implementation Plan and the Pollution Control Strategy for the Inland Bays.

CREP Practices:

- Reduce nutrient and sediment loads to impaired water bodies
- Improve aquatic temperature and dissolved oxygen necessary to support biology and wildlife
- Increase upland wildlife habitat and create wildlife corridors



Established wetlands reduce water pollution by filtering nutrients and sediment.

List of eligible practices:

- Grassed filter strips
- Riparian buffers
- Wetland restoration
- Hardwood tree planting
- Wildlife habitat
- Shallow water areas

Clean Water Infrastructure

Clean Water State Revolving Fund

The Clean Water State Revolving Fund (CWSRF) was authorized by Congress through the Clean Water Act Amendments of 1987. The program is a federal/state partnership that helps communities finance the cost of infrastructure needed to achieve compliance with the Clean Water Act.

Delaware's Clean Water State Revolving Fund program was created by the General Assembly in 1990 and is administered by DNREC's office of Environmental Finance. The program provides low-cost financing for a wide range of projects that repair and expand wastewater facilities, help homeowners replace failing septic systems, and farmers implement nonpoint source best management practices. Funds also support construction projects that control flooding and reduce stormwater runoff and erosion in communities; protect drinking water wells from pollution; protect the water quality of our bays, rivers and streams; and improve energy efficiency at wastewater facilities saving taxpayers money.

The CWSRF program is funded by annual EPA capitalization grants and the required 20 percent state matching funds. Funds are loaned out at below-market interest rates, providing a more affordable way for communities and other eligible entities to finance high-cost infrastructure. Loan repayments are recycled



DNREC's Terry Deputy and Dr. Andrew Sawyers, EPA Office of Water, display the PISCES Award recognizing DNREC and CWSRF for excellence in a new water quality project as part of the revitalization of the former NVF site in Yorklyn.

back into the program to be loaned out for other eligible projects. The CWSRF program serves as a revolving funding source that will last into the future.

Projects are reviewed and recommended for funding by the Delaware Water Infrastructure Advisory Council. The council has advisory oversight for the CWSRF and the Drinking Water State Revolving Fund (DWSRF) programs. The 13-member council, appointed by the Governor, advises the Governor and Secretaries of DNREC and the Delaware Department of Health and Social Services regarding project funding requests and financing options through the CWSRF and DWSRF programs.

FY2019 Funding Request for CWSRF: \$1.4 Million

Project Description

Funding is requested to provide state matching funds for the Federal Clean Water State Revolving Fund Capitalization grant. Delaware's 2019 federal grant is anticipated to be approximately \$7 million, which requires a 20 percent state match. This funding request will support the Water Infrastructure Advisory Council and its 2018 Intended-Use Plan for facility projects.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|---------------------|------------|
| FY2017 | \$1,400,000 | \$6,525,000 | \$0 |
| FY2018 | \$1,400,000 | \$6,474,000 | \$0 |
| FY2019 | \$1,400,000 | \$7,000,000 | \$0 |
| FY2020 | \$1,400,000 | \$7,000,000 | \$0 |
| FY2021 | \$1,400,000 | \$7,000,000 | \$0 |
| Total | \$7,000,000 | \$33,999,000 | \$0 |

Delaware's CWSRF by the Numbers:

- Since the program's inception, Delaware has received \$283.2 million in seed capital, \$239.2 million in EPA funds, and \$44 million in state funds.
- 95 municipal loans, totaling approximately \$397.5 million have been closed.
- The program has created and sustained thousands of jobs, supporting local economies.
- Communities statewide that depend on wastewater systems have benefitted from the CWSRF.

Benefits of the CWSRF Projects:

- Reduce the cost of financing infrastructure projects
- Provide long-term water quality benefits
- Create and support jobs and the economy
- Repair and improve aging water infrastructure
- Protect public health and the environment

Delaware Statewide Assessment of Wastewater Facilities Report:

The Delaware Statewide Assessment of Wastewater Facilities Report examined the adequacy of existing facilities, the need for improvements and upgrades, and estimated costs of capital improvements, system revenues and user rates from 2011 through 2016.

The report, which was updated for 2018-2023, estimates the total capital cost needed for wastewater facilities to be in excess of \$581 million. Municipalities are expected to request approximately \$177 million from the CWSRF program. In addition, Delaware's future capital project needs include \$150 million for toxics removal and \$2 million for Delaware's Wastewater Management Account to provide revolving loans and grants that supplement public and private wastewater facility financing, particularly for low-income communities.

Clean Water and Flood Abatement Task Force:

In June 2015, the Delaware General Assembly passed Senate Concurrent Resolution 30, creating the Clean Water and Flood Abatement Task Force. The task force was charged with identifying and

recommending potential funding mechanisms to improve water quality and alleviate flooding in Delaware. Chaired by Senator Bryan Townsend and Representative Michael Mulrooney, the task force met multiple times from July 2015 through May 2016. All meetings were open to the public and included a public comment period. The Final Report of the Clean Water and Flood Abatement Task Force was issued April 24, 2017, detailing recommendations related to funding options for improving water quality and alleviating flooding issues (<http://cleanwaterdelaware.org/clean-water-task-force>).



The Wilmington Wastewater Treatment Plant Renewable Energy Biosolids Facility will utilize gases from the Cherry Island landfill to generate electricity.

FY2018 Loans (to-date): \$57.8 Million Projects: Wastewater and Green Project Reserve

Loans closed are active projects being implemented.
Loans approved are pending loan closure.

Loans Closed: City of Wilmington

South Wilmington Wetlands Restoration & Conservation Project: \$3.5 million

The project includes land acquisition, permanent conservation easement, and construction to restore the South Wilmington Wetlands.

City of Rehoboth

Ocean Outfall Project: \$40.5 million

This Rehoboth Beach Wastewater Treatment Plant project eliminates the discharge of treated effluent into the Lewes-Rehoboth Canal and constructs a new 24-inch ocean outfall pipe aligned along the plant access road and extending 6,000 feet offshore.

City of Rehoboth

Wastewater Treatment Plant Upgrade Project:
\$12 million

The project funding provides for the upgrade of the city's wastewater treatment plant, and biosolids facilities.

Loans Approved:

Kent County

Air Blower Optimization Project: \$1.02 million

The project funding provides for the purchase of two turbo blowers to replace two existing multi-stage blowers at the Kent County Regional Recovery Facility.

Loans Approved:

City of Delaware City

Washington Street Flood Mitigation Project:
\$790,000

The project provides supplemental funding to the FEMA Grant for the Washington Street Flood Mitigation Phase 2 costs covering the installation of a new storm sewer main and submersible pumping station for managing stormwater.

FY2016-2017 Loans: \$39.5 Million

Projects: Wastewater and Green Project Reserve

Loans closed were active projects being implemented.
Loans approved were pending loan closure.

New Castle County

Loan Closed:

DNREC, Division of Parks & Recreation

Lums Pond State Park Utility Improvements, Phase II: \$6 million

The project includes the installation of a sanitary sewer system, water main, driveways, bathhouse and dump station, as well as the replacement of fire hydrants and the rehabilitation of existing pump stations and manholes.

DNREC Division Parks & Recreation

NVF Yorklyn Wetlands Project: \$1 million

DNREC Division of Waste & Hazardous Substances

NVF Yorklyn Wetlands Project: \$3.3 million

DNREC Divisions of Parks & Recreation and Waste & Hazardous Substances will collaborate to remediate a zinc-contaminated site at the former National Vulcanized Fiber (NVF) facility. After remediation, a wetland will be constructed at the site, in addition to four other wetlands in the vicinity. The wetlands will help improve water quality, mitigate flooding and support the economic redevelopment of the area.

Kent County

Loans Closed:

City of Harrington

Wastewater Treatment Plant Upgrade Refinancing:
\$1.5 million

Farmington Sewer Extension Refinancing: \$600,000

Sanitary Sewer Capacity Improvement Project:
\$1.5 million

These projects were refinanced through the program at a lower interest rate. Loan debt service savings allowed the city to borrow additional funds for a sanitary sewer capacity improvement project at \$1.5 million.

Loans Approved:

City of Dover

Tar Ditch Interceptor Project: \$200,000

The project will replace 300 linear feet of a 15-inch sewer pipe along the Tar Ditch interceptor, which will eliminate flooding in the area east of South State Street and south of Elm Terrace in Dover.

Town of Smyrna

North Duck Creek Utility Extension Project:
\$1.2 million supplemental loan

The supplemental loan will allow the town to complete necessary sewer replacements, sewer extensions and pump station upgrades/replacements projects. A loan in the amount of \$5.9 million was provided to the town in August 2009.

Sussex County

Loans Closed:

Allen Harim Foods, LLC

Harbeson Facility Wastewater Expansion and Upgrades: \$8.4 million

The project includes expansion and upgrade of the facility's existing wastewater treatment plant, construction of a new sanitary wastewater treatment plant, and the purchase of a high capacity water heater to heat process water.

Harbeson Facility Water Reuse Project: \$3.2 million

The project was originally intended as a new wastewater reuse system to treat effluent from the expanded and upgraded wastewater treatment plant for reuse within the poultry processing facility. However, a project change of scope will allow treated wastewater to be spray-irrigated and wastewater to be treated by another facility.

Town of Millsboro

Generator Pump #1 and #5 Project: \$157,000

This project provided funding for the construction and installation of a new generator at pump stations #1 and #5.

Generator Pump #2 Replacement Project: \$610,000

This project provided funding for the construction and installation of the replacement pump station #2.

Wastewater Treatment Plant Refinancing Project: \$5.5 million

Project loan provided to refinance the remaining balance of an earlier USDA loan for improvements, modification, and upgrades to expand the town's wastewater facilities, lines, and systems.

City of Seaford

Renewable Energy System at the Seaford Wastewater Treatment Plant: \$1.7 million

This project includes the installation of a ground-mounted solar array. The system will offset a portion of the energy consumption of Seaford's wastewater treatment plant.

Town of Laurel

Laurel 6th Street Combined Sewer Over-Flow Project: \$1.3 million

The project includes the installation of stormwater pipes and manholes, bio-retention units and catch basins that are designed to eliminate untreated sewage overflows to the Broad Creek, Nanticoke River and Chesapeake Bay.

City of Lewes, Lewes Board of Public Works

Highland Acres Wastewater Collection System: \$1.4 million

The project includes the installation of sewer mains and manholes to serve the Highland Acres development and the upgrade of the existing lift station.

Town of Bridgeville

Wastewater Treatment Plant Upgrade Refinancing: \$800,000

Tatman Farm Irrigation Project Refinancing: \$1.2 million

These projects will be refinanced to create annual loan debt service savings that will be used to help fund another wastewater project needed for the town.

Support Healthy Families

State Parks and Fish & Wildlife Areas Rehabilitation of Critical Facilities

DNREC's Divisions of Parks & Recreation and Fish & Wildlife depend on the collection of fees and charges from licenses and services to maintain and improve infrastructure and protect the state's ecological, cultural, and recreational resources. State parks and wildlife areas include nearly 100,000 acres statewide and contain more than 700 buildings in 32 public-access areas.



Many Fish & Wildlife properties include structures that need new roofs -- or replacement structures.



Failing pavement collects water at the main beach bathhouse parking lot, Cape Henlopen State Park.

Funding is needed for the growing maintenance and restoration needs of recreational facilities, historic structures, and utility systems. The Divisions of Fish & Wildlife and Parks & Recreation have a combined maintenance and projects backlog of nearly \$200 million.

FY2019 Funding Request Parks/Fish and Wildlife: \$6.5 Million

Funding is requested for a wide range of much-needed statewide projects to rehabilitate parks and wildlife area facilities, roofing, roads, utilities, and historic structures, including improvements benefiting public safety and updates for continued compliance with the Americans with Disabilities Act. Projects also are needed to enhance public recreational access, maintain public buildings and support structures, and modernize utilities and telecommunications for visitors and support staff.

Capital Request Funding

| | State | Federal | Other |
|--------------|---------------------|--------------------|------------|
| FY2017 | \$3,500,000 | \$0 | \$0 |
| FY2018 | \$3,500,000 | \$2,862,500 | \$0 |
| FY2019 | \$6,500,000 | \$2,765,000 | \$0 |
| FY2020 | \$8,500,000 | \$750,000 | \$0 |
| FY2021 | \$8,500,000 | \$500,000 | \$0 |
| Total | \$30,500,000 | \$6,877,500 | \$0 |

Additional Information: See Appendix, Fish & Wildlife Capital Project Priorities, pages 70 - 75

Additional Information: See Appendix, Parks & Recreation Capital Project Priorities, pages 76 - 92

Project Details:

Facility Maintenance

Funding is requested for rehabilitation projects statewide in parks and wildlife areas, including:

Parks & Recreation Projects

- Renovations of residential buildings in state parks;
- Improvements to bathhouses, concession buildings, nature centers, and visitor centers;
- Installation of automated fee machines and similar public service solutions in state parks;
- Improvements to campgrounds, cottages, and cabins in state parks;
- Painting of numerous barns, field offices, nature centers, and residences statewide;
- Plan replacement of the Garrisons Lake Clubhouse; and
- Replacement of siding on buildings statewide.

Fish & Wildlife Projects

- Demolition of unsafe structures at the former Aquatic Resources Education Center complex;
- Construction of an office for Fish & Wildlife Natural Resources Police in Little Creek;
- Repairs and upgrades at Ommelanden Hunter Education Training Center and Public Shooting Range in New Castle;
- Construction of Woodland Wharf kayak and fishing access area for the Captain John Smith Trail on the Nanticoke River;
- Construction and repair of facilities in wildlife areas including pole buildings and storage sheds, and emergency repairs;
- Replacement and repair of hunting and wildlife-viewing structures; and
- Maintenance dredging of Augustine Beach Boating and Fishing Access Area.

Delaware National Estuarine Research Reserve Project

- Repairs and renovations to the lobby and entry at the St. Jones Reserve Center near Dover.

Critical Roofing

Funding is requested for repair/replacement of building roofs in state parks and wildlife areas, including:

- Historic barns and buildings within state parks, including: Bellevue office, White Clay Creek sheep barn, Lums Pond mill house, Trap Pond's Warrington House, Judge Morris Estate, Fort Delaware metal roof, and nine cantonment buildings at Fort Miles;
- Youth camps and recreational facilities at Cape Henlopen, including eight dormitory buildings;
- Residential, recreational, and support structures in state parks, including: Holts Landing bathhouse, Killens Pond maintenance building, Killens and Trap pond cabin roofs, Fenwick Island beach bathhouse, and Grassdale office; and
- Fish & Wildlife historic buildings and facilities, including Mulberry Landing pavilion at Assawoman Wildlife Area.

Road Rehabilitation

Funding is requested to begin repair of the 40-plus miles of roads in state parks and wildlife areas that are not eligible for Department of Transportation (DelDOT) or Federal Highway Administration funds. Inventory and assessment reports have been completed for Cape Henlopen and Killens Pond. Other road systems will be evaluated in the coming years.

Projects include:

- Paving state parks roads, including Cape Henlopen, Delaware Seashore, Killens Pond, and Lums Pond;
- State parks parking lot projects, including renovations at Baynard Stadium; and
- Repairs to wildlife area roads, parking lots, and boat ramps statewide.

Utility Infrastructure

Funding is requested to upgrade aging utility and telecommunication infrastructure throughout DNREC's properties through wholesale replacement, major maintenance, efficiency measures, or installation of renewable energy systems not previously found on the properties.

Projects include:

- Updating sewer, water, and stormwater facilities in state parks;
- Upgrading telecommunication infrastructure statewide to increase connectivity for staff and visitors;
- Upgrading state parks electrical utilities;
- Upgrading the wastewater treatment plant at Cape Henlopen State Park, with potential to connect to city sewer; and
- Energy and utility upgrades to wildlife area facilities statewide.

Historic Building and Structure Stabilization

Funding is requested for repair and stabilization of historic structures within the department's inventory. This funding could be used to match federal and private grants and programs for historic preservation.

Division of Parks & Recreation

The Division of Parks & Recreation manages 26,071 acres, 151 miles of trails, 43 miles of roadways, 619 buildings in 16 state parks, the Brandywine Zoo and Baynard Stadium, 10 preserves, and 92 conservation and other easements. More than 5.8 million people visited Delaware's state parks in 2017. Nearly two-thirds of Delaware residents think parks and recreation facilities are a necessity.

The Division of Parks & Recreation has completed more than \$35 million in projects over the last three years, thanks to bond bill funds, grants, loans, donations, and public-private partnerships.

Parks has maintenance and capital project backlogs of critical infrastructure projects of approximately \$160 million. Additional potential enhancement projects could double that amount.

Current Projects: FY2018

Cape Henlopen State Park

- Repairing or replacing roofs and windows and installing air conditioning at youth camps and recreational facilities;
- Renovating campground water and electric hookups; renovating bathhouse into camp

store; improving contact station and vehicular circulation; addition of playground and community gathering area;

- Renovation of existing park office; and
- Renovation of existing nature center.



The sewage treatment plant at Cape Henlopen State Park is out of code compliance.

Delaware Seashore State Park

- Repairing dry stack roof at Indian River Marina;
- Designing and installing additional queuing docks at marina;
- Investigating structural integrity of historic tower, including sidewalk approach and lighting; and
- Replacing playground at South Inlet campground.

Wilmington State Parks

- Renovating Josephine fountain.
- Removal of the tiger exhibit, and design and renovation of the area; and
- Develop Brandywine Zoo master plan.

Brandywine Creek State Park

- Installing stairs at boat launch on Brandywine Creek on public side of Thompson parking lot.

Lums Pond State Park

- Renovating sewer treatment plant; and
- Installing overflow parking lot at campground.

Bellevue State Park

- Repairing interior and exterior of parsonage building for use as an office and meeting location for parks programs and Friends groups.

Holts Landing State Park

- Designing and installing a parking lot for boat launch area.

State Parks – statewide

- Completing building, roofing, and utility repairs on projects;
- Painting numerous barns and residences;
- Making parking lot improvements;
- Making public safety improvements to facilities; and
- Making improvements necessary for continued ADA compliance.

National Gold Medal Award

Delaware State Parks received the 2015/2016 National Gold Medal Award for Excellence in Park and Recreation Management from the National

Recreation and Parks Association. Delaware is the only small state park system to win this prestigious biennial award since its inception in 1997.

Recent Accomplishments:

Cape Henlopen State Park

- Reinforced fishing pier pilings and replaced all pier decking and railing;
- Installed Phase II sewer lining of 70-year-old sewer system;
- Installed six new cabins at campground; and
- Completed Artillery Park installation at Fort Miles, Battery 519.

Wilmington State Park

- Removed and replaced unsafe bleachers with temporary bleachers at Baynard Stadium; and
- Completed the Eagle Ridge exhibit at Brandywine Zoo.

Brandywine Creek State Park

- Overlaid trail and parking lot at Thompson Bridge area.

Killens Pond State Park Waterpark

- Completed Phase I renovations, including new waterslides.

Lums Pond State Park

- Completed campground improvement of water, sewer, and electrical hookup.

Bellevue State Park

- Repaired coffer dam on the pond.

Holts Landing State Park

- Completed installation of the double-sided boat launch.

State Parks – statewide

- Made building, roofing and utility repairs on projects;
- Painted numerous barns and residences;
- Made public safety improvements to facilities; and
- Made improvements necessary for ADA compliance.

Division of Fish & Wildlife

Fish & Wildlife manages nearly 65,000 acres of land in 19 wildlife areas and 57 fishing and boating access areas that provide opportunities for hunting, fishing, boating, and wildlife-viewing to benefit:

- More than 110,000 resident/non-resident anglers fishing in Delaware waters;
- More than 20,000 resident/non-resident hunters who use public lands or harvest managed species;
- Almost 62,000 boats registered in Delaware; and
- 900,000 resident Delawareans and more than 2 million visitors.

The Division of Fish & Wildlife has maintenance and project backlogs of more than \$30 million in critical infrastructure projects.

