

FY 2021 Annual Report

July 1, 2020 – June 30, 2021



A young hunter is introduced to a wild turkey box call for the first time.



State of New Jersey
Department of Environmental Protection
Division of Fish and Wildlife

*Follow us on Facebook and Instagram or
visit njfishandwildlife.com*



FY2021 Annual Report

State of New Jersey
Department of Environmental Protection
Division of Fish and Wildlife
Mail Code 501-03
P.O. Box 420
Trenton, NJ 08625-0420
www.njfishandwildlife.com

Philip D. Murphy, Governor
Sheila Y. Oliver, Lt. Governor
Shawn LaTourette, Commissioner
Dave Golden, Director
Kathy Porutski, Editor

Fish and Game Council

Frank Virgilio, Chair
Phillip Brodhecker
Joe DeMartino
James DeStephano
Agust Gudmundsson
Dr. Rick Lathrop
Jeffrey A. Link
Robert T. Pollock
Loren Robinson
Ken Whildin

Robert R. Rush, Jr.
Joseph A. Zaborowski

Atlantic Coast Shellfish Council

John J. Maxwell, Chair
Walter L. Johnson, III, Vice-Chair

Delaware Bay Shellfish Council

Barney Hollinger, Chair
Stephen J. Fleetwood, Vice-Chair
Richard Malinowski

Endangered and Nongame Species

Advisory Committee

Dr. Rick Lathrop, Chair
Dr. James Applegate
Dr. Barbara Brummer
Dr. Joanna Burger
Dr. Emile DeVito
Howard Geduldig
Dr. Erica Miller
Dr. David Mizrahi
Jane Morton Galetto
Dr. Howard K. Reinert
James A. Shissias

Waterfowl Stamp Advisory Committee

Robert Von Suskil, Chair
Peter Bacinski
Joe DeMartino
Mike Kantor
Scott Paterson
Mike Shanahan
James A. Shissias
Dr. Lenore Tedesco
Ken Whildin

Marine Fisheries Council

Richard N. Herb, Acting Chair
James Alexis
Erling Berg
Dr. Eleanor Ann Bochenek
Barney Hollinger
John Maxwell
Frances E. Puskas
Sergio Radossi
Joe Rizzo

Wildlife Rehabilitators Advisory Committee

Diane Nickerson, Chair
Phillip Brodhecker
Giselle Chazotte-Smisko
Heather Freeman
Tracy Leaver
Dr. Erica Miller
Dr. Jennifer Norton
Dr. Nicole Lewis
Michael O'Malley
Carol Dragland

New Jersey Division of Fish and Wildlife

The New Jersey Division of Fish and Wildlife is a professional, environmental, and scientific organization dedicated to the protection, management and wise use of the state's fish and wildlife resources. It is responsible for the oversight of more than 357,000 acres in the Wildlife Management Area System and is the lead agency managing all wildlife species in New Jersey. This includes game animals, freshwater and marine fish, shellfish, birds, amphibians, reptiles, and endangered and nongame species. Fish and Wildlife staff also educate the public about wildlife-related issues, and conservation police officers enforce the laws that protect wildlife.

This report contains the many accomplishments of an experienced and dedicated staff. These accomplishments are often made possible through cooperative efforts of our federal, state, and non-government agency partners, and are primarily funded by the license fees of hunters, anglers and commercial fin and shell fishermen as well as the federal grants derived from excise taxes on their equipment and marine fuel. The Division also relies on a portion of the State General Appropriation to support marine fisheries and endangered species conservation as well as the many associated services provided to the public.

Our Mission

To protect and manage the state's fish and wildlife to maximize their long-term biological, recreational, and economic value for all New Jerseyans.

Our Goals

- ❖ To maintain New Jersey's rich variety of fish and wildlife species at stable, healthy levels, and to protect and enhance the many habitats on which they depend.
- ❖ To educate New Jerseyans on the values and needs of our fish and wildlife, and to foster a positive human/wildlife co-existence.
- ❖ To maximize the recreational use and economic potential of New Jersey's fish and wildlife for both present and future generations.

Table of Contents

Bureau of Freshwater Fisheries.....	5
Bureau of Land Management.....	7
Bureau of Law Enforcement.....	9
Marine Fisheries Administration.....	11
Bureau of Marine Fisheries.....	12
Bureau of Shellfisheries.....	14
Bureau of Wildlife Management.....	16
Endangered and Nongame Species Program.....	17
Office of Fish and Wildlife Health and Forensics.....	20
Office of Environmental Review.....	21
Bureau of Information and Education.....	23
Office of Fish and Wildlife Information Systems.....	25
Office of Mosquito Control Coordination.....	26
Office of Business Administration.....	28

Bureau of Freshwater Fisheries

Lisa Barno, Chief

The Bureau of Freshwater Fisheries is responsible for the propagation, protection and management of the state's freshwater fisheries resources as well as promoting their recreational use. In addition to raising and distributing several million fish annually, the Bureau conducts research and management surveys, classifies the state's waterways, provides technical input on a variety of watershed and habitat-based issues, facilitates habitat restoration projects, serves as a liaison to a variety of conservation groups, and provides information to the public in a variety of forums concerning the management of New Jersey's freshwater fisheries. The Bureau also administers more than 600 permits annually to effectively manage and protect these important aquatic resources.