Current Projects: FY2018

- Repairing roads and parking lots at boat ramps and Fish & Wildlife areas;
- Demolishing unsafe structures to improve public and/or staff access on Fish & Wildlife properties;
- Making emergency repairs at Fish & Wildlife facilities;
- Beginning safety repairs to crumbling and uneven concrete, walls, and doors, and replacing target retrieval system at Ommelanden Hunter Education Training Center's indoor shooting range;
- Making repairs to Mallard Lodge, including drywall, window/sliding door replacement, fire escape repairs, and replacement of mattresses to improve safety conditions for overnight groups participating in aquatic education programs;
- Constructing a transient boat dock, improving an existing small boat launch, repairing bulkhead, and adding parking for Woodland Wharf on Nanticoke River;
- Constructing overhang and adding fencing to the Cedar Swamp Wildlife Area pole barn;



Failing boat ramp lot at Phillips Landing, Nanticoke Wildlife Area.

- Completing design and beginning construction of Little Creek Wildlife-Fisheries Field Office and Bayshore Visitors Center;
- Completing general facility and roof repairs at various Fish & Wildlife locations; and
- Completing improvements to the DuPont Nature Center exterior decking.

Recent Accomplishments: FY2016-2017

- Completed construction of the new Aquatic Resources Education Center, including the exterior patio with interpretive signs, and holding grand opening event;
- Completed construction of the Owens Station Natural Resources Police outpost building;
- Completed upgrades to Augustine Wildlife Area shop, including utilities, office repairs, and mold remediation;
- Repaired and rehabilitated historic buildings, including Robert Ashton and John Ashton historic homes; and
- Completed repairs at New Castle County and Kent County Fish & Wildlife Natural Resources Police office locations.

Support Healthy Families

Statewide Trails and Pathways

The First State Trails and Pathways Initiative expands a statewide network of new and enhanced trails and pathways for walking, biking, hiking, and active living. The Initiative has far-reaching advantages – boosting Delaware’s economy, benefiting local businesses, and promoting the continued growth of the state’s recreation and tourism industries. By providing places to walk, run, or ride, trails and pathways enable people to connect with the outdoors and live healthier, more active lifestyles.

In collaboration with the Governor’s Office, DelDOT, Bicycle Council, Pedestrian Advisory Committee, Council on Greenways and Trails, communities, and other stakeholders, DNREC is continuing to implement the First State Trails and Pathways Initiative.

Many trails and pathways projects are multi-phase and will be implemented in segments over a period of years. This request for funding will be dedicated



Visitors enjoying the trail at Gordons Pond, Cape Henlopen State Park.

to support implementation of those projects identified and prioritized in the plan, including essential equipment and/or systems necessary to commission these sites and structures for public use.

FY2019 Funding Request for Statewide Trails and Pathways: \$2.5 Million

Funding is requested for trail and pathway development to expand recreational and transportation opportunities for Delawareans and visitors. Project funding will leverage existing and new resources from state, federal, and private investments to continue Delaware’s national leadership in providing a world-class, interconnected network of shared-use pathways and trails that will support non-motorized travel and recreational trail opportunities.

Capital Request Funding

| | State | Federal | Other |
|--------------|---------------------|--------------------|------------|
| FY2017 | \$2,500,000 | \$896,623 | \$0 |
| FY2018 | \$3,000,000 | \$896,623 | \$0 |
| FY2019 | \$2,500,000 | \$896,623 | \$0 |
| FY2020 | \$3,000,000 | \$896,623 | \$0 |
| FY2021 | \$3,000,000 | \$896,623 | \$0 |
| Total | \$14,000,000 | \$4,483,115 | \$0 |

Additional Information: See Appendix, Statewide Trails and Pathways, pages 93 - 94

Current Projects:

- **White Clay Creek State Park, Tri-Valley Trail** – Phase II planning and design of 1 trail mile underway, with construction to commence in 2018.
- **Killens Pond State Park** – Design of a 900-foot trail bridge to complete the pond loop trail and linking the Nature Center/boat rental area with the campground and to redesign the boat ramp area.
- **Holt's Landing State Park** – Construct a loop trail with elevated boardwalk and improve access for non-motorized boats.
- **Brandywine Creek State Park** – Improve accessibility, safety, and stormwater drainage on the south side of the Brandywine Trail.
- **Cape Henlopen State Park** – Design trail segment between park entrance and Lewes-Rehoboth Canal along the railroad corridor. This trail segment is a key link in the Georgetown-Lewes-Cape Regional Trail.
- **Lums Pond State Park**
 - Design phase I of the 1.2 mile trail from the park entrance to the central day-use area.
 - Construct phase I of Buck Jersey trail from park entrance to Area 1.
- **Auburn Heights** – Design phase I of the Hockessin/Kennett trail.
- **Garrisons Golf Course** – Cart path repairs.
- **Delaware Bayshore**
 - **Ted Harvey Wildlife Area Morris Tract** – Design and engineer a 1-mile accessible trail and wildlife viewing enhancements.
 - **Little Creek Bayshore Visitor Center** – Design and engineer a 1-mile accessible trail and a 0.5-mile viewing loop at the planned Bayshore Visitor Center.
 - **Ted Harvey Wildlife Area-St. Jones Reserve Connector Trail** – Design and engineer a 0.75-mile accessible trail connecting the St. Jones Reserve to the Ted Harvey Wildlife Area.
 - **Augustine Wildlife Area** – Cooper-Cross wildlife-viewing platform and trail construction to begin in spring 2018.



A scenic trail with leaves just beginning to turn.

- **Woodland Beach Wildlife Area** – Design of wildlife-viewing trail and observation facility for the new Aquatic Resources Education Center; and design boardwalk rehabilitation, trail, and trailhead.
- **Little Creek Wildlife Area** – Construction of the boardwalk trail and observation tower replacement.

Future Projects:

- **Assawoman Canal Trail** – Construct underpass at Route 26 and design 1.5-mile trail segment from Route 26 to south of Kent Avenue. This trail segment will connect South Bethany with Bethany Beach and Ocean View.
- **White Clay Creek State Park** – Design and construct the Pomeroy Trail from Hopkins Road to the park office, including a bridge.
- **Augustine Wildlife Area (Bayshore)** – Cooper-Cross wildlife-viewing platform and trail construction to begin in spring 2018.
- **Woodland Beach Wildlife Area (Bayshore)** – Construction of wildlife-viewing trail and observation facility for the new Aquatic Resources Education Center; and design and construction for boardwalk rehabilitation, trail, and trailhead.
- **Little Creek Wildlife Area (Bayshore)** – Construction of the boardwalk trail and observation tower replacement.

Accomplishments: 2016 to Present

- **Auburn Heights Preserve** – 1.8 miles of trails under construction in 2017-2018.
- **White Clay Creek State Park**, Tri-Valley Trail – Phase I construction of 1.8 trail miles completed and trailhead improvements underway.
- **Cape Henlopen State Park** – 1.6-mile extension of the Junction & Breakwater Trail completed; total of 5.6 miles of trail links Lewes and Rehoboth.
- **Assawoman Canal Trail** – 1.1 miles of trail and new trailhead; connects Ocean View and Bethany area communities.
- **Brandywine Creek State Park** – Replacement bridge at Rocky Run and resurfacing of 0.5 mile segment of Brandywine Trail to improve accessibility and safety; key link in Brandywine Trail system.
- **Alapocas Run State Park** – 0.6 miles of Northern Delaware Greenway Trail resurfaced to improve accessibility and safety.
- **Branch Canal Trail** – 0.4-mile trail connecting Delaware City to the Michael N. Castle Trail; completed in June 2016.
- **Michael N. Castle Trail** – The final segment (1.9 miles) of the Michael N. Castle Trail along the C&D Canal was completed in late 2016. The official opening of the trails along the C&D Canal, including the 12.1-mile Michael N. Castle and 0.4-mile Branch Canal Trails in Delaware, was held on Jan. 13, 2017.
- **Augustine Wildlife Area** (Bayshore) – Cooper-Cross wildlife-viewing platform and trail design completed.
- **Ashton Tract** (Bayshore) – New wildlife-viewing platform and trail construction completed.
- **Little Creek Wildlife Area** (Bayshore) - Design and engineering for the boardwalk trail and observation tower replacement completed.

- **Blackbird Creek Reserve** (Bayshore) – Trail and trailhead construction completed and trailhead information kiosk installed; pavilion access trail construction, and kayak/canoe access trail improvements completed.
- **Trail Markers & Information** – New trail markers and trailhead information boards with maps were installed in Cape Henlopen, Trap Pond, White Clay Creek, Brandywine Creek, and Holts Landing state parks, and Assawoman Canal and the Ashton Tract (Bayshore).



Bicyclists enjoying the view from the C&D Canal Trail.

The long-term vision for the Trails and Pathways Initiative includes:

- Building a world-class, interconnected, accessible pathway network statewide;
- Linking communities to support local sustainable economies and grow connections between neighborhoods, towns, and cities;
- Supporting creation of local jobs;
- Developing sustainable practices in creating the network through native landscaping and natural habitats;
- Supporting healthy communities by providing affordable, active transportation choices;
- Supporting healthy families and the Children in Nature Initiative;

- Maintaining Delaware’s ranking in the top 10 bicycle-friendly states in the U.S. (currently ranked third in the nation by the League of American Bicyclists); and
- Developing strategies for the ongoing maintenance and upgrades of existing facilities.

Trail Facts

- Trail-related activities are the number one outdoor recreation activity in Delaware; more than half of our residents want more trail-related opportunities. *(Source: State Comprehensive Outdoor Recreation Plan)*
- Delaware’s 571 miles of trails serve recreational trail users and provide alternative transportation routes. Trail networks serve hikers, walkers, runners, mountain bikers, bicyclists, equestrians, and nature enthusiasts.
- The 14.3-mile continuous trail along the C&D Canal – which includes the Michael N. Castle and Branch Canal Trails in Delaware and the Ben Cardin Trail in Maryland – connects travelers to the historic towns of Delaware City and Chesapeake City.
- Nearly 200,000 people use the Michael N. Castle Trail along the C&D Canal annually.
- In greater Newark, more than 52,500 people live within a 10-minute bike ride of the area’s more than 70 miles of shared-use trails.
- Delaware state park trail projects focus on completing trail network gaps, upgrading and enhancing trail systems, and making connections to communities and local parks. State wildlife area projects expand Bayshore nature-based recreation.



Walking dogs along the trail at Fort Miles, Cape Henlopen State Park.

Trail Benefits

- **Economic** – A trail can bring at least \$1 million annually to a community, depending on how the area embraces a trail.
- **Health** – In Delaware, one-third of adults and 40 percent of children ages 2 to 17 are overweight or obese. Trails and parks provide a means for children and families to be physically active and live healthy lifestyles.
- **Jobs and Tourism** – Trails generate revenue for small businesses, restaurants, gear/bike shops and lodging, supporting local economies.
- **Environment** – Bicycling and walking for recreation, work and everyday activities save on fuel costs and improve air quality. By biking or walking one mile instead of driving a car, nearly one pound of carbon dioxide emissions is eliminated.

Support Healthy Families

Killens Pond Waterpark Improvements

Natural and recreational opportunities abound at Killens Pond State Park, centrally located in the heart of Kent County. The park's centerpiece is the 66-acre millpond, which features boating and fishing. The park also offers hiking and biking trails, a cross-country running course, game courts, ball fields, an 18-hole disc golf course, camping and cabins, playground equipment, and picnic areas. At the Nature Center, visitors can view a large collection of native reptiles and amphibians.

A master plan for improvements to the 19-year-old waterpark's pool area was mapped out in 2014 and divided into four phases. Phase I construction was completed in 2016 and included the addition of state-of-the-art water slides – two spiral and two speed slides, each mounted on a 54-foot-high platform, almost twice as high as the slides they replaced.

Other improvements include an enhanced entry with colorful canopies, an enlarged queuing area to provide shade for customers waiting to enter the waterpark, and additional ticket booths to expedite the ticketing process. Accessibility improvements have been completed at the bathhouse, which also received a fresh coat of paint, and a new building to house the water filtration system to support the slide complex and future improvements.



Visitors enjoying the new pool amenities.

Not counting regular maintenance, this is the first renovation since the waterpark opened 20 years ago and is incredibly popular with park users.

Highlights:

- Killens Pond State Park is a major recreational attraction in Kent County, drawing more than 180,000 visitors annually.
- The park's attractions, such as year-round camping, Killens Pond Waterpark, disc golf course and ball fields, make this park a popular travel destination.
- The waterpark is open from Memorial Day weekend through Labor Day.

FY2019 Funding Request for Killens Pond Waterpark Improvements: \$3.5 Million

Project Description

Funding is requested for phase II of the four-phase renovations plan for Killens Pond Waterpark. Phase II includes a new sprayground, bathhouse, pavilion, play features, and several shade structures that will help expand the capacity of the water park.

Funding will support continued improvements to the pools, walkways, and pool decking; bathhouses, showers and lockers; ticket and concession buildings; and the pool's mechanical building and infrastructure.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$3,500,000 | \$0 | \$0 |
| FY2020 | \$3,000,000 | \$0 | \$0 |
| FY2021 | \$3,000,000 | \$0 | \$0 |
| Total | \$9,500,000 | \$0 | \$0 |

Additional Information: See Appendix, Parks & Recreation Capital Project Priorities, pages 76, 82, 85, 91

Support Healthy Families

Information Technology: Permitting, Registration, and Licensing

To be more efficient and effective in performing key functions, and to improve the customer service experience, DNREC needs to consolidate and modernize its aged technology.

DNREC's current Licensing and Registration System, eGov, is used to issue more than 170,000 recreational hunting, fishing, and trapping licenses, charter and head boat licenses, tags, stamps, and conservation access passes annually. The Division of Fish & Wildlife's Sales Force software handles the registrations of more than 60,000 boats each year. In addition to eGov and Sales Force, DNREC also maintains another 40+ solutions, either internally or through other vendors, for issuing various permits to residents, visitors, businesses, and municipalities. These disparate systems are difficult to support and impose a disjointed customer experience, causing frequent errors in form submissions, as well as resulting in frustration and permitting delays.

The current Fish & Wildlife licensing system is unstable, inefficient, and costly to maintain. This



DNREC's licensing office at the Richardson & Robbins building in Dover issues recreational licenses during normal business hours.

results in interruptions in service and often requires the public to enter duplicate information into multiple systems before a license or permit is granted. In addition, the current technology is incompatible with new technologies, including some internet browsers and mobile devices.

FY2019 Funding Request for Permitting, Registration and Licensing: \$1.5 Million

Project Description

An automated customer-centric system is needed that will encompass all DNREC service channels, including regulatory work, such as septic and well permits, in addition to authorizations such as fishing and hunting licenses, and access passes. This new web-based solution will provide greater accessibility, allowing customers to conveniently use their mobile devices (IOS and Android compatible) 24 hours a day, seven days a week, with support for English and Spanish-speaking customers. Advanced reporting and analytical capabilities will reduce time previously used to compile and review data, allowing staff to provide more individualized customer support and permit reviews.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2019 | \$1,500,000 | \$0 | \$0 |
| FY2020 | \$1,500,000 | \$0 | \$0 |
| FY2021 | \$1,500,000 | \$0 | \$0 |
| Total | \$4,500,000 | \$0 | \$0 |



- Automatic reporting of migratory bird hunting harvest data, license certifications, and the number of both exempt and nonexempt hunters and anglers in the state. Staff will be able to easily generate reports necessary to satisfy federal funding requirements, as well as provide useful internal data.

- A common look-and-feel across all permits, licenses, and registrations, so that customers can more easily recognize and become familiar with DNREC transactions. This reduces any learning curve with each new electronic engagement and allows the Department to autofill previously known customer information such as home address and areas of interest.

- Increasing the ability to share correlative scientific information across programs. For example, if a property has a permit from the Division of Water and a separate permit from the Division of Waste & Hazardous Substances, the central permitting solution will have the ability to bundle inspection and monitoring information for a more complete environmental picture.

- Increasing customer service options. For example, if a customer is registering a boat, a consolidated permitting solution can provide relevant information such as boat ramp locations, water quality for swimming, fishing seasons, and boat fueling stations. Each customer transaction should include additional DNREC information to inform and enhance their experience.

Other benefits of a new system:

- An automatic interface that ensures the suspension or denial of renewals of any license to ineligible citizens. For example, according to Delaware law, the Division of Fish & Wildlife must deny issuance or suspend renewal of any license for individuals who owe child support.
- A new permitting, regulation, and licensing system will improve Delaware's ability to comply with interstate and federal guidelines, such as the Division of Fish & Wildlife's compliance with the Interstate Wildlife Violator Compact (IWVC)*, and the Division of Waste & Hazardous Substances' compliance with the Environmental Protection Agency's e-Manifest program, just as examples.

**The IWVC is an interstate agreement, required by Delaware law, between member states to enhance compliance with hunting, fishing, and other wildlife laws of member states, and to provide for the fair and impartial treatment of wildlife and fisheries violators.*

Support Healthy Families

Minor Capital Improvements for Operations

DNREC infrastructure needs include minor capital improvements to the Department's public facilities. These building and facility repairs/rehabilitations for all state-owned public properties include: Delaware Seashore State Park; Fort Delaware State Park; Cape Henlopen State Park; Brandywine Creek State Park and Brandywine Zoo; New Castle, Kent, and Sussex County Wildlife Regions 1, 2, and 3; DuPont Nature Center; Mallard Lodge; Aquatic Resources Education Center; Ted Harvey Wildlife Area; North Bowers Beach; Little Creek Fisheries Building; and the Delaware National Research Reserve's Blackbird Creek and St. Jones reserves.



The recently-renovated park office at Cape Henlopen State Park.

FY2019 Funding Request for Minor Capital Improvements: \$2.5 Million

Project Description

Funding is requested for minor capital improvement and equipment projects for the Department's public facilities. Projects include roof and window replacements and repairs, bathroom renovations, parking lot and sidewalk repairs, and accessibility projects.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$2,500,000 | \$0 | \$0 |
| FY2020 | \$2,500,000 | \$0 | \$0 |
| FY2021 | \$2,500,000 | \$0 | \$0 |
| Total | \$7,500,000 | \$0 | \$0 |

Additional Information: See Appendix, DNREC Minor Capital Improvements for Operations, pages 67-69

Support Healthy Families

Cape Henlopen Pier Replacement

At the onset of World War II, the U.S. Army established a military base at Cape Henlopen and built a wooden fishing pier to serve as a mining wharf. The pier became state property in 1964 when the State of Delaware accepted ownership of Cape lands and established Cape Henlopen State Park.

The aging pier has undergone several rehabilitative efforts since 2007, including extensive repairs to its pilings. The T-head portion of the pier was demolished in 2012 after its deteriorated condition was deemed a threat to safety and navigation.

DNREC's Division of Parks & Recreation has monitored the condition of the pier and found an increasing rate of deterioration in the structure. In October 2014 the pier was closed as a safety measure after an engineer's analysis recommended that pedestrian and vehicular traffic be prohibited on the pier until repairs were made to a minimum of 24 wooden pilings holding up the structure.

The 1,300-foot pier reopened on May 25, 2016 after 149 pilings were repaired or replaced and extensive decking repairs completed. These repairs were will only temporarily extend the life of the pier. The more than 70-year-old structure needs to be replaced, and an investigation into the design, location, and other possible alternatives needs to begin as soon as possible. Preparing for a future pier will take years of consideration and design before construction can begin.



Ice damage in the winter of 2017 continued the deterioration of the Cape Henlopen pier. At this point, its remaining longevity is uncertain.

Pier Facts:

- More than 1.2 million people visit Cape Henlopen State Park each year.
- The Cape Henlopen Fishing Pier is the busiest fishing structure in all of Delmarva and the most popular recreational fishing structure in Delaware.
- The pier generates more than \$700,000 in revenue annually for the state's economy.
- The pier creates habitat for fish and other sea life and is used extensively by anglers, birdwatchers, and nature lovers.
- The pier's bait and tackle concessionaire is a convenience for visitors and generates income for the park.

FY2019 Funding Request for Cape Pier Replacement: \$650,000

Project Description

Funding is requested for the design and permitting of a new Cape Henlopen State Park pier to replace the existing structure. The design and permitting process is expected to take two years.

Capital Request Funding

| | State | Federal | Other |
|--------------|---------------------|------------------|------------|
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$650,000 | \$350,000 | \$0 |
| FY2020 | \$8,000,000 | \$0 | \$0 |
| FY2021 | \$7,000,000 | \$0 | \$0 |
| Total | \$15,650,000 | \$350,000 | \$0 |

Support Healthy Families

Historic Sites:

Fort Miles Museum

DNREC's Division of Parks & Recreation manages more properties on or eligible for listing on the National Register of Historic Places than any other entity in the state. Examples include Civil War-era Fort Delaware, Bellevue Hall, Blue Ball Barn, and Sussex County's iconic World War II fire control towers and Fort Miles.

The capital backlog of historic properties and monuments throughout the state exceeds \$15 million. Much-needed work includes replacing barn roofs, masonry work on Fort Delaware, and restoration of the Josephine Fountain in Wilmington. This request seeks a dedicated funding source to maintain and preserve these and other critical sites in our state's history.

Fort Miles played a vital role in our nation's coastal defense during WWII, with its heavy guns, mine fields, searchlights, and the towers. The Delaware River was a chief priority for defense planners because of the access it afforded to the large trade centers of Wilmington, Philadelphia, and beyond. After the war, the growing use of long-range missiles made US harbor defenses obsolete, and in 1964, more than 500 acres of the former military lands were returned to Delaware to form the core of



DNREC Secretary Shawn M. Garvin and Governor John Carney touring the new Artillery Park at Fort Miles.

today's Cape Henlopen State Park. In 2005, the park's Fort Miles Historical Area was placed on the National Register.

Recent projects at the popular seaside historic site include the 2016 opening of the Artillery Park, featuring a 16-inch gun salvaged from "Mighty Mo" – the USS Missouri – and other period armaments at Battery 519. Other improvements include new restrooms, a renovated mess hall, signage, and a grant-funded geothermal HVAC system.

The primary project for requested FY2019 funding is to advance museum planning at Fort Miles, matching recent private donations and grants to restore the fort's historic structures. In 2017, Friends groups raised more than \$1 million via grants from organizations such as the Longwood Foundation and the National Trust for Historic Preservation.

FY2019 Funding Request for Historic Sites/Fort Miles Museum: \$500,000

Project Description

Funding is requested for improvements to the Fort Miles Museum inside Battery 519.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|----------------|--------------|
| FY2015 | \$150,000 | \$0 | \$0 |
| FY2018 | \$0 | \$0 | \$0 |
| FY2019 | \$500,000 | \$0 | \$0 |
| FY2020 | \$500,000 | \$0 | \$0 |
| FY2021 | \$500,000 | \$0 | \$0 |
| Total | \$1,650,000 | \$0 | \$0 |

Support Healthy Families

Baynard Stadium Renovations

Located in Wilmington State Park, Baynard Stadium is owned by the City of Wilmington and managed by DNREC's Division of Parks & Recreation. Built in 1922, the stadium has been the site of some of Delaware's greatest high school football games and has hosted numerous track and field meets, soccer and lacrosse games, and other sporting events. The last upgrade to the stadium was completed in 1972.

Baynard Stadium is in great need of repair. In 2016, the bleachers on the south side of the stadium were condemned and closed after an engineering assessment found them to be structurally unsafe. The bleachers were removed and replaced with temporary bleachers for the upcoming sports season. Bleachers on the north side are currently on a "watch list" by engineers, and likely are subject to closure at some time in the future due to ADA challenges and structural issues.

Installed in 2000, the existing running track is at the end of its expected 15-year lifespan. In 2014, the track received an overcoat treatment, but an assessment at the time determined that the underlying asphalt has deteriorated, requiring complete rehabilitation of the track.



Temporary bleachers were installed at Baynard Stadium to ensure public safety.

The mayor of Wilmington formed a task force to evaluate the project and recommended a public-private partnership. The City of Wilmington solicited letters of interest for a public-private partnership; Salesianum High School was the only party to respond. The city and the school are in discussions about an agreement.

Future Funding Request for Baynard Stadium Renovations

Project Description

Within the next two years, Baynard Stadium needs \$1.5 million to begin greatly needed repairs. If no public-private partnership can be reached, funding will need to be authorized via the City of Wilmington, which owns the stadium, or via the state, which operates the facility, or the stadium could face a closure due to the deficiencies with the track and north bleachers.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2019 | \$0 | \$0 | \$0 |
| FY2020 | \$600,000 | \$0 | \$0 |
| FY2021 | \$1,000,000 | \$0 | \$0 |
| FY2022 | \$6,000,000 | \$0 | \$0 |
| Total | \$7,600,000 | \$0 | \$0 |

Support Healthy Families

Holts Landing State Park Improvements

Holts Landing State Park is a hidden gem on Indian River Bay. The 203-acre park contains a variety of beautiful landscapes, from the Indian River Bay beach to grassy fields and hardwood forests.

The park is in need of upgrades and repairs. Phase I of the restoration was completed in April 2016 and included the installation of a new state-of-the-art dual boat ramp with an ADA-accessible floating dock. The boat ramp represents the largest capital investment ever made at the park.

The innovative ramp provides 24-hour access for watercraft enthusiasts. Unlike its predecessor, the ramp allows two users to simultaneously launch their vessels into the bay. To improve navigational boating access, DNREC's Waterway Management Section dredged material from the boat ramp into Indian River Bay, creating a channel 60 feet wide that accommodates boats up to 25 feet in length. The beautiful boat ramp is expected to double its capacity, thereby boosting recreational opportunities and tourism at the park.



Location and concept of new parking lot at Holts Landing.

In early 2018 construction will be underway for the 30+ boat trailer parking lot adjacent to the boat launch.

Future Funding Request for Holts Landing

Project Description

Funding is requested for the design and development of the park's main parking lot and renovations for the restroom.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------------|
| FY2018 | \$0 | \$0 | \$150,000 |
| FY2019 | \$0 | \$0 | \$0 |
| FY2020 | \$500,000 | \$0 | \$0 |
| FY2021 | \$1,000,000 | \$0 | \$0 |
| Total | \$1,500,000 | \$0 | \$150,000 |

Additional Information: See Appendix, Parks & Recreation Capital Project Priorities, pages 79, 82, 85, 87, 89, 91

Support Healthy Families

Brandywine Zoo

Located in Wilmington on the banks of the Brandywine River, the Brandywine Zoo opened in 1905. Managed by DNREC's Division of Parks & Recreation and supported by the Delaware Zoological Society, Delaware's only zoo is accredited through the American Zoo and Aquarium Association, which sets standards for all aspects of operations.

During the most recent reaccreditation process, the zoo was placed under additional scrutiny due to aging infrastructure, including the need to modernize exhibits and to improve animal care by expanding quarantine holding areas and other hospital facilities. Losing AZA accreditation would mean losing key animals on loan to the zoo, such as the popular red pandas and Andean condors.

Some recent physical improvements have been made, including converting the former tiger exhibit into an amphitheater, a pop-up hands-on exhibit, and a tent area for events and rentals, as well as sidewalk and railing replacement and new traveling zoo quarters.



Artist's rendering of the proposed new zoo entrance; and, at right, a red panda at the Brandywine Zoo.



In late 2017 and 2018, the Delaware Zoological Society and DNREC staff have been working on an updated zoo master plan. When the plan is complete, funding is needed to begin work on significant capital improvements to the zoo, with the goal of earning reaccreditation in 2021.

Future Funding Request for Brandywine Zoo

Project Description

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|--------------------|--------------------|
| FY2019 | \$0 | \$0 | \$0 |
| FY2020 | \$1,500,000 | \$1,000,000 | \$1,500,000 |
| FY2021 | \$1,500,000 | \$0 | \$2,000,000 |
| FY2022 | \$1,000,000 | \$0 | \$4,000,000 |
| Total | \$4,000,000 | \$1,000,000 | \$7,500,000 |

Additional Information: See Appendix, Parks & Recreation Capital Project Priorities, pages 77, 91-92

Support Healthy Families

Biden Center Renovations

Built in 1962 by the U.S. Army as part of Fort Miles and acquired by the state of Delaware in 1996, Cape Henlopen State Park's Biden Center is currently used for meetings, classes, and other events, as well as housing parks staff offices and offices for the Friends of Cape Henlopen State Park and the Fort Miles Historical Society.

Until June 2013, when the facility was closed to overnight guests due to code compliance issues, including accessibility and lack of modern safety standards such as fire suppression in the kitchen area, the Biden Center had also provided much-needed overnight accommodations for up to 53 guests in dorm-style rooms. Without overnight accommodations, the center cannot host regional environmental workshops, small conferences, educational retreats, and in-state and out-of-state volunteer service groups without renting other off-site facilities.

With renovations to bring the building up to code and modernize the facility, the Biden Center could again provide these services, as well as enhancing environmental education opportunities, offering rentals for fundraisers, reunions, and parties, and bringing additional visitors to the popular park



The Biden Environmental Education Center needs extensive renovations to better serve visitors and groups, including overnight accommodations for multi-day conferences and workshops.



instead of sending them out of state. Proposed renovations include installing an elevator and a commercial kitchen with a fire suppression system, modernizing restrooms, renovating the conference room and adding a breakout room to hold up to 200 people for special events.

FY2019 Funding Request for Biden Center Renovations: \$1.3 Million

Project Description

Funding is requested to begin the programming, conceptual design, and draft construction documents for renovations to the Biden Environmental Training Center at Cape Henlopen State Park. Renovations will include updates to bring the building into compliance with modern safety standards and accessibility requirements and modernizing the facility to allow additional conference and training opportunities.

Capital Request Funding

| | State | Federal | Other |
|--------------|--------------------|------------|------------|
| FY2019 | \$1,300,000 | \$0 | \$0 |
| FY2020 | \$5,500,000 | \$0 | \$0 |
| FY2021 | \$0 | \$0 | \$0 |
| Total | \$6,800,000 | \$0 | \$0 |

Additional Information: See Appendix, Parks & Recreation Capital Project Priorities, pages 77.

Preserve Natural Heritage and Expand Ecotourism

Redevelopment of Strategic Sites: NVF Yorklyn

Yorklyn has been an active mill area since the early 18th century. A variety of mills have come and gone, with the largest products being snuff, paper, and fiber. Yorklyn today resembles a ghost town of abandoned mill buildings. The last mill, National Vulcanized Fibre Corporation, later NVF, closed in 2009. A public-private partnership has mapped out the future of Yorklyn, which will transform the area into a vibrant, lively, and scenic town, while still retaining its mill industry roots.

NVF declared bankruptcy in 2009, and the contaminated and floodplain sections of the site were abandoned by the company. The State of Delaware assumed responsibility for the cleanup and demolition costs of the site. During the bankruptcy proceedings, a plan to purchase the NVF property was developed using federal flood mitigation grant funds, state Open



This conceptual illustration shows new facilities including a train station and amphitheater.

Space funds, and private funds. The neighboring Auburn Heights Preserve was created through a generous donation of 192 acres of conservation lands from Tom and Ruth Marshall. As a result of state and community efforts, more than 500 acres of contiguous open space have been preserved.

FY2019 Funding Request for NVF Redevelopment: \$3 Million

Project Description

Funding is requested for the continued remediation and redevelopment of the former NVF facility in Yorklyn, along the Red Clay Creek. DNREC completed a series of acquisitions that allow for remediation of the site, while providing open space, flood mitigation, and wetland creation, and supporting economic development. Asbestos abatement, demolition, and a new access road were completed.

FY2018 funding supports renovation of an Auburn Heights office and parking lot, trail connections with historic bridges, construction of a new amphitheater, and other visitor-oriented projects.

FY2019 funding will continue to focus on the redevelopment of the site into park amenities, open space, flood mitigation, and wetland areas. The site will have several acres of flood retention capacity and will serve as the center of an expanding trail system, connecting several existing parcels of state property to local communities. Phase I of the trail system opened to the public in August 2012 and phase II of the trail system was completed in June 2017.

Capital Request Funding

| | State | Federal | Other |
|--------------|---------------------|------------|------------|
| FY2017 | \$2,500,000 | \$0 | \$0 |
| FY2018 | \$2,500,000 | \$0 | \$0 |
| FY2019 | \$3,000,000 | \$0 | \$0 |
| FY2020 | \$3,000,000 | \$0 | \$0 |
| FY2021 | \$1,000,000 | \$0 | \$0 |
| Total | \$12,000,000 | \$0 | \$0 |

Additional Information: See Appendix, Parks & Recreation Capital Project Priorities, page 76



This aerial view shows a newly-created wetland at the NVF site in Yorklyn.

Current Projects FY2018:

- Design and construction of a trail to the Creative Center for the Arts
- Construction of water utilities to serve the site, allowing for redevelopment
- Design of the NVF trail connector to Hockessin, with the assistance of DelDOT
- Renovation and construction to transform the former Marshall Brothers Paper Mill office into the new main park office
- Design and construction of the new amphitheater, including parking lot improvements and new plaza
- Design of the trail and utility connection to the Snuff Mill property, including a bridge
- Construction of a new entrance into Auburn Heights Preserve
- Setting a refurbished historic bridge connecting the phase I and II trails
- Demolition of a barn in preparation for a future maintenance facility; design of the maintenance building

Project Accomplishments FY2014-2017:

- Demolished the NVF Corporate Office, the zinc and water treatment facilities and several mill buildings
- Removed hundreds of tons of asbestos and hazardous materials
- Completed historic documentation of the Marshall Brothers Paper Mill and stabilized the office for reuse as the new park office
- Stabilized the Marshall Brothers Paper Mill roof



Auburn Heights Mansion is one of the nearby attractions adjoining the NVF redevelopment area.

- Opened the first and second phase of the Auburn Heights trails
- Completed construction of the new Gun Club Road in spring 2015
- Completed investigation and recommendations for improvement for the Paper Mill Water Race
- Developed recommendations for the farm lane bridge
- Completed a feasibility study for accessible restrooms at the Marshall Steam Museum
- Held public meetings to review the updated master plan
- Initiated a railbike test program

Redevelopment Plans:

The Auburn Valley Master Plan was created by a partnership of business developers, neighboring organizations, and DNREC's Divisions of Parks & Recreation, Waste & Hazardous Substances, Watershed Stewardship and Water. Other partners include DelDOT, the Federal Emergency Management Agency (FEMA), the EPA, local, state, and federal legislators, with strong support from neighboring property owners and conservation and recreational organizations in the Yorklyn area.

The redevelopment of the site creates an innovative model whereby the state and private sector are co-developing under a single master plan, resulting in a residential and destination community where the state retains ownership of a portion of the site dedicated to recreational use.



Abandoned mill buildings and industrial contamination are being cleaned up and transformed at the former NVF site in Yorklyn.

The public/private partners are cleaning up contaminated areas, restoring floodplains, and expanding recreational, educational, shopping, and dining opportunities. A unique trail system will connect these new commercial sites with historic and natural areas, including existing attractions – the Marshall Steam Museum, the Delaware Nature Society, the Center for Creative Arts, and the town of Hockessin. In addition, historic bridges rescued from other states' projects will connect sections of trail. This historic "bridge park" will create a destination within the park itself.

Redevelopment Progress:

The site is undergoing an environmental cleanup of nearly a century of historic contamination. Work includes installing a series of wetland and flood mitigation sites, and a comprehensive stream restoration that will not only improve water quality and protect fish in Red Clay Creek, but will also remove contaminant sources. These measures will reduce severe flooding that has resulted in significant economic impacts to Yorklyn.

DNREC's Division of Waste & Hazardous Substances' Site Investigation and Restoration Section is leading the remediation of the brownfield site, including building demolition, asbestos removal, and cleaning up decades of zinc contamination in the soil and groundwater. More than 233 tons of contaminants have been removed from the property.

Flooding problems are being addressed by the Divisions of Parks & Recreation and Waste & Hazardous Substances through the creation of several wetlands that will filter contaminants and lessen the effects of flooding. DNREC's Divisions of Watershed Stewardship and Water are assisting in these efforts, working with FEMA, monitoring flood-reduction efforts and the water quality of Red Clay Creek.

With the protection of 119 acres of the former NVF property, major steps have been taken toward transforming the area into a residential, commercial, conservation, and recreation area. NVF lands have been combined with adjacent state park preserve lands encompassing more than 400 acres. Approximately 90 percent of the land will be open space with a roughly six-mile, country-road style trail that will be used for walking, biking, jogging, and horseback riding. A new access road into the site has been completed.

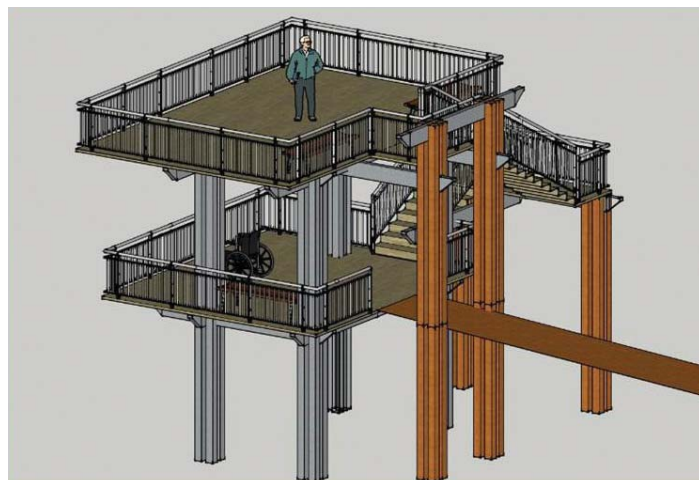
Already, 1.5 miles of trails have been constructed for use by hikers, bicyclists, equestrians, and vintage car enthusiasts. A new trail will also be built connecting NVF with the Center for Creative Arts.

Preserve Natural Heritage and Expand Ecotourism

Delaware Bayshore Initiative

The Delaware Bayshore is widely recognized as an area of outstanding national, hemispheric, and global ecological significance. The Bayshore Initiative, led by DNREC's Division of Fish & Wildlife, was honored by the U.S. Department of Interior as a keystone conservation and outdoor recreation project under the America's Great Outdoors program. The goals of the Initiative are to protect and restore habitat, enhance recreation and education opportunities that foster support for conservation, and involve Bayshore residents in ways that will help strengthen their communities.

The Initiative builds upon the legacy of former Governor Russell W. Peterson, who recognized the ecological significance of this region more than 45 years ago and proposed the landmark Delaware Coastal Zone Act to protect the Bayshore from industrial development.



Concept drawings for the new accessible wildlife observation tower in the Little Creek Wildlife Area.

Today, more than half of the Bayshore region extending from the City of New Castle to Cape Henlopen State Park is protected as national wildlife refuges, state wildlife areas, parks and reserves, farmland preserves, and private conservation lands.

FY2019 Funding Request for Bayshore Projects: \$500,000

Project Description

Funding is requested for the Delaware Bayshore Initiative to help leverage existing and new resources from department fees and incentive programs, land conservation funds, penalty funds/Coastal Zone Act offsets, other federal grant funds, and private investments.

This funding will support key habitat restoration, recreational, and educational enhancement projects for FY2019 to improve hunting, fishing, and wildlife-viewing opportunities that will drive significant tourism and support local communities. Key projects include accessible wildlife-viewing platforms at Woodland Beach, Little Creek, and Ted Harvey wildlife areas; interpretive signs and kiosks in multiple Bayshore beach communities; pedestrian path and amenity enhancements at the Aquatic Resource Education Center and Little Creek Wildlife Area, and interpretive and wayfinding guides for the Bayshore and Bayshore Byway.