Highlights

Trout Stocking

Due to the ongoing COVID-19 pandemic, the 2021 Spring Trout Stocking Program was again modified to help redistribute angling pressure and allow anglers to better maintain proper social distancing practices. A total of 517,160 rainbow trout were distributed prior to opening day on April 10 (as compared to the 183,000 traditionally released preseason during non-COVID years). Early *Catch and Release Only* fishing was permitted beginning April 1 when all waterbodies were stocked with at least a portion of their total allotment. From April 10 on, the season was opened completely and from May 10-14, the remaining 79,990 fish were released. With the 2020 fall and winter stocking program totals added, a total of **628,675** rainbow trout were stocked during FY2021.



A large rainbow trout is netted during spring stocking efforts.

Cool and Warmwater Stocking



The Hackettstown State Fish Hatchery raised and distributed over 2.8 million fish representing twelve different cool and warmwater species. Highlights include stocking 600 broodstock channel catfish in 32 waters. The fish averaged 25 inches in length and weighed 6.4 pounds.

Throughout the pandemic, trading fish between states has played an important role. Because staff did not collect adult muskellunge or walleye in the spring, fisheries biologists relied solely on eggs and fish supplied by the Pennsylvania

A staff member displays a large egg mass at the Hackettstown Hatchery.

Fish and Boat Commission. In return, New Jersey supplied its sister agency with surplus channel catfish eggs and northern pike.

Hatchery Upgrades

Infrastructure upgrades supported by Corporate Business Tax funding included replacement of the main administrative building roof and domestic water line at Pequest. At Hackettstown, more than 50 tons of rip rap stone were placed upstream of the dam and flood gates to shore up eroding banks, dead trees were removed, and the East Hatchery long-abandoned hatch house was demolished.

Stream Temperature Monitoring

In 2013, the Bureau's Research and Management Unit established a stream temperature monitoring network on 11 streams containing recreationally important trout fisheries and/or areas of special conservation interest. Since that time, the network had increased to 96 stream sites.

Through this project, water temperature data is continuously collected to assess current temperature conditions and identify long-term trends. The information is also used to determine if the water quality is consistent with DEP's Surface Water Quality Standards, and helps biologists manage coldwater fisheries and associated stocking programs in these waters.

Data gleaned from this study is critical to understanding the link between seasonal stream and air temperatures, water flow, and naturally reproducing brook trout populations. It allows fisheries managers to document brook trout resiliency, assess the potential effects of future climate change and identify streams that may be candidates for brook trout restoration. Most recently, the data collected has been used to identify trout populations subjected to extreme water temperature spikes from summertime stormwater runoff.

Brook Trout Restoration

Efforts to restore brook trout at Rinehart Brook, a tributary to the Black River within Hacklebarney State Park (Morris County), continued. When the program began in 2017, brown trout greatly outnumbered brook trout by more than 12 to one. Following four years of brown trout removal by electrofishing, brook trout numbers rebounded by 20-fold with 1,316 individuals documented in June of 2021. In addition to increased numbers, the study determined that utilizing multi-pass electrofishing (a method to estimate fish abundance within a site by noting the rate catches decrease over consecutive passes and incorporating that data into statistical population models) is an efficient way to remove an excess of one species (in this case, brown trout) to bolster another. The marking and recapturing of brown trout during the study exposed another challenge to biologists, in that the area's natural waterfalls did not prevent them from recolonizing the stream. Subsequently, this project will continue to deter brown trout from once again dominating the area.

Bureau of Land Management

Jason Hearon, Chief

The Bureau of Land Management is responsible for administering the Division's Wildlife Management Area (WMA) System that encompasses more than 357,000 acres on 122 separate areas. These areas are managed for a diversity of fish and wildlife species through a variety of habitat improvement projects. Public access for wildlife-associated recreation is encouraged through the development of visitor facilities, maintenance of roads and bridges, and the construction of parking areas and boat ramps. The Bureau is also responsible for the maintenance of Division buildings, shooting ranges, dams, and water control structures, and offers technical assistance to DEP's Green Acres Program in the acquisition of open space and critical habitat.

The importance of outdoor recreation was never more apparent than during the worldwide pandemic. While most Division staff had the ability to work from home, Bureau of Land Management (BLM) employees were essential to maintaining the grounds and facilities for the public. Wildlife habitat projects, and the stocking of trout (570,000+) and game birds (over 72,000) were never compromised. All of the challenges, however, had a positive impact when the Division's WMA System was discovered by thousands of new visitors who took advantage of it when the state park system was temporarily closed to the public. Although the influx of new users posed challenges to an already understaffed crew, the agency was able to successfully continue operations and provide a welcome respite for these guests.

Highlights

Southern Region



The Holly House as it stands amidst the newly acquired 1,400-acre property in Millville, Cumberland County.

In February 2020, the Division was tasked with managing a 1,400-acre property, locally known as the *Holly Orchards* in Millville, Cumberland County. Previously owned by Atlantic City Electric, the tract is situated between two nationally designated wild and scenic rivers, the Manumuskin and Maurice. The area is so vibrant with diversity, it may host the highest concentrations of threatened and endangered species in the entire state.

Southern Region staff reclaimed 17 acres of early successional habitat (i.e., grasslands, old fields, and young forests) by removing invasive species (such as Japanese honeysuckle, Oriental bittersweet, English ivy, and autumn olive) and diseased trees. The area was then planted with a special mix of buckwheat and sorghum especially beneficial to pollinator species. Once germinated, the seed blend will also provide a high-calorie food source for many other species.

In addition to the early successional habitat, a small pond, and several vernal pools (temporary, seasonal waterbodies inhospitable to fish and other predators) were restored to allow many species of amphibians, insects and reptiles to reproduce without predatory pressure until the areas dry up during the summer.