Capital Request Funding

| | State | Federal* | Other |
|--------------|--------------------|--------------------|------------|
| FY2017 | \$500,000 | \$1,000,000 | \$0 |
| FY2018 | \$500,000 | \$500,000 | \$0 |
| FY2019 | \$500,000 | \$500,000 | \$0 |
| FY2020 | \$500,000 | \$500,000 | \$0 |
| FY2021 | \$500,000 | \$500,000 | \$0 |
| Total | \$2,500,000 | \$3,000,000 | \$0 |

**The sources of federal funds are Wildlife and Sport Fish Restoration program and Federal Highway Scenic Byway program, as well as other federal funding opportunities.*

Additional Information: See Appendix, Fish & Wildlife Capital Project Priorities, pages 70-71



Rehabilitation work at Mispillion Harbor.

Leveraging Funding:

Since 2012, Delaware has been awarded nearly \$15 million in federal, state, and private partner funds for Bayshore projects.

Existing and new resources are available from: Open Space Program; DelDOT; U.S. Fish and Wildlife Service's Wildlife and Sport Fish Restoration Program; North American Wetland Conservation Act; National Coastal Wetland Conservation Program; Federal Highway Administration Byways Program; Disaster Relief Act of 2012 (Hurricane Sandy); National Fish and Wildlife Foundation; Strategic Opportunity Fund for Adaptation (DNREC's Division of Energy & Climate); other federal grant programs; department fees and incentive programs; penalty funds; Coastal Zone Act offsets; and private investments.

Current Projects: FY2018-2019

Augustine Wildlife Area - Ashton Tract Public Access and Wildlife-Viewing Enhancements:

- Design and construct accessible sidewalk and portable toilet screen at the public access parking area.

Augustine Wildlife Area - Cooper-Cross Public Access and Wildlife-Viewing Enhancements:

- Construction of accessible wildlife-observation platform, trail, interpretive signs, and parking area; design and construct a connector trail from the public access parking to the Lang Impoundment levee.

Woodland Beach Wildlife Area - Aquatic Resources Education Center/Bayshore Visitor Center:

- Design Taylors Gut wildlife-viewing area and trail; construct improved kayak/canoe access to Mallard Lodge pond; design and rehabilitate the existing boardwalk trail; design a pedestrian connector trail and boardwalk along Route 9 from the Mallard Lodge; and design and construct accessible restroom facilities and improved parking along Route 9 at outdoor education area.

Little Creek Bayshore Visitor Center:

- Complete master plan and land development plan to include the Bayshore Visitor Center, parking, associated trails, and wildlife-viewing enhancements; design indoor interpretive exhibits, visitor information area, and public restrooms.

Little Creek Wildlife Area - Little Creek Boardwalk and Wildlife-Viewing Tower Enhancements:

- Construct accessible, two-tier wildlife-viewing tower, boardwalk trail, interpretive signs, and parking area.

Little Creek Wildlife Area – Little River Boating Access Area:

- Design and construct small vessel boat ramp and parking area on Little River.

Bayshore Communities:

- Engage local communities to develop and place interpretive signs about local wildlife and habitat resources at key public-access sites at Delaware Bay beaches to foster support for conservation; support development of conservation and cultural educational facilities within communities; and support development of climate adaptation projects within communities.

Delaware Bayshore Information Resources:

- Continue promoting the Bayshore branding/marketing campaign; develop promotional materials and signs using brand; install signs and information kiosks and develop public-access guides; and develop Delaware Bayshore Byway/Route 9 wayfinding sign plan.

Accomplishments: FY2017-2018

- Completed restoration, sand replenishment, and groin installation along the sea wall and beach at Mispillion Harbor to protect and maintain the harbor shoreline, increase habitat for horseshoe crabs and shorebirds, and improve resiliency of the harbor to protect multiple public assets, resulting in community and regional economic benefits;
- Installed benches along the accessible trail at the Ashton Tract of Augustine Wildlife Area;
- Completed engineering of Cooper-Cross wildlife-observation platform, trail, and parking area with accessible parking at Augustine Wildlife Area;



New interpretive sign frames installed at Broadkill Beach.

- Completed design and installation of outdoor interpretive signs and exhibits at the Aquatic Resources Education Center;
- Completed master plan for the Aquatic Resources Education Center and related outdoor amenities and recreation enhancements;
- Completed design of improved kayak/canoe access to Mallard Lodge pond;
- Completed design and engineering of an accessible, two-tier wildlife-observation tower, boardwalk trail, interpretive signs, and parking area at the Little Creek Wildlife Area;

- Produced “*From Duck Creek to Delaware Bay*,” an educational video for the Aquatic Resources Education Center about the local resources, culture, and heritage surrounding the site; and
- Produced “*Bayshore Forever*” land conservation and habitat restoration factsheets and promotional video.



Birdwatching on the Little Creek Wildlife Area.

Outdoor Recreation:

Delaware’s conservation economy, including fishing, hunting, and wildlife-viewing, is a \$315 million industry.

Wildlife watching in Delaware generates nearly \$170 million in retail sales and \$27 million in state and local tax revenues.

The state’s wildlife-watching economy supports almost 3,300 Delaware jobs with \$119 million in salaries, wages, and business-owner income.

More than half of Delaware’s residents participate in outdoor recreation annually.



Bayshore Initiative Goals:

The Delaware Bayshore Initiative is aligned with efforts that focus on conservation, recreation, education, and community engagement. Goals include supporting economic growth by making the Bayshore a world-class ecotourism destination, and improving quality of life for residents and visitors through healthy outdoor recreation opportunities.

Achieving the vision of the Delaware Bayshore becoming a premier global destination for birding, wildlife watching, hunting, and outdoor recreation will require:

- Ecological restoration, including enhancement of stream and wetland corridors and the restoration of coastal beach wetland, meadow, and forest habitats;
- Resource protection, including the installation of barriers and signage that prevent motorized vehicle access, vandalism, and damage to habitat areas;

- Connections between local communities and waterways by providing trails, pathways, and access areas;
- Enhanced access to waterways by providing safe kayak and canoe access points, and ensuring safe parking capacity at access points;
- Enhanced visitor engagement through the development of wildlife-viewing platforms, towers and blinds, trail enhancements, interpretive signage and exhibits, development of web and mobile device applications and interpretative guides, maps and wayfinding signs, and other promotional materials and guides to attract regional, national, and international visitors;
- Volunteer promotion by supporting opportunities for local communities and families to participate in habitat restoration projects and stewardship activities; and
- Assistance to local communities for planning and design of amenities that support and enhance public access to Bayshore resources and provide information about the Bayshore area's culture and history.

Bayshore Community Partners:

City of New Castle, Delaware City, Port Penn, Woodland Beach, Leipsic, Little Creek, Pickering Beach, Kitts Hummock, Bowers Beach, South Bowers Beach, Slaughter Beach, Prime Hook Beach, Broadkill Beach, and Lewes.

| DNREC Watershed Stewardship - Shoreline and Waterway Management | | | | | |
|---|--|--------------------|---------------------|---------------------|---------------------|
| Capital Project Priorities FY2017-2020 | | | | | |
| Last Update: 1/26/18 | Project Cost Estimates (\$ in thousands) | | | | |
| | 1-Jul-2016 Balance | FY 2017 | FY 2018 | FY 2019 | FY 2020 |
| Funding Sources | | | | | |
| (federal share) | | | | | |
| Annual DCPD Sand Bypass Grant - 40633 (5-Year Average of Federal Reimbursement) | \$ | 390.00 \$ | 390.00 \$ | 390.00 \$ | 390.00 |
| (state share) | | | | | |
| Bond Appropriation Shoreline - 10251/25338/59934 ⁽¹⁾ | \$ 828.80 | 2,798.20 \$ | 7,450.00 \$ | 7,450.00 \$ | 7,450.00 |
| Bond Appropriation Waterway Dredging 10251/25338/59934 ⁽¹⁾ | | | | | |
| Bond Appropriation Waterway - Navigation & Waterway Operations | | | | | |
| Bond Appropriation Waterway - UD Citizens Monitoring | | 350.00 | | | |
| Annual GF Sand Bypass - 00374 | | 50.00 \$ | 50.00 \$ | 50.00 \$ | 50.00 |
| Annual GF Shoreline & Waterway - 00150/00160 | | 80.00 \$ | 80.00 \$ | 80.00 \$ | 80.00 |
| Hotel Accomodation Tax - 76500/30065/66501 | | 205.50 \$ | 205.50 \$ | 205.50 \$ | 205.50 |
| Waterway Management Fee - 76202/30063/66302 | \$ 5,998.00 | 2,500.00 \$ | 2,500.00 \$ | 2,500.00 \$ | 2,500.00 |
| Dredging Projects - 50125 ⁽¹⁾ | | 650.00 \$ | 1,300.00 \$ | 1,300.00 \$ | 1,300.00 |
| UD Marine Harbor (cost share every 4 years) | | 450.00 \$ | - \$ | - \$ | - |
| | | 250.00 \$ | - \$ | - \$ | - |
| Total Estimated Funding | \$ 6,826.80 | \$ 7,723.70 | \$ 11,975.50 | \$ 11,975.50 | \$ 11,975.50 |
| Project Expenditures/Encumbrances | | | | | |
| (state share) | | | | | |
| <u>NOURISHING OCEAN BEACHES:</u> ⁽²⁾ | | | | | |
| Rehoboth-Dewey | \$ 81.00 | \$ 81.00 | \$ 81.00 | 4,119.00 \$ | \$ 81.00 |
| Lewes | \$ 45.00 | \$ 45.00 | \$ 45.00 | 1,344.80 \$ | \$ 45.00 |
| Bethany-South Bethany | \$ 3,850.00 | \$ 3,850.00 | \$ 81.00 | 81.00 \$ | \$ 3,581.00 |
| Fenwick Island | \$ 5,150.00 | \$ 5,150.00 | \$ 150.00 | 150.00 \$ | \$ 150.00 |
| Broadkill | \$ 81.00 | \$ 81.00 | \$ 81.00 | 81.00 \$ | \$ 3,042.00 |
| Indian River Sand Bypass Operations, Crane & Facility Improvements (5-Year Average of Federal-40.75 and State-59.25 Shares) | \$ | 950.00 \$ | 950.00 \$ | 950.00 \$ | 950.00 |
| Annual Shoreline Operations Contractual Maintenance, Equipment, Supply, and Personnel | \$ | 350.00 \$ | 350.00 \$ | 350.00 \$ | 350.00 |
| <u>NOURISHING BAY BEACHES</u> ⁽³⁾ | | | | | |
| Pickering Beach (plan./eng., truckfill/prop. access, beachfill, truckfill) | | | | 2,000.00 \$ | |

Shoreline and Waterway Management

Shoreline and Waterway Management

| DNREC Watershed Stewardship - Shoreline and Waterway Management | | | | | | |
|--|--|------------------|----------------------|----------------------|-----------------------|----------------------|
| Capital Project Priorities FY2017-2020 | | | | | | |
| Last Update: 1/26/18 | Project Cost Estimates (\$ in thousands) | | | | | |
| | 1-Jul-2016 Balance | FY 2017 | FY 2018 | FY 2019 | FY 2020 | |
| Kitts Hummock (plan./eng. & truckfill, truckfill/prop. access, beachfill) | | \$ | 3,000.00 | | | |
| Bowers (plan./eng., jetty construction, beachfill) | \$ | 2,000.00 | | | | |
| South Bowers (plan./eng., jetty construction, beachfill) | \$ | 4,600.00 | 1,500.00 | 3,250.00 | | |
| Slaughter Beach (plan./eng., beachfill) | | | | | | |
| Prime Hook (plan./eng., beachfill) | \$ | 1,000.00 | | | | |
| Broadkill Beach (truckfill, fed project maintenance- e.g. crossovers) | \$ | 500.00 | | | | |
| Lewes (truckfill) | | | | | | |
| Cape Shores (truckfill) | \$ | | 500.00 | | | |
| Annual Waterway Operations Contractual Maintenance, Equipment, Supply, and Personnel | \$ | 350.00 | 350.00 | 350.00 | | |
| Annual Waterway - UD Citizens Monitoring | \$ | 50.00 | 50.00 | 50.00 | | |
| NAVIGATION / DREDGE PROJECTS ⁽⁴⁾ | \$ | 4,000.00 | | | | |
| Massey's Ditch (planning/engineering, construction) | | | 1,500.00 | 100.00 | 100.00 | |
| Assawoman Canal (planning/engineering, construction) | | | | | | |
| Little River (planning/engineering, construction) | | | | | | |
| Lewes-Rehoboth Canal (planning/engineering, construction) | \$ | | 350.00 | 2,000.00 | | |
| Herring Creek (planning/engineering, construction) | \$ | | 350.00 | 2,000.00 | | |
| Love Creek (planning/engineering, construction) | | | | 350.00 | 2,000.00 | |
| White Creek (planning/engineering, construction) | | | | 350.00 | 2,000.00 | |
| Mispillion River (planning/engineering, construction) | | | | | | |
| Indian River (in-house construction) | | | | | | |
| Holt's Landing(planning/engineering,in-house construction) | | | | | | |
| Delaware City Mooring Basin (in-house construction) | | | | | | |
| Indian River Inlet Marina (in-house construction) | \$ | 75.00 | | | | |
| Total Estimated Expenditures | \$ | 23,082.00 | \$ 9,338.00 | \$ 17,525.80 | \$ 12,299.00 | |
| Balance of Funding for Planned Projects | \$ | 6,826.80 | \$ (8,531.50) | \$ (5,894.00) | \$ (14,081.80) | \$ (6,217.50) |

| DNREC Watershed Stewardship - Shoreline and Waterway Management | | | | | |
|---|--|---------|---------|---------|---------|
| Capital Project Priorities FY2017-2020 | | | | | |
| Last Update: 1/26/18 | Project Cost Estimates (\$ in thousands) | | | | |
| | 1-Jul-2016 Balance | FY 2017 | FY 2018 | FY 2019 | FY 2020 |

(1) Appropriation is based on actual award balance, recommended, or requested bond funding.

(2) DNREC's investment in Ocean Beach projects is expected to leverage 2016-2020 US Corp of Engineers (US ACOE) funding of \$47.8 million. US ACOE match ratios can vary depending on

(3) Bay Beach Projects include consulting services for planning and engineering, estimated truckfill needs, property acquisition for access, and beachfill in accordance with the PBJ&S template. Also annual Bay Beach Maintenance for Broadkill Beach to complete appurtenances for dune, crossovers, etc. as part of the USACOE Main Channel Deeping.

(4) Contractual Navigation Projects include consulting services for planning and engineering and estimated construction costs.

Project Cost Basis: (1) DNREC Annual GF Shoreline & Waterway Budget for dunes, dredge, harvest, channel marking, and facility operations/maintenance; (2) U.S. Army Corp of Engineers 2016-2020 Delaware Ocean Beach Project Schedule; and (3) DNREC 10-Year Bay Beach Management Plan in accordance with PBJ&S construction template.

High Hazard Dams and Dikes Repair/Replacement

| DNREC Watershed Stewardship & Coastal Programs - Dams and Dikes | | | | | | | |
|--|------------------|--|------------|------------|------------|------------------|------|
| Capital Project Funding Priorities and Cash Flow Estimate FY2018-2020 | | | | | | | |
| Last Updated 01/13/2018 | | Project Cost Estimates (\$ in thousands) | | | | | |
| PROJECT | County | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Total by Project | |
| July 1 Carry forward (Appr 50087 Unencumbered Bond Funds) New Year Fiscal Bond Bill Appropriation | Total Resources: | \$ 3,606.8 | \$ 2,108.6 | \$ 1,488.6 | \$ 938.6 | | |
| | | \$ 1,500.0 | \$ 1,500.0 | \$ 1,500.0 | \$ 1,500.0 | | |
| | | \$ 5,106.8 | \$ 3,608.6 | \$ 2,988.6 | \$ 2,438.6 | | |
| | | New Castle | | | | | \$ - |
| | | New Castle | | | | | \$ - |
| | | New Castle | | | | | \$ - |
| | | New Castle | | | | | \$ - |
| | | New Castle | | | | | \$ - |
| | | New Castle | | | | | \$ - |
| | | Permit Mitigation Project at Peterson Refuge - constructed in fiscal 2014 with final vegetation, seeding, and as-built survey completed in fall 2014. Site monitoring continues. | New Castle | | | | |
| Dike Inventory and Assessment Phase 1 - desktop review (\$100k in Fiscal 2016) Phase 2 - field review | Statewide | | \$ 200.0 | | | \$ - | |
| | | | | | | \$ 200.0 | |
| Dike Repairs and Maintenance * | Statewide | \$ 60.0 | \$ 50.0 | \$ 50.0 | \$ 50.0 | \$ 210.0 | |
| | | | | | | \$ - | |
| Dam Rehabilitation and Repairs: Hearns Pond Dam (\$3,429,000 to DeIDOT in January 2014) Records Pond Dam (\$1,000,000 to DeIDOT in June 2014) Trap Pond Dam - Funds encumbered in Fiscal 2014 with repairs completed in Fiscal 2016 Red Clay Dam Garrisons Lake Dam - Funds encumbered in Fiscal 2014 with emergency repairs completed in Fiscal 2016 | Sussex | | | | | \$ - | |
| | Sussex | | | | | \$ - | |
| | Sussex | | \$ 150.0 | | | \$ 150.0 | |
| | Kent | | | | | \$ - | |
| | Sussex | \$ 843.1 | | | | \$ 843.1 | |
| | Sussex | \$ 761.9 | | | | \$ 761.9 | |
| | Sussex | \$ 895.0 | | | | \$ 895.0 | |
| | Kent | | \$ 810.0 | | | \$ 810.0 | |
| | Sussex | | \$ 100.0 | | | \$ 100.0 | |
| | Sussex | | | \$ 1,100.0 | | \$ 1,100.0 | |
| Garrisons Lake Dam Spillway Repairs Construction ** Silver Lake Dam-Milford (still determining ownership) | Kent | | | | | \$ - | |
| | Kent | | | | | \$ - | |
| Dam Inspection, Planning, Design, and Engineering McCormick Taylor - Task 1 Inspection of 10 dams, design embankment stabilization and analysis of water control systems; Task 2 Engineering and preliminary design for Fleetwood spillway improvements (\$300k in Fiscal 2016) O'Brien and Gere Final Designs (\$500k in Fiscal 2016 for Chipmans, Concord, Craigs, Mudmill, Hudson, and Garrison Spillway) | Statewide | | \$ 400.0 | \$ 400.0 | \$ 400.0 | \$ 1,200.0 | |
| | | \$ 500.0 | | | | \$ - | |
| | | | | | | \$ 500.0 | |

| DNREC Watershed Stewardship & Coastal Programs - Dams and Dikes | | | | | | |
|---|--|-------------------|-------------------|-------------------|-------------------|-------------------|
| Capital Project Funding Priorities and Cash Flow Estimate FY2018-2020 | | | | | | |
| Last Updated 01/13/2018 | Project Cost Estimates (\$ in thousands) | | | | | |
| PROJECT | County | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Total by Project |
| O'Brien & Gere Construction Review Services for Chipmans, Concord & Craigs | Statewide | \$ 481.8 | | | | \$ 481.8 |
| O'Brien & Gere Construction Review Services for Mudmill Pond Dam | | | \$ 230.0 | | | \$ 230.0 |
| O'Brien & Gere Construction Review Services for Garrisons Lake Dam | | | | \$ 290.0 | | \$ 290.0 |
| <u>Dam Annual Maintenance</u> | | | | | | \$ - |
| <u>Pond-side Vegetation Clearing & Maintenance (State-owned upstream slope for 18 dams)</u> | Statewide | \$ 50.0 | \$ 100.0 | \$ 100.0 | \$ 100.0 | \$ 350.0 |
| <u>Water-level Monitoring (Installation of 14 stations & ongoing maintenance)</u> | Statewide | \$ 46.3 | \$ 80.0 | \$ 110.0 | \$ 145.0 | \$ - |
| Total Projected Expenditures: | | \$ 46.3 | \$ 2,120.0 | \$ 2,050.0 | \$ 695.0 | \$ 8,503.1 |
| June 30 Projected Balance: | | \$ 1,468.7 | \$ 1,488.6 | \$ 938.6 | \$ 1,743.6 | |

**Project engineering and final construction documents are complete. DNREC is in the permitting phase for Chipmans, Concord, Craigs spillway improvements; expecting to bid in January 2017 with a contract awarded spring 2017; and construction will commence summer or fall 2017.*

*** Project construction documents for Mud Mill Pond spillway improvements and Garrison Lake Dam spillway repairs are nearing completion. Permitting and bidding is expected by fall 2017, and construction by spring 2018 for Mudmill with Garrisons permitting expected in spring 2018 and construction in fall 2018.*

Note: These project estimates are based on engineering, design, site visits and input from DNREC, DeldOT, and contracted engineering firms for Dam Repairs/Rehabilitation. Dike repair needs will be further refined when statewide inventory and assessments are completed.

High Hazard Dams and Dikes Repair/Replacement

DNREC Critical Equipment for Operations

| Fiscal 2019 Critical Equipment Request (as of 09/15/2017) | | | |
|---|--|------------------|--|
| Department of Natural Resources and Environmental Control | | | |
| IPU | Category | Requested Amount | Project / Description of Use / Location |
| DNREC requests capital improvement funds for the acquisition/replacement of critical equipment essential in performing environmental and natural resource operations, conservation, protection and research activities. These critical equipment assets have a useful life of over 10 years and provide public services and infrastructure support to nearly 100,000 acres of public land, 700 buildings, 16 state parks, 16 wildlife management areas, 10 natural preserves, two national estuarine research reserve sites, 65 freshwater ponds and marine access areas, all Delaware waterways and environmental laboratory services, which include (but are not limited to) the following: | | | |
| Office of Natural Resource (ONR) | | | |
| 40-03-02 | Division of Parks - Critical Equipment | | |
| | | \$ 90,000.00 | 72-inch riding mowers (replacements) (BCSP & FDSP 4WD) - BVSP, WCCSP, BCSP, CHSP, FDSP |
| | | \$ 76,000.00 | Brush chipper for storm damage cleanup and general tree maintenance 2 each - statewide |
| | | \$ 178,000.00 | NJPA contract utility tractor with bucket 2 each - BCSP, WCCSP |
| | | \$ 45,000.00 | F350 Dump truck - BCSP |
| | | \$ 60,000.00 | LPSP/ FDSP Mini Bus - LPSP |
| | | \$ 45,000.00 | Van with lift for parking lot light maintenance - WSP |
| | | \$ 45,000.00 | F350 Dump truck - AHP |
| | | \$ 8,000.00 | Bucket attachment for John Deere tractor - CHSP |
| | | \$ 8,000.00 | ATV for rangers 2 each - CHSP, DSSP |
| | | \$ 15,000.00 | Beach cleaner - CHSP |
| | | \$ 8,000.00 | Campground host golf carts 4 each - CHSP, DSSP |
| | | \$ 99,000.00 | Nine replacement utility vehicles - DSSP, CHSP, TPSP, KPSP, WCCSP, BVSP, IRM, FDSP |
| | | \$ 25,000.00 | Recreation boats and accessories replacements for park revenue - various |
| | | \$ 20,000.00 | Picnic grills and fire rings - various |
| | | \$ 25,000.00 | Picnic table materials for approximately 200 tables - statewide |
| | | \$ 70,000.00 | NJRP contract-JD 10' 1600 turbo series riding mower - LPSP |
| | | \$ 70,000.00 | NJRP contract-JD 10' 1600 turbo series riding mower - CHSP |
| | | \$ 28,000.00 | 60" commercial Z-turn mower 2 each - DSSP, WCCSP |
| | | \$ 18,500.00 | Mobi Mat-beach ADA accessible mats - CHSP, DSSP |
| | | \$ 3,000.00 | Trailer spray unit-300 gallon for environmental stewardship projects - statewide |
| | | \$ 30,000.00 | Argo amphibious utility vehicle- replaces 2006 unit - statewide |
| | | \$ 150,000.00 | Volvo front end loader replacement - DSSP |
| | | \$ 6,000.00 | Maintenance trailer - WCCSP |
| | | \$ 42,000.00 | Bob Cat with bucket - WCCSP |
| | | \$ 5,000.00 | Plate compactor - WCCSP |
| | | \$ 45,000.00 | Truck for parking lot light repairs - statewide |
| | | \$ 20,000.00 | Tractor driven finish mower 17' - BCSP |
| | | \$ 80,000.00 | F-650 or equal dump truck, aluminum dump body and heavy gear tow pkg. - statewide |
| | | \$ 1,314,500.00 | |
| 40-03-03 | Division of Fish & Wildlife - Critical Equipment | | |
| | | \$ 70,000.00 | Fisheries - Aquatic Harvester |
| | | \$ 610,000.00 | Mosquito Control - Rotary excavator |
| | | \$ 58,000.00 | Mosquito Control - Two Argo 8x8 Tundras and trailer |
| | | \$ 23,000.00 | Mosquito Control - New cab for Kobelco rotary excavator |
| | | \$ 20,500.00 | Wildlife - Two bush hog mowers for Region 2 |
| | | \$ 80,000.00 | Wildlife - Tractor replacement Region 3 |
| | | \$ 20,000.00 | Wildlife - Security cameras at office locations |
| | | \$ 30,000.00 | Wildlife - Trailer for Region 1 |
| | | \$ 20,000.00 | Wildlife - Straw blower |

| Fiscal 2019 Critical Equipment Request (as of 09/15/2017) | | | |
|--|---|------------------|--|
| Department of Natural Resources and Environmental Control | | | |
| IPU | Category | Requested Amount | Project / Description of Use / Location |
| DNREC requests capital improvement funds for the acquisition/replacement of critical equipment essential in performing environmental and natural resource operations, conservation, protection and research activities. critical equipment assets have a useful life of over 10 years and provide public services and infrastructure support to nearly 100,000 acres of public land, 700 buildings, 16 state parks, 16 wildlife management areas, preserves, two national estuarine research reserve sites, 65 freshwater ponds and marine access areas, all Delaware waterways and environmental laboratory services, which include (but are not limited to) the following: | | | |
| | | \$ 185,000.00 | Wildlife - Floatation truck |
| | | \$ 136,000.00 | Wildlife - Tractors for Region 2 (2 tractors) |
| | | \$ 140,000.00 | Wildlife - 6 Wheel dump truck for construction crew |
| | | \$ 4,300.00 | Wildlife - 4" trash pump for construction crew |
| | | \$ 115,000.00 | Wildlife - Positrac loader for Region 2 |
| | | \$ 65,000.00 | Wildlife - Dump Truck for Region 1 (to replace existing) |
| | | \$ 12,000.00 | Wildlife - Agricultural sprayer for Region 1 |
| | | \$ 12,000.00 | Wildlife - Region 2- Radiarc Sprayer |
| | | \$ 12,000.00 | Wildlife - John Deere gator for Region 1 |
| | | \$ 7,000.00 | Wildlife - Outboard motor for Region 2 |
| | | \$ 5,000.00 | Wildlife - Grading blade for Region 2 |
| | | \$ 5,000.00 | Wildlife - Debris blower for Region 3 |
| | | \$ 22,000.00 | Wildlife - Two zero-turn mowers for Region 3 |
| | | \$ 100,000.00 | Wildlife - Skid loader |
| | | \$ 20,000.00 | Wildlife - Jon boat for Region 3 |
| | | \$ 5,000.00 | Wildlife - Auger for Region 3 |
| | | \$ 15,000.00 | Wildlife - Stump grinder for Region 3 |
| | | \$ 20,000.00 | Wildlife - Wood chipper for Region 3 |
| | | \$ 10,500.00 | Wildlife - Repair and replace Sportsman Against Hunger deer coolers at prison |
| | | \$ 1,822,300.00 | |
| 40-03-04 | Division of Watershed Stewardship - Critical Equipment | | |
| | | \$ 200,000.00 | Shoreline and Waterway Management - Dump truck |
| | | \$ 40,000.00 | Conservation Programs - Mini excavator |
| | | \$ 12,000.00 | Conservation Programs - John Deere gator |
| | | \$ 252,000.00 | |
| | ONR Subtotal | \$ 3,148,800.00 | |
| 40-04 | Office of Environmental Protection (OEP) | | |
| 40-04-04 | Division of Waste and Hazardous Substances - Critical Equipment | | |
| | | \$ 180,000.00 | Replace three portable handheld Fourier Transform Infrared Spectroscopy meters for detection of unknown liquids and solids |
| | OEP Subtotal | \$ 180,000.00 | |
| | DNREC Total Current Critical Equipment Needs | \$ 3,328,800.00 | |

DNREC Critical Equipment for Operations

DNREC Minor Capital Improvements for Operations

| Fiscal 2019 Minor Capital Improvements (MCI) Request as of September 15, 2017 | | | |
|---|----------|------------------|---|
| Department of Natural Resources and Environmental Control | | | |
| IPU | Category | Requested Amount | Project / Description of Use / Location |
| DNREC requests minor capital improvements to the department's public facilities. These asset improvements include building and facility repairs/rehabilitation for state-owned properties, including: Delaware Seashore; Fort | | | |
| Office of Natural Resources | | | |
| 40-03-02 Division of Parks and Recreation - MCI | | | |
| | | \$ 73,000.00 | Fenton House windows - Brandywine Creek |
| | | \$ 30,000.00 | Pole building - Trap Pond |
| | | \$ 25,000.00 | Maintenance shop fencing - Trap Pond |
| | | \$ 30,000.00 | Fuel tank at maintenance yard - Fort Delaware |
| | | \$ 60,000.00 | Water park replastering - Killens Pond |
| | | \$ 10,000.00 | Mushroom spray replacement - Killens Pond |
| | | \$ 15,000.00 | Water park frog slide refurbishment - Killens Pond |
| | | \$ 35,000.00 | Fuel tank replacement - Cape Henlopen |
| | | \$ 7,000.00 | Shed for rangers' ATVs - Cape Henlopen |
| | | \$ 10,000.00 | Doors for youth camp - Cape Henlopen |
| | | \$ 10,000.00 | Park office HVAC - Cape Henlopen |
| | | \$ 20,000.00 | 151 Smithmill Bank barn foundation - White Clay Creek |
| | | \$ 34,000.00 | Sheep barn roof - White Clay Creek |
| | | \$ 100,000.00 | Critical roof replacement 10-12 buildings requiring new roofing would be replaced |
| | | \$ 100,000.00 | Critical exterior skin building repairs to siding, soffit doors and trim of approximately 10 buildings operational and historical |
| | | \$ 75,000.00 | Bath house upgrades including plumbing fixtures, tile repair and replacement, and miscellaneous hardware including doors, ventilation and partitions. |
| | | \$ 40,000.00 | Critical sewage repairs to replace/repair aging facility and equipment |
| | | \$ 65,000.00 | Critical zoo exhibit upgrades for visitor and animal safety - Brandywine Zoo |
| | | \$ 100,000.00 | Waysides and exhibit replacements statewide-education and visitor experience |
| | | \$ 50,000.00 | Building renovations for office used at White Clay Creek |
| | | \$ 50,000.00 | Building renovations for office used at Lums Pond |
| | | \$ 100,000.00 | Brandywine Creek Nature Center-building upgrades for ADA compliance and visitor access to restrooms year-round, office to accommodate staff needs |
| | | \$ 75,000.00 | ADA Kayak Launch - Lums |
| | | \$ 40,000.00 | Deck Board Replacement - Fort Delaware |
| | | \$ 100,000.00 | Roadway and parking lot maintenance and repairs-statewide-identified in Division needs matrix |
| | | \$ 15,000.00 | Fort Delaware dock rail system repairs and safety upgrades |
| | | \$ 75,000.00 | Bell House Bathroom - First State Heritage |
| | | \$ 3,600.00 | Bell House brick paver sidewalk - First State Heritage |
| | | \$ 8,500.00 | Bell House fence installation - First State Heritage |
| | | \$ 20,000.00 | Bellevue office central air |
| | | \$ 75,000.00 | Equipment pole building - Cape Henlopen |
| | | \$ 20,000.00 | Fort Delaware dock boards |
| | | \$ 55,000.00 | Brandywine Creek pole shed and fencing |
| | | \$ 20,000.00 | Brandywine fee booth |
| | | \$ 60,000.00 | Killens Pond boat dock |
| | | \$ 15,000.00 | Metal storage building doors - Killens Pond |
| | | \$ 80,000.00 | Judge Morris Estate Repairs - White Clay |
| | | \$ 100,000.00 | Niven House repairs - White Clay |
| | | \$ 15,000.00 | Well and frost-free spigot at primitive camp - Brandywine Creek |
| | | \$ 65,000.00 | Electric service at pavilion - Brandywine Creek |

Fiscal 2019 Minor Capital Improvements (MCI) Request as of September 15, 2017

Department of Natural Resources and Environmental Control

| IPU | Category | Requested Amount | Project / Description of Use / Location |
|---|-----------------------------------|------------------|--|
| DNREC requests minor capital improvements to the department's public facilities. These asset improvements include building and facility repairs/rehabilitation for state-owned properties, including: Delaware Seashore; Fort | | | |
| 40-03-03 | Division of Fish & Wildlife - MCI | \$ 7,500.00 | Rockland biosun clean out - Brandywine Creek |
| | | \$ 250,000.00 | Rockland and Thompson's bioson renovations - Brandywine Creek |
| | | \$ 20,000.00 | Barn painting - Dwight's, Carney - Brandywine Creek |
| | | \$ 75,000.00 | Replacement fishing docks at Camp Ground - Trap Pond |
| | | \$ 2,233,600.00 | |
| | | \$ 100,000.00 | Bayshore Initiative- office furniture and exhibits |
| | | \$ 15,000.00 | New outside fenced-in area for securing larger evidence items, division vessels & equipment for Enforcement Delaware City office |
| | | \$ 50,000.00 | Boat Storage at Sussex - Boat storage at Sussex County Enforcement (pole building) |
| | | \$ 250,000.00 | Parking lot repairs for boat ramps |
| | | \$ 5,000.00 | Increase size of climate controlled pesticide storage area at Milford Mosquito Control office |
| | | \$ 24,000.00 | Replace oil/grease delivery system for Milford Mosquito Control office |
| | | \$ 100,000.00 | Boat Storage at Little Creek facility |
| | | \$ 20,000.00 | Drywall repairs and repainting of all Mallard Lodge interior ceilings, walls and doors, and resealing of wood trim |
| | | \$ 500,000.00 | Installation of boardwalk connector between AREC and Mallard Lodge - Construction of a boardwalk connector between Mallard Lodge & AREC pavilion and boardwalk trail is needed to promote safe passage (avoiding walking along route 9) for school and youth groups using facilities and to create an interpretive ADA-access walking tour loop for eco-tourists and other visitors to the ARE complex. |
| | | \$ 750,000.00 | Replace boardwalk decking at AREC - Replacement of worn weather decking & rail boards on AREC tidal marsh boardwalk with new low-maintenance, environmental-friendly materials (cost based on architectural consultant estimate following preliminary site visit) |
| | | \$ 50,000.00 | Replace 5 sets of sliding glass doors and window treatments; install ADA-friendly thresholds on 1st floor of Mallard Lodge. - Existing doors are old with rollers dysfunctional, making it difficult and unsafe to open and close (especially for a child or individual in a wheelchair); door thresholds need to be more smooth and safe for wheelchair egress as well; vertical blinds have been beat up and broken and no longer do the job. |
| | | \$ 7,000.00 | Repair/resealing worn & weathered boards on Lodge fire escape & associated decking. - Safety concerns for the integrity of fire escape stairs and rails and pro-active wood treatment to protect and preserve function of intact structures. |
| | | \$ 12,500.00 | Addition of 12' x 20' shed at new AREC for storage of Gator, tools & other machinery - Downsizing of structure from old to new facility (and loss of the no longer safe to use barn area) leaves a void in space available for storage of tools, machinery, field equipment, activity kits and other education supplies. |
| | | \$ 100,000.00 | Installation of an ADA-accessible canoe/kayak docking system behind Mallard Lodge for safe exploration of AREC pond. - A new launch at Lodge would provide easier and safer access to pond for users, existing canoe launch area is too shallow and rocky, causing canoes to develop leaks from continued dragging over hard bottoms from along shoreline; also existing rip-rapped and tiled launch ramp present safety hazards for children slipping and falling while getting in and out of canoes. |

DNREC Minor Capital Improvements for Operations

DNREC Minor Capital Improvements for Operations

| Fiscal 2019 Minor Capital Improvements (MCI) Request as of September 15, 2017 | | | |
|---|--------------|------------------|--|
| Department of Natural Resources and Environmental Control | | | |
| IPU | Category | Requested Amount | Project / Description of Use / Location |
| DNREC requests minor capital improvements to the department's public facilities. These asset improvements include building and facility repairs/rehabilitation for state-owned properties, including: Delaware Seashore; Fort | | | |
| | | \$ 25,000.00 | Install new front and rear doors/repair and install new thresholds at the DNC. - Constant use of front door has caused need for replacing with an industrial-strength door unit. Back and side doors are not to current code and need upgrading. Thresholds are rotted and need to be replaced with aluminum/vinyl. |
| | | \$ 7,500.00 | Storage Shed- Hunter Education - Installation of a storage shed at Hunter Education building |
| | | \$ 15,000.00 | Pavilion installation - Addition of a 20 x 20 ft pavilion to provide coverage to students for the live fire portion of the Hunter Education Course. Classes are taught year-round at the Little Creek Hunter Education Training Center and a pavilion would allow for the live fire component exercise to be completed during all types of weather (rain, snow, excessive sun, etc). |
| | | \$ 2,031,000.00 | |
| | ONR Subtotal | \$ 4,264,600.00 | |
| DNREC Total Need | | \$ 4,264,600.00 | |

| DNREC - Div. of Fish and Wildlife | | | | | | |
|---|----------|----------|--------|--------|-----------------------------|---------------------------------------|
| Division of Fish & Wildlife Capital Plan FY '18 - FY '21 * | | | | | | |
| Project Name (\$ in thousands) | FY 2018 | FY2019 | FY2020 | FY2021 | How will project be funded? | |
| F&W- Critical Equipment (13 items across Division) | | | | | | |
| | 1,649.30 | 1,034.25 | | | | BOND/ASF/NSF |
| F&W- Minor Capital Improvements (8 items across Division) | | | | | | |
| | 1,379.00 | 391.50 | | | | BOND/ASF/NSF/OTHER |
| Bayshore Initiative - wildlife viewing structures at Taylors Gut at Woodland Beach, Morris Tract and Logan Lane Tract at Ted Harvey Conservation Area, Cooper Cross site development and observation tower and Little Creek boardwalk and observation tower. | 500.00 | 500.00 | | | | BOND |
| Bayshore Initiative - St. Jones Reserve to Ted Harvey connector loop trail, Lang Impoundment dike trail, and visitor center wildlife loop trail, Port Penn trail rehabilitation and realignment | | 500.00 | | | | BOND |
| Bayshore Initiative- Bayshore Visitor Center and Little Creek Wildlife and Fisheries Field Office Facility -- Design and construct new field office building- construction of office space for 40 staff, small conference room, staff break room, bathrooms, storage closets, utilities room, and pole buildings for field equipment. | 2,600.00 | 2,600.00 | | | | BOND/USFWS Grant (PR)/Bayshore Byways |
| Bayshore Initiative - Office and Visitor Center furniture and exhibits. | 100.00 | 100.00 | | | | BOND/NSF |
| Bayshore Initiative - Leipsic Museum Parking and ADA entrance ramp design | | 20.00 | | | | BOND |
| Bayshore Initiative- Mispillion Harbor Reserve - harbor restoration | | 500.00 | | | | BOND/NSF |
| Bayshore Initiative- Little Creek & Ted Harvey Impoundments, Port Mahon - dike repairs & water control structure | | 500.00 | | | | BOND/NSF |
| Bayshore Initiative- Little Creek road repairs | | 50.00 | | | | BOND |