Central Region

Upgrades to the shooting ranges at the Colliers Mills and Stafford Forge WMAs in Ocean County were completed. The addition of bench rests with seats for a steady shooting platform, an overhead concrete baffle to eliminate blue sky interference (the area above the target or backstop seen by the shooter), covered shooting stations to protect equipment from the elements, and improved parking access were all designed to meet American Disabilities Act standards. The improvements will provide hunters and recreational shooters with a safe, clean, user-friendly environment in which to practice using centerfire rifles up to .30 caliber, muzzleloaders and shotguns. Made possible through state dedicated conservation dollars and revenue from the federal Wildlife Restoration Act, upgrades to these last two ranges complete the project.

Northern Region

In FY21, staff made a concerted effort to reclaim fields in the northern region. In the Black River Wildlife Management Area alone, 45 fields totaling 76 acres were mowed, treated to remove unwanted vegetation, and planted with a combination of sorghum, buckwheat, corn, red clover and sunflowers. In addition, wildflowers and warm season grasses were planted in seven fields (16 acres) to benefit a variety of wildlife species.



Staff shown pruning an apple tree at the Buckhorn Creek WMA.

At the Berkshire Valley WMA, a 6-acre field was reclaimed and planted with sorghum and buckwheat to provide pheasant hunters with better cover in the fall. In the Trout Brook, Pequest and Columbia WMAs, a combined total of 28 acres were mowed, treated and planted with warm season grasses and wildflowers to benefit pollinating butterflies and moths.

An additional 125 acres of hedgerows and 30 acres of existing fields were selectively treated to eliminate noxious weeds and invasive species (such as mile-a-minute vine, Japanese knotweed, and kudzu) and replaced with warm season grasses at the Rockport, Black River, Whittingham, Lockatong and Berkshire Valley WMAs.

At the Buckhorn Creek WMA, staff began restoring the former apple orchard. Trees were pruned and the areas between them were mowed.

Bureau of Law Enforcement

Sean Cianciulli, Acting Chief

The Bureau of Law Enforcement is responsible for enforcing regulations that protect wildlife species and their habitat. As one of the oldest organized law enforcement agencies in New Jersey (created in 1871), conservation police officers have enjoyed a storied history. Originally tasked solely with fish protection in the Delaware River, officers now delve into every area of fish, wildlife, and natural resource protection. They now enforce pollution laws involving New Jersey's woods and waterways, impose bans on the harvest of crabs from polluted waters, enforce clamming and oystering regulations designed to safeguard public health, assist with efforts to control nuisance bears, enforce commercial and recreational saltwater fishing regulations, protect state lands from illegal timber sales and off-road vehicle usage, and ensure the lawful handling of exotic wildlife and the sale of legally procured marine resources.

Conservation police officers are also the primary law enforcement personnel in New Jersey who are authorized to investigate hunting accidents or hunting-related fatalities. These highly trained officers possess full law enforcement authority and patrol the state and its waters using the latest in law enforcement technology.

Conservation police officers are among the Division's most visible representatives, interacting with thousands of individuals each year. In the field, they educate and redirect the actions of recreationists to ensure compliance with Division policies, the Fish and Game codes, marine conservation measures and other land use regulations to protect the environment as well as ensure that people enjoy natural resources in safe and ethical ways.

Each year, conservation police officers provide countless hours of public outreach at educational facilities, outdoors shows and through the course of their daily patrols. Educating hunters, anglers, and the public about the environment and all that makes it beneficial is a paramount assignment that conservation police officers are proud to perform.

Highlights

Northern Region

In March, April, and May of FY21, Northern Region Conservation Police Officers (CPOs) diligently patrolled the Hudson River and Newark Bay Complex to enforce striped bass regulations in and along these waters. CPOs Driscoll, Kuechler, Holmes, Merritt and Hausamann inspected 372 fishermen and issued 252 summonses for violations relating to the possession of undersize and over the limit striped bass. Together, the summonses that were issued resulted in nearly \$70,000 in fines.

Central Region



CPO Garofalo with the recovered bucks.

On Christmas Day 2020, CPO Sal Garofalo received information that two individuals were observed with two large bucks in a boat at the Bordentown boat ramp along the Delaware River in Burlington County. Knowing that on this day, the white-tailed deer hunting seasons were closed in both New Jersey and Pennsylvania, the complainant was able to document the violation with several cell phone pictures. After reviewing the photos and surveillance video as well as speaking with witnesses, CPO Garofalo was able to identify two suspects. From the evidence

obtained, it appeared that the deer were shot from the boat and harvested on the Pennsylvania shoreline, then loaded and transported in that same boat to Bordentown. Due to the nature of the violation (a potential federal crime under the Lacey Act, which in this case forbids the acquisition, import, export, and transport of wildlife taken in violation of state law), CPO Garofalo contacted the Pennsylvania Game Commission (PGC) and the U.S. Fish and Wildlife Service (USFWS). With assistance from the PGC, USFWS, and the NJ State Police, a search warrant was executed for the suspects' home and boat where firearms, deer carcasses, deer DNA, and other wildlife parts were seized. During the course of the investigation, both suspects confessed to shooting the deer from the boat during a closed season. In addition to the Pennsylvania hunting charges, CPO Garofalo issued six summonses for violations of New Jersey hunting regulations.

Southern Region

In July 2020, Lt. Zane Batten and New Jersey State Park Police Officer Jennifer Curcio apprehended five individuals for illegally harvesting freshwater clams adjacent to Parvin State Park in Pittsgrove Township, Salem County. Upon first observing several bags near a spillway along Muddy Run (a tributary flowing from Parvin Lake to Rainbow Lake) and several individuals with equipment commonly used to harvest "fresh water" clams, Officer Curcio contacted Lt. Batten. Arriving at the scene, Batten set up surveillance in the area where the bags were left, while Curcio located two vehicles inside the park that appeared to be related to the individuals she had observed near the spillway. A short time later, Lt. Batten observed a vehicle stop and a man exit. Jumping over the guard rail, the man loaded the bags into the vehicle and intended to drive away. At this point, Batten conducted a motor vehicle stop. The driver stated that his girlfriend's relative had contacted him to pick up the clams and that he did not know they were illegal. Lt. Batten ended up recovering five bags of "fresh water" clams commonly known as *Asian thumbnail clams* (an invasive species from Asia). Meanwhile, Officer Curcio located another two bags of clams in the vehicles she had observed inside the park. During her search,

one of the individuals admitted that the clams were being sold. In total, more than 18,000 clams were seized as evidence along with 55 freshwater mussels (a protected species) resulting in 23 summonses for harvesting shellfish without a license and harvesting shellfish in condemned waters. Other summonses included the commercialization of wildlife and possession of regulated nongame species. The defendants eventually plead guilty and paid \$5,340 in penalties.

Marine Region

In early May, CPOs Capri and Meyer conducted a vessel patrol in Barnegat Bay at the mouth of the Gunning River searching for commercially set fyke nets (a cylindrical fish trap with funnel-shaped openings) that had not been removed as required after the season had ended on April 29. Upon inspection, CPOs located eight fyke nets which appeared heavily neglected and contained multiple dead and dying fish. When encountered, the owner plead guilty to fishing with a fyke net during the closed season, failing to mark the net stakes, and improperly identifying one of the nets for a total penalty of \$1,500.

Marine Fisheries Administration Joseph Cimino, Administrator

The Marine Fisheries Administration includes the Bureaus of Marine Fisheries and Shellfisheries. It supervises and coordinates the planning, organization, operation and management of the marine and estuarine finfish and shellfish resources of New Jersey, estimated to be worth more than \$2 billion. The Marine Fisheries Administration also coordinates New Jersey's fishery management activities on a coastwide basis with the Atlantic States Marine Fisheries Commission and the Mid-Atlantic Fishery Management Council.

Highlights

Marine Fisheries Administration (MFA) staff have continued to work closely with DEP colleagues, stakeholders, regulators, researchers, and developers to support the responsible development of **7,500** megawatts of offshore wind power by 2035. This state initiative, known as New Jersey Protecting Against Climate Threats (NJPACT), targets immediate and comprehensive regulatory reform to usher in critically needed changes to air emissions and environmental land use regulations that will address current threats and reduce future damages.

With this goal in mind, the MFA team has assisted with stakeholder engagement, policy development, and establishment of the New Jersey Offshore Wind Research and Monitoring Initiative (OWRMI). OWRMI is dedicated to researching the effects of climate change on New Jersey's sensitive marine resources with funding provided through the *Atlantic Shores Offshore Wind* (a joint venture between EDF Renewables North America and Shell New Energies US) and *Ocean Wind 2* (an endeavor of the multi-national energy power company Ørsted) projects.

Staff participated in reviewing each company's project proposal and attended regular meetings with the developers to discuss research needs. Additional stakeholder meetings were held with

various federal/state regulatory authorities, the U.S. Coast Guard, several academic institutions, numerous interstate organizations and many others whose experts have offered valuable feedback and meaningful information exchange. Such passionate stakeholder support has allowed for better decision-making to avoid, minimize, and mitigate environmental impacts as New Jersey moves forward to achieve its offshore wind energy goals.

BUREAU OF MARINE FISHERIES

Jeffrey Brust, Chief

The Bureau of Marine Fisheries is responsible for developing and implementing management programs that protect, conserve, and enhance New Jersey's marine fisheries resources. To formulate sound state management plans, the Bureau conducts studies to gather information about New Jersey's marine species as well as the user groups that rely on them. This research is combined with information from other Atlantic states and federal management agencies to support coastwide management plans.

Since many marine fisheries species are migratory in nature, they are managed on a coastwide basis by the Atlantic States Marine Fisheries Commission and/or the Mid-Atlantic Fishery Management Council. The Bureau of Marine Fisheries plays a vital role in representing New Jersey's fisheries and fishermen, both commercial and recreational, through these organizations.

Federal legislation mandates that states implement every fishery management plan approved by the Atlantic States Marine Fisheries Commission. Each plan requires that states employ the required management measures, enforce those rules, and monitor the status of the fishery population. States failing to comply with the requirements of the plan risk a federally imposed moratorium in their state for those species covered.

Highlights

Commercial License Sales Go Contactless

Traditionally, commercial marine fishing licenses have always been sold in-person at the Division's two marine fisheries offices (Nacote Creek in Port Republic and Delaware Bay in Millville). At these facilities, our employees process 3,000 - 4,000 commercial license transactions (totaling over 10,000 individual licenses) each year. When COVID-19 forced the state to close its offices to the public, marine fisheries staff leapt into action and quickly converted the traditional license sales process to a contactless, mail-in system. During uncertain times, the new process required staff to continue working from the office as the new system was rolled out. While addressing mail, monitoring the online system, and providing nearly constant phone support to confused applicants who tried to navigate the new procedures, these dedicated employees devoted long hours to seamlessly implement the sudden changes. To their consummate credit, staff members were able to process close to 3,500 applications during FY 2021 (more than half of those processed during a 3-month period from November to January) **without delays**. Thanks to the hard work and flexibility of these individuals, commercial

harvesters were able to remain on the water and continue their normal operations to supply fresh, local seafood throughout the state.