Fish & Wildlife Capital Plan Project Priorities

Fish & Wildlife Capital Plan Project Priorities

| DNREC - Div. of Fish and Wildlife | | | | | | |
|--|----------|----------|--------|--------|---------------------------------------|--|
| Division of Fish & Wildlife Capital Plan FY '18 - FY '21* | | | | | | |
| Project Name (\$ in thousands) | FY 2018 | FY2019 | FY2020 | FY2021 | How will project be funded? | |
| Bayshore Initiative - Slaughter Marvel Tract Partnership Boardwalk and Viewing Platform | | 325.00 | | | NSF Byway | |
| Bayshore Initiative - Delaware City interpretive exhibits | | 150.00 | | | BOND | |
| Enforcement- Boat Storage Sussex County Enforcement (pole building) | 50.00 | 50.00 | | | BOND | |
| Enforcement- Little Creek dock, fuel station, parking | | 200.00 | | | BOND | |
| Enforcement- Delaware City Office- fence installation | 15.00 | 15.00 | | | BOND | |
| Enforcement- Little Creek Office- Design/Engineering and construction of office space- reception area, small conference room, interview room, evidence room, staff break room, 2 bathrooms and storage closets | 400.00 | | | | BOND | |
| Fisheries- 7th Street Boat Ramp - Wilmington | 1,200.00 | 1,200.00 | | | NRDA/ASF | |
| Fisheries- Abbotts Barrier-free Fishing Pier Installation | | | | | ASF/NSF | |
| Fisheries- Artificial Reef Program | 600.00 | 600.00 | | | NSF - annual reef deployments ongoing | |
| Fisheries- Augustine Beach Fishing Access Area Reconstruction/Maintenance Dredging | 250.00 | 250.00 | | | ASF/NSF/BOND | |
| Fisheries- Becks Pond Barrier - Fishing Pier Installations | | | | | ASF/NSF | |
| Fisheries- Becks Pond Launch Area Dredging | | | | | BOND | |
| Fisheries- Blair's Pond Barrier-Fishing Pier Installation | | | | | ASF/NSF | |
| Fisheries- Broad Creek Fishing Pier Improvements | | | | | ASF/NSF | |
| Fisheries- Cedar Creek Promenade Repair | | 50.00 | | | ASF/NSF | |
| Fisheries- Churchman's Marsh Boat Ramp Rehabilitation | | | | | ASF/NSF | |

| DNREC - Div. of Fish and Wildlife | | | | | | |
|---|----------|----------|--------|--------|---|--|
| Division of Fish & Wildlife Capital Plan FY '18 - FY '21* | | | | | | |
| Project Name (\$ in thousands) | FY 2018 | FY2019 | FY2020 | FY2021 | How will project be funded? | |
| Fisheries- Collins Beach Dredging | | | | | ASF/NSF | |
| Fisheries- Collins Beach Hydrographic | | | | | ASF/NSF | |
| Fisheries- Coursey Pond Bulkhead Repair | | | | | ASF/NSF | |
| Fisheries- Courtesy Docks in all F&W Ponds | | | | | ASF/NSF/BOND | |
| Fisheries- Dobbinsville (New Castle) Fishing Pier- construction | | | | | ASF/NSF/BOND | |
| Fisheries- C&D Canal fishing piers design/engineering & ADA accessibility | | | | | BOND/nsf | |
| Fisheries- Fleetwood Pond Launching Area | | | | | ASF/NSF | |
| Fisheries- Leipsic Boat Dock | | | | | ASF | |
| Fisheries- Little Creek Boat Ramp | 1,500.00 | 2,200.00 | | | ASF/NSF/BOND | |
| Fisheries- Maintenance of F&W state-owned pond dams* | | | | | BOND - *High Hazard Dam and Dike Repair or Replacement. Project priorities assigned through the Division of Watershed Stewardship | |
| Fisheries- Massey's Mill Pond Ramp Improvement | | | | | ASF/NSF | |
| Fisheries- Millsboro Pond Ramp and Courtesy Dock | 100.00 | 100.00 | | | ASF/NSF | |
| Fisheries- Parking lot repairs for boat ramps | 500.00 | 250.00 | | | ASF/NSF/BOND | |
| Fisheries- Phillips Landing Boat Ramp Rehabilitation | 1,100.00 | 1,100.00 | | | ASF/NSF | |
| Fisheries- Port Mahon Boat Ramp | | | | | ASF/NSF | |
| Fisheries- Port Mahon Fishing Piers | | | | | ASF/NSF | |

Fish & Wildlife Capital Plan Project Priorities

| DNREC - Div. of Fish and Wildlife | | | | | | |
|--|---------|--------|--------|--------|-----------------------------|--|
| Division of Fish & Wildlife Capital Plan FY '18 - FY '21* | | | | | | |
| Project Name (\$ in thousands) | FY 2018 | FY2019 | FY2020 | FY2021 | How will project be funded? | |
| Fisheries- Records Pond Launch Area Dredging | | | | | ASF/NSF | |
| Fisheries- Rosedale Beach Ramp Area Dredging | | | | | ASF/NSF | |
| Fisheries- Rosedale Fishing Area Upgrades | | | | | ASF/NSF | |
| Fisheries- Scotton Landing Boat Access Rehabilitation and Fish Pier | 100.00 | 100.00 | | | ASF/NSF | |
| Fisheries- Woodland Beach Bayfront Ramp | | | | | ASF/NSF | |
| Fisheries- Woodland Beach Inland Ramp Rehabilitation | | | | | ASF/NSF | |
| Fisheries- Woodland Wharf kayak and fishing access area | 750.00 | 750.00 | | | ASF/NSF/BOND | |
| Fisheries - Bowers Beach Boating Access Parking Lot Rehabilitation | | 575.00 | | | BOND/NSF/SOFA | |
| Mosquito Control - new Milford office building- construction of several office spaces plus reception area, small conference room, staff break room, 2 bathrooms, storage closets, utilities room, pole shed for pesticide storage. | 400.00 | 564.00 | | | BOND | |
| Mosquito Control - Increase Size of Climate Control of Pesticide Storage Area - Milford location | 5.00 | 5.00 | | | BOND | |
| Mosquito Control - Milford Construct Vehicle Wash down pad with Containment System for Pesticide/oil/grease Rinses | 50.00 | | 50.00 | | BOND | |
| Mosquito Control - Milford- Further Remediate old DDT/DDE Residues Found in Garage Flooring and Associated Soils and on Numerous Garage/Shop Surfaces | 40.00 | | | 40.00 | BOND | |
| Mosquito Control - Milford- Renovate old office building, convert to small lab + insectory, plus storage space | 50.00 | | 75.00 | | BOND | |
| Mosquito Control - Grease and Oil Delivery System for Milford MC Shop | | 24.00 | | | BOND | |

| DNREC - Div. of Fish and Wildlife | | | | | | |
|---|----------|----------|--------|--------|--|--|
| Division of Fish & Wildlife Capital Plan FY '18 - FY '21* | | | | | | |
| Project Name (\$ in thousands) | FY 2018 | FY2019 | FY2020 | FY2021 | How will project be funded? | |
| OGL- DuPont Nature Center- new front door installation and rear door repair/installation of new thresholds and deck repairs and rehabilitation. | 5.50 | 25.00 | | | BOND | |
| OLG- AREC canoe/kayak Launch | 45.00 | 100.00 | | | BOND | |
| OLG- AREC storage shed - new installation | 12.50 | 12.50 | | | NSF/BOND | |
| OLG- AREC/Mallard Lodge- Installation of boardwalk connector | 300.00 | 500.00 | | | Transportation Alternatives Program (TAP)/BOND | |
| OLG- AREC- replacement of boardwalk decking and stone dust trail rehabilitation | 167.00 | 750.00 | | | PARKS TRAILS & PATHWAYS/BOND | |
| OLG- Demolition of unsafe structures on F&W areas open for public use (AREC) | 100.00 | 100.00 | | | BOND | |
| OLG-Construction of small ADA accessible restroom facility in place of demolished AREC to accommodate school groups using EcoExplorer trail. | | 175.50 | | | BOND | |
| OLG- Licensing and Registration Technology Application Development | 3,000.00 | 3,000.00 | | | BOND | |
| OLG- Little Creek Hunter Education - storage shed | 7.50 | 7.50 | | | BOND | |
| OLG- Little Creek Hunter Education- pavilion installation | 15.00 | 15.00 | | | BOND | |
| OLG- Mallard Lodge Repairs Enhancements- ADA improvements including decking, door replacement, door thresholds, cabinet hardware, baseboard heating replacement | 50.00 | 50.00 | | | BOND | |
| OLG- Mallard Lodge - Roof, siding and gutter replacement | | 75.00 | | | BOND | |
| OLG- Mallard Lodge - fire escape repairs | 7.00 | 7.00 | | | BOND | |
| OLG- Mallard Lodge - drywall repairs and repainting | 20.00 | 20.00 | | | BOND | |

Fish & Wildlife Capital Plan Project Priorities

Fish & Wildlife Capital Plan Project Priorities

| DNREC - Div. of Fish and Wildlife | | | | | |
|--|------------------|------------------|---------------|--------------|-----------------------------|
| Division of Fish & Wildlife Capital Plan FY '18 - FY '21* | | | | | |
| Project Name (\$ in thousands) | FY 2018 | FY2019 | FY2020 | FY2021 | How will project be funded? |
| Wildlife- C&R Horse barn roof replacement | 10.00 | | | | BOND |
| Wildlife- Equipment shed for Assawoman Region 3 | 60.00 | 60.00 | | | ASF/NSF/BOND |
| Wildlife- Emergency repairs to F&W owned buildings | 200.00 | 200.00 | | | NSF/BOND |
| Wildlife- Ommelanden Range Upgrade | 100.00 | 100.00 | | | BOND |
| Wildlife- Owens Station Enforcement building and associated pistol/rifle range | | | | | ASF/NSF/BOND |
| Wildlife- Poplar Thicket Erosion Project | | | | | BOND |
| Wildlife- Pole building to be constructed at Augustine shop | 75.00 | | | | BOND |
| Wildlife- Port Mahon Water Control Structure | 25.00 | 25.00 | | | ASF/NSF |
| Wildlife- Repair and Rehabilitate Historical Houses on Wildlife Management Areas | 250.00 | 250.00 | | | BOND |
| Wildlife- Road repairs F&W areas and parking lots (gravel) | 60.00 | 60.00 | | | ASF/NSF/BOND |
| Wildlife- Roof replacement on Mulberry Landing Pavilion | 12.00 | 12.00 | | | BOND |
| Wildlife- Statewide Impoundment Restoration Construction (Augustine, Woodland Beach, Little Creek, Ted Harvey, and Assawoman Wildlife Areas) | 587.50 | 4,500.00 | | | NSF/BOND |
| Wildlife- Ted Harvey new impoundment construction | 350.00 | 350.00 | | | NSF/BOND |
| Wildlife- Repair and replace hunting and wildlife viewing structures on wildlife areas | 30.00 | 30.00 | | | NSF/BOND |
| TOTAL | 18,827.30 | 25,128.25 | 125.00 | 40.00 | |

* Figures represented in thousands

| DNREC-Parks and Recreation Capital Project Priorities 2018-2021 | | | | | | |
|--|------------|---|-------------|-------------|-------------|-------------|
| Last Update: 1/29/18 | | Project Cost Estimates (\$ in thousands) | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Cape Henlopen State Park | Sussex | Sewer Plant replacement and upgrades | | \$ 1,500.0 | \$ 1,500.0 | \$ 1,500.0 |
| Cape Henlopen State Park | Sussex | Wolfe Neck Camera System | | | | |
| White Clay Creek State Park | New Castle | Deerfield Roof Replacement | | | | |
| Lums Pond State Park | New Castle | Phase II utility upgrades campground | | | | |
| Cape Henlopen State Park | Sussex | Engineering/ Construction for stair repair at Tower 7 | | | | |
| Cape Henlopen State Park | Sussex | New temporary campground store and office upgrades | | | | |
| Cape Henlopen State Park | Sussex | Campground: 3 point hook-ups, site upgrades, playground, amphitheater, pavilion, additional overflow parking, circulations improvements | | | | |
| Auburn Heights Preserve | New Castle | NVF installation of roads, parking lots, infrastructure, park office renovations, amphitheater, drainage, trails and bridges | \$ 2,500.0 | \$ 3,000.0 | \$ 3,000.0 | \$ 1,000.0 |
| Killens Pond State Park | Kent | Waterpark repairs, upgrades and replacements (Phase 2-4) | | \$ 3,500.0 | \$ 3,000.0 | \$ 3,000.0 |
| Fort Delaware State Park | New Castle | Island tram path: repair resurface path | | \$ 200.0 | \$ 200.0 | |
| Fort Delaware State Park | New Castle | Pavilion construction. The Fort currently does not have a safe shade structure for the patrons to have their lunches, where the picnic tables currently are located there are falling bricks overhead | | \$ 100.0 | \$ 100.0 | |
| Fort DuPont State Park | New Castle | Shop amenities -water, sewer and restrooms, fencing and regrade (possible relocation to Grassdale) | | | | |
| Cape Henlopen State Park | Sussex | New Pier Design | | \$ 1,000.0 | \$ 1,000.0 | \$ 1,000.0 |
| Brandywine Creek State Park | New Castle | Pave, fix erosion on existing stoned trails | | \$ 500.0 | | |
| Killens Pond State Park | Kent | Safe pedestrian connector between boat rental and boat ramp | | \$ 2,000.0 | | |
| Fort Delaware State Park | New Castle | Landing Site | | \$ 350.0 | | |
| White Clay Creek State Park | New Castle | Life Course Bridges replacement | | | | |
| White Clay Creek State Park | New Castle | Bridge evaluation and replacement/Nature Center | | \$ 80.0 | \$ 30.0 | |
| Fort Delaware State Park | New Castle | Fuel Dock Piling replacement/repair engineering and construction | | \$ 150.0 | \$ 300.0 | |

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|--|------------|--|--|--|-------------|-------------|
| Last Update: 1/29/18 | | Project Details | | Project Cost Estimates (\$ in thousands) | | |
| Park Unit | County | | | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 |
| Brandywine Zoo Master Plan | New Castle | AZA Compliance | | | \$ 300.0 | \$ 1,000.0 |
| Delaware Seashore State Park | Sussex | Safety replacement | | | \$ 200.0 | |
| Auburn Heights Preserve | New Castle | Upgrades to elevators, mansion and carriage house | | | \$ 100.0 | |
| Delaware Seashore State Park | Sussex | Marina - Marina boat ramp north side does not have any railing next to the side walk. The ramp has a 8 foot fall that is not protected with railing | | | \$ 25.0 | |
| Fort Delaware State Park | New Castle | Railing replacement on top of the Fort. The Fort's roof railing needs to be replace to prevent visitors and employees from falling | | | \$ 50.0 | |
| Fort Delaware State Park | New Castle | Heronry overlook replacement. The current heronry look out is improperly constructed and is unstable | | | \$ 50.0 | |
| Fort Delaware State Park | New Castle | Two (2) pilings to be filled, braced, and wrapped, approximately 20' vertically, from low tide to high tide lines. Replacement of 3 diagonal cross members below high tide line. | | | | |
| Auburn Heights Preserve | New Castle | Carriage House offices secondary egress. The carriage house second floor offices do not have secondary egress in case of an emergency | | | \$ 35.0 | |
| Fort Delaware State Park | New Castle | Ft DE masonry repairs | | | \$ 100.0 | |
| Wilmington State Parks | New Castle | H. Fletcher Brown Park - Rotary park project, complete overhaul | | | \$ 1,500.0 | |
| Wilmington State Parks | New Castle | Brandywine Park: North Park Drive; replace curb, walkway and fence | | | \$ 150.0 | |
| White Clay Creek State Park | New Castle | 840 Creek Road: demolish house; Establish Day-Use parking lot and fee collection station after 840 Creek Road house is demolished | | | \$ 100.0 | |
| Fenwick Island State Park | Sussex | Fenwick island parking expansion, amenity upgrades, dropoff,renovation,entrance queuing and evacuation route improvements | | | \$ 2,000.0 | |
| Cape Henlopen State Park | Sussex | Biden center renovations | | | \$ 5,000.0 | |

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| Last Update: 1/29/18 | Project Cost Estimates (\$ in thousands) | | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Lums Pond State Park | New Castle | Summit North erosion issues, bank stabilization, rip rap | | \$ 1,000.0 | | |
| Bellevue State Park | New Castle | Pond Replace outflow pipe and catch basin in pond | | \$ 750.0 | | |
| Delaware Seashore State Park | Sussex | New fuel lines upgrade and pumps needed at fuel dock. | | \$ 150.0 | | |
| Cape Henlopen State Park | Sussex | Youth camps air conditioning | | \$ 250.0 | | |
| Bellevue State Park | New Castle | Pond: repair retaining wall at bridge | | \$ 60.0 | | |
| Cape Henlopen State Park | Sussex | New Fishing Pier Construction | | \$ 1,000.0 | \$ 8,000.0 | \$ 7,000.0 |
| Delaware Seashore State Park | Sussex | Lifeguard Housing | | \$ 750.0 | | |
| Fort Delaware State Park | New Castle | Repair leaks on terre plain | | | | |
| Fort DuPont State Park | New Castle | Demolition of three (3) buildings: White Warehouse, Old Fort Delaware Historical Society building (\$22,000), and Motor Pool Building | | \$ 80.0 | | |
| Port Penn Interpretive Center | New Castle | Cleaver: repair/replace roof | | \$ 100.0 | | |
| Bellevue State Park | New Castle | Percheron Barn Roof- Structural repairs and roof shingles. | | \$ 400.0 | | |
| Cape Henlopen State Park | Sussex | Fort Miles Entrance Road and Parking Lot | | \$ 1,750.0 | | |
| Trap Pond State Park | Sussex | New Campground bathroom replace composting facility | | \$ 400.0 | | |
| Lums Pond State Park | New Castle | Lums replace yurts with cabins | | \$ 400.0 | | |
| Auburn Heights Preserve | New Castle | Construction of new maintenance building. | | \$ 100.0 | | |
| Delaware Seashore State Park | Sussex | Marina Dredging | | \$ 250.0 | | |
| Auburn Heights Preserve | New Castle | Steam Car Museum Renovation and asphalt resurfacing | | \$ 2,000.0 | | |
| Brandywine Creek State Park | New Castle | Redesign and Retrofit of Composting Toilets at Thompsons- we currently have these closed with port-a-johns in front. | | \$ 250.0 | | |
| Fort Delaware State Park | New Castle | Endicott Roof waterproofing and preparation for solar project | | \$ 1,200.0 | | |
| Fort DuPont State Park | New Castle | 1905 Guard House restoration | | \$ 65.0 | | |
| Fort DuPont State Park | New Castle | Roof Replacements | | \$ 250.0 | | |
| Trap Pond State Park | Sussex | James branch canoe/kayak launch at Hitch Pond Road | | \$ 200.0 | | |