Commercial Harvest Reporting

As mandated by the state-federal Atlantic Coastal Cooperative Statistics Program (ACCSP), BMF staff is required to submit all commercial harvester landings annually. This important data helps shape fishery management decisions to provide long-term healthy, sustainable resources throughout the Atlantic.

Commercial harvesters must report trips monthly even if fishing activity does not occur. The information collected includes species type, harvest weight, fishing location, type of gear used, number of crew, and disposition of the catch. Though commercial harvesters in New Jersey have the option to submit reports via mail, fax, or e-mail, many file online through the Standard Atlantic Fisheries Information System (SAFIS).



When utilizing SAFIS, BMF staff must verify and proofread every harvest report for accuracy before it is finally submitted to the main ACCSP databank. In 2020, 174,369 individual trips from 575 commercial harvesters were officially processed. Commercial anglers who fished exclusively in New Jersey’s bays, rivers, and inshore waters reported 12,238 individual trips taken, resulting in 46,696,820 pounds harvested. The top three species included Atlantic menhaden, blue crab, and channeled/knobbed whelk.

In FY21, SAFIS was overhauled to improve the efficiency of online reporting and offer fishery managers more flexible ways to collect this important data. Staff also launched a mobile application for smart phone and tablet devices that allows users to enter their data in real time while they fish or within minutes of returning to port.

Recreational Fishery Sampling

Due to pandemic concerns, sampling for the Access Point Angler Intercept Survey (APAIS) was paused March 17 - June 30, 2020. Once employees were virtually trained and sampling procedures were modified for a COVID setting, APAIS was once again up and running by July 1 of that year. Out of 1,051 site assignments scheduled for 2020, staff were able to complete 683 of them (dockside only) despite the pandemic.

In 2021, staff were again virtually trained in January and February in preparation for the start of the survey season in March. The modified COVID procedures were retained, and dockside sampling began as scheduled with onboard surveys resuming in July.



Staff interview recreational anglers about their trip.

Working diligently and safely, staff were able to increase the number of yearly site assignments to just under 1,300 (outpacing the previous year by more than 20-percent).

BUREAU OF SHELLFISHERIES

Russ Babb, Chief

The Bureau of Shellfisheries directs shellfish harvest and production programs along the Atlantic Coast and in Delaware Bay. Biologists work with other Division bureaus as well as various state and federal agencies on marine habitat conservation and shellfish management. Staff members work closely with the New Jersey Shellfisheries councils (Atlantic Coast and Delaware Bay) on issues related to the protection and enhancement of New Jersey's shellfisheries. The Bureau is also committed to fostering aquaculture development and reviewing coastal development activities to protect critical habitat. Staff members manage surf clams in the Atlantic Ocean and oysters in Delaware Bay as well as examine the impacts of offshore sand mining. In addition, they are responsible for administering a licensing program for recreational and commercial shellfishermen as well as the state's Shellfish Aquaculture Program.

Highlights

Atlantic City Shell Recycling Program

The Bureau's innovative and well received shell recycling program continued its efforts to collect shell from three prominent Atlantic City restaurants. In FY21, staff collected 30 tons of oyster and clamshell from the Hard Rock Hotel & Casino, Dock's Oyster House, and the Knife and Fork Inn.



Once deployed, the empty shells not only provide a stable foundation, but offer the freshly planted seeds a safe place in which to live, feed and grow.

With the shell collected, staff conducted the program's first annual shell plant along the Mullica River oyster reefs. During a special ceremony, a total of 70 tons (55 tons from Atlantic city alone) of shell were deposited over a 2-acre parcel of river bottom. DEP Commissioner Shawn LaTourette, Division Director Dave

Golden and other officials were present to highlight the event and publicly unveil the program. Commissioner LaTourette was also featured in a video produced by the Division's Bureau of Information and Education.

Beginning in FY22, the site will be monitored to see how well the young oyster seeds fare (those placed on the reefs along with the discarded shells). If successful, the seeds will permanently adhere to the shells and continue to grow.

Ocean Floor Habitat Assessment

In 2020, the Bureau of Shellfisheries purchased a specialized sonar system to scan and create images of the ocean floor to better assess the shellfish habitat and marine resources present. The information collected plays a vital role in making sound management decisions that ensure healthy shellfish populations and helps biologists direct their enhancement/restoration efforts to where they are needed most. Data from the initial deployment of the device was used to determine the site where biologists would plant oyster shell in the Mullica River as part of the Bureau's Shellfish Recycling Program previously highlighted. Currently, the device is being used for a new Delaware Bay Tributary Survey to identify all rivers, creeks, and coves pertinent to the study. The data collected will allow biologists to accurately map important oyster habitat throughout the Delaware Bay's tributaries.

Guidance Manual for Waterfront Development

The Marine Fisheries Administration (MFA) regularly provides support to DEP's Division of Land Resource Protection (DLRP) in reviewing waterfront development plans regarding potential impacts to marine resources and habitats prior to issuing permits. Over the years, DLURP staff have utilized this dialogue along with an internal DEP guidance document established in 2008 to assist them with the permitting process. Recently, staff revised the original document to highlight the coastal zone management rules most often referred to when making permitting decisions. The 80-page document (*Guidance Manual for the Processing of Land Resource Protection Permits and the Protection of Marine Fish and Shellfish Resources, Habitats, and Fisheries relative to the Rules on Coastal Zone Management at N.J.A.C. 7:7*) provides step-by-step instructions on how to properly review maps and mitigate potentially negative impacts to an area's natural resources. Designed for proprietary use by DLRP and MFA staff, the document will be reviewed and updated annually. In addition to revising the manual, staff offered a series of virtual training sessions for DEP permitting staff and will again offer in-person field training opportunities once COVID restrictions ease.

Bureau of Wildlife Management

Carole Stanko, Chief

The Bureau of Wildlife Management provides the scientific information and recommendations necessary to develop conservation plans for New Jersey's game species. It also assists with the Division's pheasant and quail stocking operations and advises the public on ways to reduce the damage caused by wildlife. Biologists work with other agencies and local governments to develop cooperative management programs throughout the state. These professionals also monitor wildlife population numbers and health conditions. The information collected is of critical importance to the Fish and Game Council that relies on it to determine New Jersey's annual hunting and trapping regulations.

Highlights

2020 Game Code

In development since 2018, amendments to the Game Code (N.J.A.C. 7:25-5), the regulatory document which governs all hunting and trapping seasons in New Jersey, were adopted on May 5, 2021. The majority of amendments are intended to prevent the entry of Chronic Wasting Disease (a fatal, highly contagious disease of white-tailed deer and other deer-related species) into the state and to facilitate the Division's response should the disease be discovered within our borders or 10 miles from the border.

Other amendments included closure of the ruffed grouse season, removal of king rail as a game species, reduction in the harvest limit for common gallinule, introduction of a multi-zone deer permit (to increase harvest in areas with the highest deer densities), and separation of the Comprehensive Black Bear Management Policy from the Game Code.

Comprehensive Black Bear Management Policy (CBBMP)

Staff assisted the Fish and Game Council by providing data to update the CBBMP, which was last officially revised in 2015. The CBBMP had been an appendix to the existing Game Code until the recent 2020 amendment made it a separate document. The CBBMP must still undergo the rigorous Administrative Procedure Act's rule-making process of public comment and requires approval of the DEP Commissioner before a hunt can occur. The updated CBBMP was submitted to the Commissioner on March 11, 2021.

Publications



*A male mallard in flight against
a stormy sky.*

In FY21, the COVID pandemic allowed waterfowl biologists an unprecedented amount of time (that might otherwise not have been available) to conduct research, write and publish their findings. Subsequently, biologists published three articles in peer-reviewed journals (one of which was a collaborative study with staff from the Division's Office of Fish and Wildlife Health and Forensics).

Roberts, A.R., J.L. Dooley, B.E. Ross, T.C. Nichols, J.O. Leafloor and K.W. DuFour. 2021. An integrated population model to inform harvest management of Atlantic brant. *Journal of Wildlife Management*.

Nichols, T.C. and L.A. Clark. 2021. Comparison of ground and helicopter surveys for breeding waterfowl in New Jersey. *Wildlife Society Bulletin*.

Lewis, N.L., T.C. Nichols, C. Lilley, D.E. Roscoe, and J. Lovy. 2021. Blood lead declines in wintering American black ducks in New Jersey following the lead shot ban. *Journal of Fish and Wildlife Management*.

Endangered and Nongame Species Program

John Heilferty, Chief

The Endangered and Nongame Species Program was created in response to the New Jersey Endangered Species Act of 1973. More than 80 endangered and threatened species inhabit the Garden State. The program is committed to conserving New Jersey's biological diversity by working to maintain and foster endangered and threatened populations as well as protect the unique habitats on which they depend. It is also responsible for administering the State Income Tax Check-Off for Wildlife, which benefits these species.

Highlights

Connecting Habitat Across New Jersey

The Connecting Habitat Across New Jersey (CHANJ) program experienced great strides this year. In lieu of in-person gatherings, the project team held a number of virtual meetings and workshops with supporting partners, including the Highlands Council, New Jersey Conservation Foundation, Sussex County Division of Engineering, Delaware Valley Regional Planning Commission, and others, to demonstrate the importance of linking critical habitats across the state.



ENSP biologists inspect an underground amphibian crossing. Note the fence leading toward the opening, which helps to guide the animals inside.

The concept of maintaining important travel corridors for wildlife took center stage at the 2020 Virtual Northeastern Transportation and Wildlife Conference hosted by the Division and the South Jersey Transportation Authority in September. No fewer than six CHANJ-related roundtables and posters were offered to New Jersey Department of Transportation engineers and environmental program coordinators throughout the state. The next conference is scheduled for September 17-20, 2022, in Atlantic City.

Work to complete another 150 culvert surveys within CHANJ-mapped core habitats and corridor areas to assess wildlife movement barriers continues. In addition, staff entered the final design and permitting stage of the Waterloo Road Amphibian Crossing Project in Sussex County – New Jersey’s **first** road underpass designed specifically for salamanders and frogs.

ENSP Detection Dog Learns a New Trick

In 2020, ENSP’s detection dog added another trick to her arsenal: sniffing out the well-camouflaged Eastern box turtle in its diverse and often remote habitats. Eastern box turtles can be found throughout the state, but are a species of special concern due to their declining populations. Biologists attribute the decline mainly to habitat fragmentation, disease, and road mortality.

Managing the habitat specifically for Eastern box turtles is a major step in the recovery effort, but any actions taken must consider their life cycle and seasonal habitat preferences to be beneficial. Because this vulnerable species is so reclusive, it has been a challenge for biologists to find and study them to effectively manage recovery efforts. Enter ‘Fly,’ ENSP’s new wildlife detection dog! Fly joined the program in June 2019 to continue the groundbreaking work of ‘Bear’ who passed in 2017.

Fly is a cattle dog mix rescued from a Wyoming shelter. After receiving her initial training in Montana from the organization Working Dogs for Conservation, Fly now works alongside her handler/trainer and ENSP Biologist Gretchen Fowles.