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| DNREC-Parks and Recreation Capital Project Priorities 2018-2021 | | | | | | |
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| Last Update: 1/29/18 | | Project Cost Estimates (\$ in thousands) | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| White Clay Creek State Park | New Castle | Building Envelope renovations Club House and Cart Barn | | \$ 1,500.0 | | |
| Cape Henlopen State Park | Sussex | Campground Cabins | | \$ 900.0 | | |
| White Clay Creek State Park | New Castle | Judge Morris Estate-Exterior repairs and painting: Wood shingle roof repairs, soffit repairs and painting, repair and painting of window frames, sills, shutters, doors, door frames. | | \$ 60.0 | | |
| Auburn Heights Preserve | New Castle | Oversee Farm new septic system and building renovations | | \$ 750.0 | | |
| Statewide and Special | Statewide | Structural study of all fire control towers | | \$ 90.0 | | |
| Alapocas Run State Park | New Castle | Alapocas Woods: Alapocas Run waterfall bridge- stone walls stabilization(engineering review) | | \$ 250.0 | | |
| Cape Henlopen State Park | Sussex | FMHA: Museum plan development and implementation | | \$ 500.0 | | |
| Brandywine Creek State Park | New Castle | Northern Delaware Greenway trail: repair drainage and erosion issues. Repairs to 4 pipe culverts/ swales/ trail surface along greenway; repair drainage issues at overlook | | \$ 50.0 | | |
| Trap Pond State Park | Sussex | Bethesda Church: composting toilet, benches, parking | | \$ 150.0 | | |
| Lums Pond State Park | New Castle | Boat rental Area: boat dock repairs (\$10k/yr. for 3 yrs.) | | \$ 30.0 | | |
| Bellevue State Park | New Castle | Figure 8/ hunter barn restrooms | | \$ 1,000.0 | | |
| Lums Pond State Park | New Castle | Amphitheater around campground | | \$ 75.0 | | |
| Lums Pond State Park | New Castle | Playground at campground | | \$ 250.0 | | |
| Holts Landing State Park | Sussex | Holts Parking Lot Boat Dock addition and lighting | | \$ 150.0 | | |
| White Clay Creek State Park | New Castle | Niven House repairs for market rental; Structural repair; HVAC modifications | | \$ 150.0 | | |
| Wilmington State Parks | New Castle | Rockford Park: develop one-way traffic flow and provide parking | | \$ 100.0 | | |
| Statewide and Special | Statewide | Statewide security camera system | | \$ 100.0 | | |

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| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Delaware Seashore State Park | Sussex | Life saving station ADA updates | | \$ 50.0 | | |
| White Clay Creek State Park | New Castle | Building Greenhouse | | \$ 50.0 | | |
| Lums Pond State Park | New Castle | Campground visitor's parking lot (stone) | | \$ 50.0 | | |
| Lums Pond State Park | New Castle | Lums Boat Ramp Courtesy Dock | | \$ 100.0 | | |
| Fort Delaware State Park | New Castle | Pathway leveling on the Fort walkways. The Fort's granite walkways are extremely uneven with lots of tripping hazards and need to be reset. | | \$ 75.0 | | |
| Cape Henlopen State Park | Sussex | Park fuel tank replacements. These tanks are single wall tanks and do not have secondary containment in the event of a spill | | \$ 60.0 | | |
| Brandywine Creek State Park | New Castle | Park entrance road sink hole repairs. The entrance road has sink holes due an improperly installed or failed culvert | | \$ 75.0 | | |
| Bellevue State Park | New Castle | Fox Point parking lot lights are not operational. The inoperable parking lot lights are a security concern | | \$ 25.0 | | |
| White Clay Creek State Park | New Castle | Deerfield sewer repairs/upgrades | | \$ 25.0 | | |
| White Clay Creek State Park | New Castle | Niven Property: structural repairs to Niven Barn or documentation of historic significance for demo | | \$ 400.0 | | |
| Fort Delaware State Park | New Castle | Mainland landing craft work dock: replace existing dock that is too short and not adequately anchored | | \$ 100.0 | | |
| Alapocas Run State Park | New Castle | Weldin Road: Provide safe pedestrian crossing between lot D and CanDo playground/ athletic fields | | \$ 100.0 | | |
| Wilmington State Parks | New Castle | North park drive: Provide safe pedestrian crossing near condos; close off cut through | | \$ 200.0 | | |
| Auburn Heights Preserve | New Castle | Mansion, parking lot plan, design, construction, septic Tank replacement and/or connection to sewer on Bengel Road | | \$ 1,000.0 | | |
| Delaware Seashore State Park | Sussex | Mitchell House Renovations and Road Flooding repairs | | \$ 250.0 | | |
| Delaware Seashore State Park | Sussex | Tower #3 renovations | | \$ 250.0 | \$ 2,000.0 | \$ 1,000.0 |

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|--|------------|--|-------------|-------------|-------------|-------------|
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| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Lums Pond State Park | New Castle | Park Office accessibility upgrades. The entrance ramp and restrooms do not meet current ADA accessibility requirements. | | | \$ 65.0 | |
| Auburn Heights Preserve | New Castle | Museum boiler room bump out roof replacement. The roof will start to leak on top of the boiler room equipment | | | \$ 10.0 | |
| Fort Delaware State Park | New Castle | Ft. DE repair and repaint windows | | | \$ 40.0 | |
| Fort Delaware State Park | New Castle | Ft DE dock repairs | | | \$ 65.0 | |
| Bellevue State Park | New Castle | Place stone near horse barn access way | | | \$ 15.0 | |
| Wilmington State Parks | New Castle | Rockford" tennis court area; repave existing parking area/ accessibility improvements | | | \$ 100.0 | |
| Bellevue State Park | New Castle | Repair damage to bike path (Philadelphia Pike) | | | \$ 100.0 | |
| Bellevue State Park | New Castle | Repair Percheron Barn and Office roads | | | \$ 40.0 | |
| Bellevue State Park | New Castle | Park Office: ADA improvements to office door and ramp | | | \$ 18.0 | |
| Cape Henlopen State Park | Sussex | Pickle Ball Courts | | | \$ 200.0 | |
| Cape Henlopen State Park | Sussex | New park office | | | \$ 750.0 | |
| Lums Pond State Park | New Castle | Waste water treatment plant replacement | | | \$ 3,000.0 | |
| Delaware Seashore State Park | Sussex | Dry Stack Roof Replacement | | | \$ 500.0 | |
| Wilmington State Parks | New Castle | Restoration of the Todd Memorial. | | | \$ 80.0 | |
| Wilmington State Parks | New Castle | Replace Running Track at Baynard Stadium. | | | \$ 800.0 | |
| Trap Pond State Park | Sussex | Park Office roof repair. The Office roof has a sag in the roof | | | \$ 30.0 | |
| Trap Pond State Park | Sussex | Three (3) each fishing dock replacements. The current fishing docks are worn out and unstable. | | | \$ 45.0 | |
| Trap Pond State Park | Sussex | A Loop Bath house roof replacement. The current shingles have exceeded their expected life and the roof is currently leaking. | | | \$ 30.0 | |
| Lums Pond State Park | New Castle | The Bath House roofs replacement. The current roofs are leaking and have exceeded their expected life and need to be replaced before we start to get structural damage | | | \$ 65.0 | |

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| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Lums Pond State Park | New Castle | Pond Berm repair - The Pond berm has severe erosions and requires repair before complete failure | | | \$ 60.0 | |
| Killens Pond State Park | Kent | The Maintenance shop roof replacement. The current roof has exceeded it expected life and need to be replaced before we start to get structural damage | | | \$ 20.0 | |
| Killens Pond State Park | Kent | The Boat rental dock needs replacement. The current boat dock is worn and does not meet Accessibility requirements | | | \$ 60.0 | |
| Delaware Seashore State Park | Sussex | Bulkhead walls sealant is separating from metal causing corrosion. If the corrosion continues untreated we could suffer premature bulkhead failure | | | \$ 350.0 | |
| Holts Landing State Park | Sussex | Water building siding and window replacement. The windows are broken and the siding requires replacement | | | \$ 15.0 | |
| Holts Landing State Park | Sussex | Bath house roof replacement. The shingles have exceeded their life expectancy and require replacement | | | \$ 20.0 | |
| Fenwick Island State Park | Sussex | Fenwick Island Bath House roof replacement. The bath house roof is leaking and requires replacement | | | \$ 75.0 | |
| Fort Delaware State Park | New Castle | Port Penn interpretive center roof replacement. The current roof wood shingles are starting to curl | | | \$ 60.0 | |
| Fort Delaware State Park | New Castle | East Side Terreplein of fort. now there are major sink holes in that section of the Terreplein. soil is gradually filtering its way between the (engineered) gap between the outer & inner wall of the fort. | | | \$ 60.0 | |

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| Delaware Seashore State Park | Sussex | Bath houses/concession. ☐Prepare all exterior surfaces: remove any loose paint, spot prime any bare wood or block, caulk where needed. ☐Paint 2 coats using top quality exterior latex paint - Tower Road | | | \$ 8.0 | |
| Cape Henlopen State Park | Sussex | Primitive youth camp pavilion roof replacement. The shingles have exceeded their expected life and are in need of replacement | | | \$ 18.0 | |
| Cape Henlopen State Park | Sussex | Point Comfort station roof replacement. The shingles have exceeded their expected life and need to be replaced before damage to the super structure | | | \$ 15.0 | |
| Cape Henlopen State Park | Sussex | Main Beach Bath House parking lot resurface. The parking lot has numerous pot holes and is severely cracked | | | \$ 250.0 | |
| Bellevue State Park | New Castle | Mount Pleasant Meeting House roof replacement. The current wood shingles have exceeded their life expectancy and are close to leaking | | | \$ 70.0 | |
| Bellevue State Park | New Castle | Mount Pleasant Parsonage repairs. The exterior of the parsonage has extreme rot and soffit damage | | | \$ 125.0 | |
| Bellevue State Park | New Castle | Bellevue Hall 2nd and 3rd floor completion. This project will maximize the use of the facility. | | | \$ 150.0 | |
| Auburn Heights Preserve | New Castle | Museum boiler room bump out roof replacement. The roof will start to leak on top of the boiler room equipment. | | | \$ 10.0 | |
| Delaware Seashore State Park | Sussex | IRM pilings sandblasted, sealed, and pile jackets | | | \$ 450.0 | |
| Fort Delaware State Park | New Castle | Ft. DE replacement of floating dock for Delafort | | | \$ 125.0 | |

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| Cape Henlopen State Park | Sussex | Cape youth camps I and II electric upgrades | | | \$ 200.0 | |
| Cape Henlopen State Park | Sussex | Cape dorm addition of HVAC | | | \$ 50.0 | |
| Cape Henlopen State Park | Sussex | Cape Dorm restroom upgrades | | | \$ 35.0 | |
| Bellevue State Park | New Castle | Cauffiel House HVAC system repair and/or replace | | | \$ 40.0 | |
| Auburn Heights Preserve | New Castle | Repair/replace window sills, frames and trim at AH Mansion sunporch | | | \$ 30.0 | |
| Trap Pond State Park | Sussex | Warrington house documentation | | | \$ 20.0 | |
| Alapocas Run State Park | New Castle | Blue ball barn: correct moisture issues in ventilation system | | | \$ 200.0 | |
| Bellevue State Park | New Castle | Pavilion #1 needs columns repairs to be completed in house | | | \$ 4.0 | |
| Delaware Seashore State Park | Sussex | Towers road ocean: bathhouse (lifeguard, men's, women's rooms); replace door & frame with fiberglass | | | \$ 8.0 | |
| Bellevue State Park | New Castle | Stables: replace shingles on wooden barn | | | \$ 40.0 | |
| Cape Henlopen State Park | Sussex | Fort Miles: Waterproof Bunker 519 roof | | | \$ 75.0 | |
| White Clay Creek State Park | New Castle | WSC: Replace roof on Wells barn | | | \$ 45.0 | |
| Wilmington State Parks | New Castle | 18th Street Basket ball courts; asphalt overlay, surfacing, replace goals, repairs to concrete seating area | | | \$ 20.0 | |
| Wilmington State Parks | New Castle | Brandywine Park: Lowering Avenue Tennis Courts; Renovate or Remove | | | \$ 35.0 | |
| White Clay Creek State Park | New Castle | Old Coach road: demolish house | | | \$ 25.0 | |
| White Clay Creek State Park | New Castle | Nature center: repair plaster and repaint interior | | | \$ 15.0 | |
| Fork Branch Nature Preserve | Kent | Fork Branch site Plan; parking plan | | | \$ 500.0 | |
| Fort Delaware State Park | New Castle | Repair window sills at Fort | | | \$ 40.0 | |
| Cape Henlopen State Park | Sussex | Fort miles restroom | | | \$ 200.0 | |
| Cape Henlopen State Park | Sussex | Maintenance shop fiber optic installation, phase II | | | \$ 170.0 | |
| Cape Henlopen State Park | Sussex | Maintenance Pole Shed | | | \$ 60.0 | |
| Brandywine Creek State Park | New Castle | Fenton Barn documentation - possible demo | | | \$ 340.0 | |
| Lums Pond State Park | New Castle | Overlook, fishing structure and pontoon landing at campground | | | \$ 200.0 | |

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| Trap Pond State Park | Sussex | Cottages with dock at Trussum Pond Property | | | \$ 500.0 | |
| Garrison's Lake Golf Course | Kent | Event Pavilion | | | \$ 500.0 | |
| Holts Landing State Park | Sussex | Staff Housing Holts Landing | | | \$ 300.0 | |
| Garrison's Lake Golf Course | Kent | Cart Parth renovations and replacements | | | \$ 100.0 | |
| Garrison's Lake Golf Course | Kent | Sand Trap replacements | | | \$ 50.0 | |
| Delaware Seashore State Park | Sussex | WiFi for campgrounds and Marina | | | \$ 150.0 | |
| Garrison's Lake Golf Course | Kent | Office replacement | | | \$ 250.0 | |
| Wilmington State Parks | New Castle | Baynard Stadium Renovations | | | | |
| Cape Henlopen State Park | Sussex | New Nature Center | \$ 250.0 | | \$ 3,200.0 | \$ 3,000.0 |
| Lums Pond State Park | New Castle | Campground addition of improved primitive campgrounds and tent camping areas | | | \$ 75.0 | |
| Delaware Seashore State Park | Sussex | South Inlet Campground tent sites camping upgrades/cottages | | | \$ 500.0 | |
| White Clay Creek State Park | New Castle | Install 10 X 20' Pavilion at Nature Center | | | \$ 30.0 | |
| White Clay Creek State Park | New Castle | Determine future use of Krapf House. Perform work in preparation for intended use: | | | \$ 150.0 | |
| Delaware Seashore State Park | Sussex | Additional Queueing Docks for Drystack (Urgent). These docks are needed asap for the safety and proper daily operation of our Dry Stack Facility. | | | \$ 150.0 | |
| Alapocas Run State Park | New Castle | Acquire New Castle County maintenance facility off of Alapocas Drive. Make improvements as needed. With the loss of the Bancroft Mill buildings, the WSP & ARSP maintenance operations are in dire need of an area to store/secure equipment | | | \$ 500.0 | |
| Cape Henlopen State Park | Sussex | Day Camp Accessibility to Chapel | | | \$ 150.0 | |
| Killens Pond State Park | Kent | Intern Housing(\$50K available via AmeriCorps) | | | \$ 50.0 | |
| Lums Pond State Park | New Castle | Demolish old water storage and treatment building | | | \$ 36.9 | |
| | | Campground: three-point hookups for host sites; funded | | | | |

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| White Clay Creek State Park | New Castle | Robinson house: ADA upgrades to facility; Improved vehicular access (including bus access) and parking; Roof and deck replacement; 1st Floor flooring; HVAC repair/replacement | | | \$ 50.0 | |
| White Clay Creek State Park | New Castle | Judge Morris RFI for partner | | | \$ 20.0 | |
| Trap Pond State Park | Sussex | Two (2) new cabins | | | \$ 150.0 | |
| Delaware Seashore State Park | Sussex | Kayak rental facility | | | \$ 10.0 | |
| Delaware Seashore State Park | Sussex | IR Marina - Pavilion | | | \$ 150.0 | |
| Statewide and Special | Statewide | Intern Dorm Housing | | | \$ 150.0 | |
| Statewide and Special | Statewide | Fee Collection automated | | | \$ 250.0 | |
| Auburn Heights Preserve | New Castle | Oversee Dam repair | | | \$ 500.0 | |
| Wilmington State Parks | New Castle | Brandywine Park: Baynard stadium; Repair/repave roadways & improve traffic flow/parking in general | | | \$ 200.0 | |
| White Clay Creek State Park | New Castle | Judge Morris: install new heaters in garage/office | | | \$ 15.0 | |
| Fort Delaware State Park | New Castle | Bake oven room restoration for increased programming use | | | \$ 60.0 | |
| Brandywine Creek State Park | New Castle | YCC building/ spring house upgrades | | | \$ 35.0 | |
| Bellevue State Park | New Castle | Office - central a/c, heat | | | \$ 25.0 | |
| Bellevue State Park | New Castle | School House Rehab | | | \$ 750.0 | |
| Lums Pond State Park | New Castle | Park Office addition and accessibility upgrades | | | \$ 65.0 | |
| Lums Pond State Park | New Castle | Asphalt Repairs at the campground entrance road. | | | \$ 40.0 | |
| Lums Pond State Park | New Castle | Asphalt Repairs at the dog park and main entrance road-trailhead | | | \$ 25.3 | |
| Alapocas Run State Park | New Castle | Design and install device(s) to divert storm water run-off from a culvert under Greenway trail to a storm drain at the Brandywine Condominiums. | | | \$ 25.0 | |

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| Lums Pond State Park | New Castle | Sewer Plant Pit Doors replacement. The sewer plant pit doors are old steel doors that are severely deteriorated and need to be replaced with fiberglass doors | | | \$ 10.0 | |
| Lums Pond State Park | New Castle | Go Ape Parking Lot resurface. The parking lot has extreme deterioration and needs to be resurfaced | | | \$ 250.0 | |
| Holts Landing State Park | Sussex | Parking lot paving requires resurfacing. The lot has pot holes and cracking | | | \$ 80.0 | |
| Holts Landing State Park | Sussex | Bath house remodel of interior. The interior of the bath house is in need of an complete renovation | | | \$ 30.0 | |
| Delaware Seashore State Park | Sussex | Sea Shore maintenance yard paving resurface. The paving has pot holes and cracking requires resurfacing | | | \$ 60.0 | |
| Brandywine Creek State Park | New Castle | Maintenance road paving resurface. The maintenance road pavement has cracks and pot holes | | | \$ 45.0 | |
| Bellevue State Park | New Castle | Tennis Center parking lot resurface. The parking lot has excessive cracking and deterioration | | | \$ 150.0 | |
| Fort Delaware State Park | New Castle | Ft. DE coating/sealing metal roofs | | | \$ 100.0 | |
| Fort Delaware State Park | New Castle | Ft. DE POW barracks roof repair | | | \$ 6.0 | |
| Fort Delaware State Park | New Castle | Ft. DE pathways (barge and stone) | | | \$ 35.0 | |
| Fort Delaware State Park | New Castle | Ft. DE water tank replacement | | | \$ 5.0 | |
| Bellevue State Park | New Castle | Cauffiel: water tower exterior repairs | | | \$ 25.0 | |
| Cape Henlopen State Park | Sussex | Mechanics shop: exterior envelope maintenance | | | \$ 65.0 | |
| Alapocas Run State Park | New Castle | Blue ball barn: courtyard- stone wall masonry repairs | | | \$ 60.0 | |
| Wilmington State Parks | New Castle | Baynard stadium: paint north bleachers(lead paint issues) | | | \$ 150.0 | |
| Trap Pond State Park | Sussex | Boat rental Building: new siding, roof, doors, interior & exterior lights and plumbing fixtures | | | \$ 28.0 | |

| DNREC-Parks and Recreation Capital Project Priorities 2018-2021 | | | | | | |
|--|------------|--|-------------|-------------|-------------|-------------|
| Last Update: 1/29/18 | | Project Cost Estimates (\$ in thousands) | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Fort DuPont State Park | New Castle | Millings to patch potholes in roadways | | | \$ 4.0 | |
| Fort Delaware State Park | New Castle | Ticket sales/gift shop: purchase hardy board to re-side back side of building (park staff to install) | | | \$ 5.0 | |
| Fort Delaware State Park | New Castle | Island concession stand: replace rotten floor and wall boards | | | \$ 3.0 | |
| Fort Delaware State Park | New Castle | Island pier: replace deck boards (including fuel dock) | | | \$ 5.0 | |
| Fort Delaware State Park | New Castle | Island pier handrail: continue replacing handrail components | | | \$ 2.5 | |
| Cape Henlopen State Park | Sussex | Road and parking improvements | | | | \$ 1.5 |
| White Clay Creek State Park | New Castle | Creek Road: north of Hopkins road; grading/ drainage of this roadway entrance to the nature center | | | | \$ 10.0 |
| Fox Point State Park | New Castle | Pave phase II road and parking areas | | | | \$ 250.0 |
| Bellevue State Park | New Castle | Reseal floors in main restrooms (Scrap House) | | | | \$ 20.0 |
| Bellevue State Park | New Castle | Reseal Maintenance Parking Lot | | | | \$ 8.0 |
| Fort DuPont State Park | New Castle | Tennis courts: Resurface, patch cracks, restore asphalt on two (2) at Fort DuPont State Park | | | | \$ 30.0 |
| Lums Pond State Park | New Castle | Repair cracks in parking lots | | | | \$ 35.0 |
| Wilmington State Parks | New Castle | Bancroft Mills: Repave parking area | | | | \$ 60.0 |
| Wilmington State Parks | New Castle | Rockford Park: First Presbyterian Church regrade slope between church and raceway to allow easier mower access | | | | \$ 75.0 |
| Wilmington State Parks | New Castle | Brandywine Park: Renovate/ repair Josephine fountain | | | | \$ 250.0 |
| White Clay Creek State Park | New Castle | Judge Morris: refinish wood floors | | | | \$ 20.0 |
| White Clay Creek State Park | New Castle | WSC: stain band stage | | | | \$ 10.0 |
| White Clay Creek State Park | New Castle | Judge Morris: finish exterior painting | | | | \$ 60.0 |
| White Clay Creek State Park | New Castle | Judge Morris: interior painting | | | | \$ 35.0 |
| White Clay Creek State Park | New Castle | exterior paint all barns | | | | \$ 50.0 |
| White Clay Creek State Park | New Castle | Park office :exterior painting/ stucco repair | | | | \$ 25.0 |