Originally Fly was trained to locate the droppings (known as scat) from New Jersey's endangered bobcat population. Through genetic analysis of the scat, Gretchen can identify individuals and use that information to evaluate population size and density, survival, movement, and gene dispersal within the population. To date, Fly has located over 60 scats representing more than 20 unique individuals.

In 2020, after her success with bobcats, Fly expanded her abilities to target the Eastern box turtle (a species of special concern) and wood turtle (considered threatened). The benefits of using fly to locate these individuals has been immeasurable as her unique canine agility can easily cover diverse terrain allowing her to spot turtles underneath logs, within tall grass and many other places that would challenge a human surveyor.



ENSP Detection Dog 'Fly' eagerly waits for the signal sniff out box turtles.

The Imperiled Beach-nesting Birds of New Jersey

New Jersey beaches are busy places in the summer and visitors share those areas with some brave and beautiful wildlife. Piping plovers, least terns, and black skimmers are on the endangered species list, in part, because of the challenges of beach life. Each summer, New Jersey's beach-nesters must navigate the inherent perils of living life at the shoreline (i.e., people, pets, coastal storms, flooding, natural predators, etc.).

During the 2020 season, the number of piping plover nesting pairs was 103 coastwide. Though it was a decline from previous years, the nesting success rate of 1.29 chicks per pair was good (the state and federal recovery goal is 1.5 last achieved in 2018). On the other hand, the endangered least tern population remained stable, but with low nesting success. Most vulnerable of all, however, is the black skimmer colony which has dwindled to only four nesting sites in the state, much too small to sustain a viable population.

To reverse these disturbing trends, ENSP biologists have been working hard to restore the habitat critically needed for all three species to thrive, while trying to reduce the seasonal dangers that threaten their nesting sites each year. A recent example is the habitat restoration project occurring at Barnegat Light State Park. Here, former upland dune areas were converted to over-wash habitat (moist, flat areas of constantly shifting sand) to provide ideal conditions for nesting and foraging. Early indications are encouraging, and biologists will continue to closely monitor the area in the future.



An adult least tern watches over its hungry chick.

Office of Fish and Wildlife Health and Forensics

Dr. Jan Lovy, Research Scientist

The Office of Fish and Wildlife Health and Forensics conducts surveillance and research on diseases and chemical contaminants that affect New Jersey's fish and wildlife. Scientists in this office also recommend measures to combat diseases in the Division's fish hatcheries and in free-ranging fish and wildlife populations. These scientists are the only available experts in New Jersey state government to specialize in wildlife pathology, fish pathology, and fish and wildlife toxicology. As a result, when fish and wildlife are dying in the Garden State, the public and other government agencies turn to the Office of Fish and Wildlife Health and Forensics to determine the cause and develop a response strategy.

Highlights

Aquatic Animal Health Program

One of the principal projects of FY21 focused on understanding the unusually high mortality rate of an Atlantic menhaden (a member of the herring family) population heavily concentrated in the Raritan Bay area. From late 2020 to the early spring of 2021, sick fish were collected for a comprehensive health evaluation. Researchers soon discovered that the fish were dying from a neurologic and systemic bacterial infection associated mainly with the bacterium *Vibrio anguillarum* found in the stomachs of marine fish. DFW scientists will continue to work in collaboration with the U.S. Geological Survey and the U.S. Department of Agriculture (USDA) to better understand the bacteria and its impacts to fish health.

Also, this year OFWHF teamed up with the Bureau of Shellfisheries as well as New Jersey's oyster and clam aquaculture industry to develop a monitoring program to safeguard the health, quality, and sustainability of shellfish in our coastal waters north of Delaware Bay. Funding for the project was received in part from the USDA's Animal Health and Plant Inspection Service. Testing sites and protocols have been established at the Division's Pequest Aquatic Animal Health Laboratory and the New Jersey Department of Agriculture's Animal Health Diagnostic Lab.

Terrestrial Wildlife Health Program

Due to COVID-19, disease surveillance efforts were significantly impacted.

However, despite the inherent difficulties posed by the pandemic, the Division's annual survey for chronic wasting disease (CWD) was successfully completed. CWD is a fatal neurological condition found in white-tailed deer and other members of the deer family. Rapidly transmissible between animals, it is vitally important

that the presence of CWD remain outside New Jersey's borders. This year, 705 samples were tested, and all were found negative.



DFW Wildlife Veterinarian Dr. Nicole Lewis and Katherine Klein from the University of Illinois' College of Veterinary Medicine, collect tissue samples for EHD testing. The deer carcass was found in the Wallkill River at a location so remote, it had to be reached by kayak.

An outbreak of Epizootic Hemorrhagic Disease (EHD) was detected during the fall of 2020 in the Wallkill River National Wildlife Refuge in Sussex County. Ten deer carcasses found along the river were sampled, and all tested positive for the virus. An outbreak of distemper virus in raccoons was also discovered in Sussex County.

DFW Wildlife Veterinarian Dr. Nicole Lewis published the article "*Blood Lead Declines in Wintering American Black Ducks in New Jersey Following the Lead Shot Ban*" in the Journal of Fish and Wildlife Management. The study was co-authored by current DFW staff, Waterfowl Biologist Ted Nichols and Research Scientist Dr. Jan Lovy as well as former employees, Wildlife Pathologist Dr. Doug Roscoe, and seasonal technician Christina Lilley.