Parks & Recreation Capital Project Priorities

| DNREC-Parks and Recreation Capital Project Priorities 2018-2021 | | | | | | |
|--|------------|--|-------------|-------------|-------------|-------------|
| Last Update: 1/29/18 | | Project Cost Estimates (\$ in thousands) | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| White Clay Creek State Park | New Castle | Replace post/ rail fence @ 896 and wedgewood | | | | \$ 8.0 |
| Lums Pond State Park | New Castle | resurface tennis courts | | | | \$ 30.0 |
| Lums Pond State Park | New Castle | boat ramp: replace ramp, parking | | | | \$ 500.0 |
| Fort DuPont State Park | New Castle | Duplex 92A repairs | | | | \$ 11.0 |
| Cape Henlopen State Park | Sussex | Youth camp 1, Mess Hall: replace floor | | | | \$ 10.0 |
| Brandywine Creek State Park | New Castle | Barn painting | | | | \$ 25.0 |
| Auburn Heights Preserve | New Castle | Exterior Painting | | | | \$ 30.0 |
| Bellevue State Park | New Castle | Hunter Barn and Figure 8- Asphalt overlay fix floor | | | | \$ 75.0 |
| Holts Landing State Park | Sussex | Campground host sites and hook ups | | | | \$ 250.0 |
| Bellevue State Park | New Castle | Cauffiel Barn renovations | | | | \$ 500.0 |
| Bellevue State Park | New Castle | Music Garden patio and landscaping | | | | \$ 80.0 |
| White Clay Creek State Park | New Castle | Entrance road to Nature Center evaluation, design and relocation and construction | | | | \$ 1,500.0 |
| White Clay Creek State Park | New Castle | New Park Office | | | | \$ 500.0 |
| Lums Pond State Park | New Castle | Campground overflow parking lot | | | | \$ 200.0 |
| Lums Pond State Park | New Castle | Go Ape Bathhouse replacement | | | | \$ 500.0 |
| Delaware Seashore State Park | Sussex | Cottages pavilion, grill and gathering area | | | | \$ 75.0 |
| Holts Landing State Park | Sussex | Holts Main Parking Lot redesign and upgrades | | | | \$ 550.0 |
| Holts Landing State Park | Sussex | Holts Bathhouse - replace | | | | \$ 500.0 |
| Cape Henlopen State Park | Sussex | New Beach Bathhouse with larger Capacity | | | | \$ 1,000.0 |
| Wilmington State Parks | New Castle | Develop a sign plan. Design, manufacture and install. The Wilmington Parks are in dire need of uniform and professional signage. | | | | \$ 75.0 |
| Wilmington State Parks | New Castle | New Park Office | | | | \$ 1,500.0 |
| Wilmington State Parks | New Castle | Plan, design & develop additional on-site parking under the I-95 bridge from Stadium Drive to South Park Drive. Create additional on-site parking to be used by visitors to the Brandywine Zoo, Josephine Gardens and Baynard Stadium. | | | | \$ 500.0 |
| White Clay Creek State Park | New Castle | Replace Cedar Shake Roof (Barn is an Eastburn Barn) . | | | | \$ 100.0 |

| DNREC-Parks and Recreation Capital Project Priorities 2018-2021 | | | | | | |
|--|------------|---|-------------|-------------|-------------|-------------|
| Last Update: 1/29/18 | | Project Cost Estimates (\$ in thousands) | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| White Clay Creek State Park | New Castle | Install Life Fitness units on fitness trail. Install life fitness units along an existing fitness trail in Carpenter Recreation Area | | | | \$ 150.0 |
| White Clay Creek State Park | New Castle | Expansion of Chambers Rock Road Parking Lot | | | | \$ 75.0 |
| Brandywine Creek State Park | New Castle | Hawk Watch Comfort Station. This is a large restroom facility in the park for special events and pavilion/picnic area rentals. Currently there is no way for wheelchair access to this restroom. | | | | \$ 75.0 |
| Brandywine Creek State Park | New Castle | Design and construction of a proper kayak/canoe take out station at Thompsons Bridge on both North and South side. This would include a redesign of both an inclusion of ADA accessible take out on one side. | | | | \$ 25.0 |
| Brandywine Creek State Park | New Castle | Thompson's Bridge parking lot is too small for its current use. The parking lot fills and is closed just about every weekend in the summer and some weekends in spring/fall | | | | \$ 300.0 |
| Lums Pond State Park | New Castle | Park office addition | | | | \$ 60.0 |
| Lums Pond State Park | New Castle | Lums Ranger office addition | | | | \$ 65.0 |
| Lums Pond State Park | New Castle | Lums pole building for boat rentals | | | | \$ 30.0 |
| Lums Pond State Park | New Castle | Lums concrete paving for cricket field pitch | | | | \$ 13.0 |
| Lums Pond State Park | New Castle | shade structure at maintenance complex for boat rental operation, to lessen UV deterioration | | | | \$ 25.0 |
| Bellevue State Park | New Castle | Sidewalk/circulation plan between arts building and mansion | | | | \$ 75.0 |
| Wilmington State Parks | New Castle | Brandywine Park: replace life course trail | | | | \$ 60.0 |
| White Clay Creek State Park | New Castle | Nature center Parking: convert turf parking area to gravel(10-12 spaces) | | | | \$ 70.0 |
| Lums Pond State Park | New Castle | concrete pitching area for cricket within Area One | | | | \$ 8.0 |

Parks & Recreation Capital Project Priorities

| DNREC-Parks and Recreation Capital Project Priorities 2018-2021 | | | | | | |
|--|------------|---|-------------|-------------|-------------|-------------|
| Last Update: 1/29/18 | | Project Cost Estimates (\$ in thousands) | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Fort Delaware State Park | New Castle | Ticket sales/gift shop: upgrade exterior(including marquee roof and overhang) | | | | \$ 40.0 |
| Brandywine Creek State Park | New Castle | Maintenance area: construct 4 bay pole shed | | | | \$ 45.0 |
| Alapocas Run State Park | New Castle | Extend water and electric to shop near 202 | | | | \$ 150.0 |
| Alapocas Run State Park | New Castle | pavilion across from Bancroft Mills bridge | | | | \$ 300.0 |
| Wilmington State Parks | New Castle | Rockford: remove or renovate ball field in lower field | | | | \$ 30.0 |
| Fox Point State Park | New Castle | Pave bike path from railroad tracks to entrance | | | | \$ 10.5 |
| Alapocas Run State Park | New Castle | Blue Ball Barn: create stabilized turf overflow parking area adjacent to Barn | | | | \$ 250.0 |
| Wilmington State Parks | New Castle | Storage facility for interpretation | | | | \$ 100.0 |
| Wilmington State Parks | New Castle | Zoo: implement phase I master plan | | | | \$ 10,000.0 |
| White Clay Creek State Park | New Castle | Judge Morris: fabricate and install decorative gates at main drive | | | | \$ 50.0 |
| White Clay Creek State Park | New Castle | WSC; install chain link fence @ maintenance. Area shop/pole shed | | | | \$ 25.0 |
| White Clay Creek State Park | New Castle | Possum Hill; replace clivus with Bio-Sun | | | | \$ 40.0 |
| White Clay Creek State Park | New Castle | Add playground equipment (2 - 5 years) | | | | \$ 75.0 |
| Killens Pond State Park | Kent | Two (2) shade structures | | | | \$ 20.0 |
| Killens Pond State Park | Kent | Restrooms for primitive and family camping | | | | \$ 80.0 |
| Fort DuPont State Park | New Castle | Pole building | | | | \$ 25.0 |
| Fort Delaware State Park | New Castle | New benches for grand casemate | | | | \$ 8.0 |
| Fort Delaware State Park | New Castle | Composting toilet - island | | | | \$ 120.0 |
| Fort Delaware State Park | New Castle | Soldier sleeping room renovation | | | | \$ 30.0 |
| Fort Delaware State Park | New Castle | Blacksmith shop reconstruction | | | | \$ 75.0 |
| Delaware Seashore State Park | Sussex | New air station (fresh pond trust) | | | | \$ 25.0 |
| Holts Landing State Park | Sussex | Holts entrance sign(21st Century) | | | | \$ 5.0 |
| Delaware Seashore State Park | Sussex | IR Marina - shuffleboard courts | | | | \$ 50.0 |
| Holts Landing State Park | Sussex | Holts Landing Playground replacement | | | | \$ 150.0 |
| Cape Henlopen State Park | Sussex | Parade Field irrigation | | | | \$ 50.0 |
| Cape Henlopen State Park | Sussex | Park office expansion | | | | \$ 150.0 |
| Cape Henlopen State Park | Sussex | Primitive area restroom | | | | \$ 100.0 |

| DNREC-Parks and Recreation Capital Project Priorities 2018-2021 | | | | | | |
|--|------------|--|-------------|-------------|-------------|-------------|
| Last Update: 1/29/18 | | Project Cost Estimates (\$ in thousands) | | | | |
| Park Unit | County | Project Details | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Fiscal 2021 |
| Cape Henlopen State Park | Sussex | Herring point restrooms, sewer | | | | \$ 400.0 |
| Cape Henlopen State Park | Sussex | Herring Point Parking Lot | | | | \$ 45.0 |
| Cape Henlopen State Park | Sussex | Gordons Pond; restrooms/showers | | | | \$ 250.0 |
| Brandywine Creek State Park | New Castle | Flint Woods: bus/ drop-off location | | | | \$ 30.0 |
| Brandywine Creek State Park | New Castle | Thompsons Bridge: install steps and landscaping | | | | \$ 50.0 |
| Brandywine Creek State Park | New Castle | nature center: add lab/classroom wing, ranger office | | | | \$ 60.0 |
| Brandywine Creek State Park | New Castle | Nature Center: upgrade restrooms to include outside access | | | | \$ 100.0 |
| Brandywine Creek State Park | New Castle | Maintenance shop: Security fence | | | | \$ 15.0 |
| Brandywine Creek State Park | New Castle | Maintenance shop - Replace, include restrooms | | | | \$ 200.0 |
| Bellevue State Park | New Castle | Carriage House Restrooms | | | | \$ 25.0 |
| Bellevue State Park | New Castle | Cabana Restroom renovation | | | | \$ 35.0 |
| Bellevue State Park | New Castle | Arts Building: Install restrooms in | | | | \$ 40.5 |
| Wilmington State Parks | New Castle | Brandywine Zoo monkey house drop off area, gathering space reusing building bricks | | | | \$ 350.0 |
| Lums Pond State Park | New Castle | Campground Playground | | | | \$ 250.0 |
| | | | \$ 2,500.0 | \$ 43,110.0 | \$ 40,910.7 | \$ 42,993.5 |

Statewide Trails and Pathways

| DNREC - Parks and Recreation Trail Project Priorities FY 2016 - 2020 | | | | | | | | | | |
|---|---|---|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------------|---|
| Last Update: 1/29/18 | | Project Costs/Estimates (\$ in thousands) | | | | | | | | |
| Area | Trail Project Detail | Project Stage | Fiscal 2016 | Fiscal 2017 | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | Other Funds | Source of Other Matching Funds | Notes |
| Tri-Valley Trail | Phase 2 (1.0 mi) - WCCSP - Possum Hill Area to Corner Ketch community connector trail. Bridge design/construction | Design/Construction | \$ 500.0 | | | | | | | Under design, out to bid mid 2018 |
| Gordons Pond Trail | Repairs from Storm Jonas | Reconstruction | \$ 83.0 | | | | | | | Complete |
| Cape Henlopen SP | Walking Dune Trail bridge | Construction | \$ 222.7 | | | | | | | Complete |
| Cape Henlopen SP | J&B Trail rehab | Rehab | \$ 26.9 | | | | | | | Complete; signing needed |
| Cape Henlopen | Easternmost segment of Georgetown-Lewes-Cape Trail, Freeman Hwy to park entrance (1.25 mi); may include trail connection to DRBA L&R Canal bridge | Environmental Assessment, Design, and Construction estimate | \$ 954.0 | \$ 350.0 | | | | | | Environmental assessment underway with Parks consultant, working with DeIDOT to have tracks removed from vacated RR |
| Brandywine Creek SP | Creek Rd Trail, Thompson Station area to Ramsey Rd. Project in conjunction with NPS, First State National Monument (2.0 mi) | Design/Construction | \$ 300.0 | | | | | | | Bid package being prepared |
| Augustine Wildlife Area | Cooper Cross Trail & viewing platform (0.2 mi) | Design/construction | \$ 300.0 | | | | | \$ 350.0 | Fed Byway | Concept complete; design complete Fall '16; construction '17. |
| Ted Harvey Wildlife Area | Morris Tract viewing trail and observation platform (1.0 mi) | Design | | | | | | \$ 150.0 | Bayshore BB | On hold |
| Little Creek Wildlife Area | Bayshore Visitor Center and viewing trail (500') - boardwalk and observation. tower | Design | \$ 190.5 | | | | | \$ 23.9 | Fed Byway; Bayshore BB | Final concept summer '16. |
| RTP 20% Match | Placeholder for several trail improvement projects | Match | \$ 200.0 | | | | | | | For state park, F&W, and local park projects to be included in future RPT Work Plan |
| Assawoman Canal Trail | Phase 2, Route 26 underpass and kayak launch | Design | | \$ 200.0 | | | | | | Planning underway |
| Lums Pond | Buck Jersey Pathway Phase 1 (1.2 mi) | Design | | \$ 198.0 | | | | | | In DeIDOT queue to construct |
| Holts Landing SP | Seahawk Trail boardwalk connector (0.1 mi) and trail improvements | Design/Construction | | \$ 132.0 | | | | \$ 330.0 | RTP | FFY12 Work Plan approved. Design, NEPA underway |
| Castle Trail | St. Georges trailhead expansion | Design | | \$ 150.0 | | | | | | |
| Brandywine Creek SP | Access trail loop from Nature Center (1.0 miles) | Design/Construction | | \$ 70.0 | | | | | | Future RTP Project |
| Woodland Beach WA | AREC Bayshore Byway - Phase 2 - boardwalk connector (0.5 mi) and boardwalk rehabilitation | Design/Construction | | \$ 999.5 | | | | \$ 423.1 | Fed Byway; Bayshore BB | \$489K design estimate; boardwalk rehab estimate: \$637,140; connector estimate \$399,500 |
| RTP 20% Match | Placeholder for several projects | Match | | \$ 200.0 | | | | | | For state park, F&W, and local park projects to be included in future RPT Work Plan |
| Lums Pond SP | Buck Jersey Pathway Phase 2 (1.0 mi) | Construction | | | | \$ 245.0 | | | RTP | Obligated |
| Killens Pond SP | Pondside Trail pedestrian bridge | Design | | | | \$ 400.0 | | | | Under design |

| DNREC - Parks and Recreation Trail Project Priorities FY 2016 - 2020 | | | | | | | | | | | |
|---|--|---------------|---|-------------|-------------|-------------|-------------|-------------|------------------------|--------------------------------|---|
| Last Update: 1/29/18 | | Project Stage | Project Costs/Estimates (\$ in thousands) | | | | | Fiscal 2020 | Other Funds | Source of Other Matching Funds | Notes |
| Area | Trail Project Detail | | Fiscal 2016 | Fiscal 2017 | Fiscal 2018 | Fiscal 2019 | Fiscal 2020 | | | | |
| Holts Landing SP | Seahawk Trail boardwalk connector (0.1 mi) | Construction | | | | \$ 300.0 | | | | RTP | Design, NEPA |
| Assawoman Canal Trail | Phase 2, Town Road Kayak launch | Construction | | | | \$ 30.0 | | | | | |
| Assawoman Canal Trail | Phase 3, trail Rt 26 to South Bethany (1.5 mi) | Construction | | | | \$ 900.0 | | | | | |
| Auburn Heights | NVF to Hockessin connector | Construction | | | | \$ 200.0 | | \$ 1,000.0 | TE (DelDot) | | Planning done, design to begin spring 2018 |
| Augustine Wildlife Area | Lang Marsh Loop from Port Penn Office (1.0 mi) | Construction | | | | \$ 70.0 | | | USFWS | | Trail built on levee. Eng/design/permits complete Nov '16. Levee construction |
| Little Creek Wildlife Area | Bayshore Visitor Center and viewing trail (500') - boardwalk and observation. tower | Construction | | | | \$ 475.0 | | \$ 156.2 | Fed Byway; Bayshore BB | | Obligated |
| RTP 20% Match | Placeholder for several projects | Match | | | | \$ 400.0 | | | | | For state park, F&W, and local park projects to be included in future RPT Work Plan |
| White Clay Creek SP | Phase 2, Tri-Valley Trail | Construction | | | | | \$ 1,500.0 | | | | |
| Killens Pond SP | Pondside Trail pedestrian bridge | Construction | | | | | \$ 1,200.0 | | | | |
| Little Creek Wildlife Area | Wildlife viewing trail loop-contingent and Town of Little Creek connector trail (0.5 mi) | Construction | | | | | \$ 75.0 | | | | |
| Little Creek Wildlife Area | Bayshore Visitor Center and viewing loop trail (1.0 mi) | Construction | | | | | \$ 20.0 | \$ 100.0 | Fed Byway | | |
| Ted Harvey Wildlife Area | St Jones Reserve Trail Connector enhancements and extension (0.5 mi) | Design | | | | | \$ 18.0 | \$ 72.0 | Fed Byway | | |
| RTP 20% Match | Placeholder for several projects | Match | | | | | \$ 200.0 | | | | For state park, F&W, and local park projects to be included in future RPT Work Plan |
| Bond Bill - Recommended/Requested | | | \$ 3,000.0 | \$ 2,500.0 | \$ 2,500.0 | \$ 3,000.0 | \$ 3,000.0 | | | | |
| Total Estimated Need | | | \$ 2,777.1 | \$ 2,299.5 | \$ - | \$ 3,020.0 | \$ 3,013.0 | \$ 2,605.2 | | | |

| Byway - Federal Scenic Byway Program | CTF - Community Transportation Fund | RTP - Recreational Trail Program |
|--------------------------------------|-------------------------------------|----------------------------------|
|--------------------------------------|-------------------------------------|----------------------------------|

Statewide Trails and Pathways