Office of Environmental Review

Kelly Davis, Principal Biologist

The Office of Environmental Review studies fish, shellfish, wildlife, and endangered species concerns related to state and federal permitting programs. Data is gathered on development projects that could potentially cause negative impacts on these resources and their habitats. Biologists also review and provide recommendations for the DEP's Land Use Regulation Program as well as the Bureau of Dam Safety and Flood Control, and the Solid and Hazardous

Waste Program. In addition, the Office of Environmental Review offers input to federal agencies including the United States Army Corps of Engineers, Federal Energy Regulatory Commission, United States Department of Interior's Bureau of Ocean Energy Management, Federal Aviation Administration, and the Department of Defense.

Highlights

During this reporting period, Office of Environmental Review (OER) staff conducted a total of 417 environmental review assessments, and attended 79 formal meetings on proposed projects throughout the state and off the coast. During these meetings, OER biologists offer their findings and recommendations to the public and private entities present on how to avoid, minimize, and if necessary, mitigate impacts to the fish and wildlife resources potentially involved.

Currently, the critical loss of important coastal marshes is of pressing concern. To help stabilize and restore habitat in these vital areas, biologists often suggest the reutilization of existing dredge material. By recycling these resources in ecologically innovative ways, the material can serve as a readily available, cost effective source of sediment for many coastal restoration and improvement projects like restoring sand dunes and replenishing beaches.



Mussels found in Riverton Cove.

This year, while reviewing a proposed plan to revitalize a former Confined Disposal Facility (CDF) in Cinnaminson, staff sited habitat suitable for two threatened mussel species within the Riverton Cove section of the property. To mitigate against possible impacts to this sensitive area, biologists requested the location of outfall pipes be modified to redirect discharge onto an existing rip rap shoreline. In addition, the end of the pipe will be fitted with an energy dissipator plate to reduce the velocity and direction of flow to protect the area from erosion.

OER staff initiated discussions regarding the County Line Dam Removal Project on Paulins Kill (Sussex and Warren counties). A cooperative effort between the Division, Nature Conservancy, Atlantic Coastal Fish Partnership and the local landowner, this project was funded through the National

Fish Habitat Action Plan to restore and reconnect habitat for migratory species, including American shad, American eel, and native sea lamprey. After noting populations of the federally endangered dwarf wedge mussel as well as the state endangered triangle floater and eastern lampmussel, OER biologists suggested modifying the design plan to better protect these species.

Bureau of Information and Education

Al Ivany, Chief

The Bureau of Information and Education educates New Jerseyans about the needs and value of fish and wildlife. To do this, staff interprets information on biology, ecology, and conservation to help the public better understand the unique needs of each species, as well as their environmental, recreational, aesthetic, and economic values. Outreach efforts also promote the wise use of these resources and the need to safeguard them for future generations.

Highlights

Division Participates in Creating a Quilt to Celebrate DEP's First 50 Years



Above is a photo of the finished 50 x 70-inch quilt. The eagle design is the fourth row down on the far left.

For nearly a year, and despite the challenges of COVID-19, members of the DEP50 Quilt Guild pieced together the story of the DEP's first 50 years in a handmade quilt depicting significant events, places and work being done by the DEP. To determine what the quilt would look like, DEP employees were invited to submit designs for the squares to portray the department's work and mission.

The Division's contribution, a design submitted by staff from the Bureau of Information and Education was entitled *Back from the Brink*. It commemorates the hard work of Division biologists to build back New Jersey's population of bald eagles that started with only one pair in 1973 and which has now grown to 220 nesting pairs that produced 307 eaglets in 2020 (the most ever recorded). In the Garden State, eagles can now be found in every county.

Website Redesign

The Division of Fish and Wildlife contracted with the marketing agency Oxford Communications to redesign and modernize its website on the New Jersey Department of Environmental Protection's new WordPress server. This new, imaginative web presence (with full Americans with Disabilities Act functionality) will replace the Division's current website that is more than 25 years old. Major project objectives include providing a website that will encourage user engagement by creating a vibrant, active, and audience-relevant platform to

showcase the diversity and value of New Jersey’s natural resources. The new website boasts a well-structured design layout with content hubs for Fishing, Hunting, Wildlife, Destinations, Conservation and Learning/Resources. Project completion is slated for FY22.

Revamped Hunter Education Program

New Jersey’s Hunter Education Program offers free training programs to educate prospective hunters and trappers on the proper use of equipment, and endeavors to provide these individuals with the skills, knowledge, and attitudes necessary to become responsible hunters and trappers in the field. The program also stresses the important role these activities play in wildlife conservation and in helping to maintain the delicate balance of a healthy ecosystem.



A young student listens as his hunter education instructor demonstrates the proper handling of archery equipment.

Due to the Covid-19 pandemic, the Division was forced to cancel all in-person hunter education courses in March 2020. Once statewide guidelines and social distancing measures were put in place, staff were then tasked with finding a safe way to continue offering hunter education classes to the public. In response, the existing home study course, which included a workbook, DVD and in-person written test were discontinued and replaced with a more streamlined virtual approach. Students now take the course online (via HunterCourse.com) and schedule a time to take the live-fire field portion of the class at their choosing. Any fees that were previously involved are now waived with the Division’s Federal Hunter Education Grant covering the cost for all participants. The redesigned format has proven extremely popular with students, volunteers and staff, and the program will continue to be offered this way in the future.

Office of Fish and Wildlife Information Systems

Patrick Woerner, Chief

The Office of Fish and Wildlife Information Systems (OIS) develops and maintains geographic information systems (GIS) data, analyses, and web mapping applications. It also provides GIS/IT assistance to help guide strategic habitat conservation decisions and support fish and wildlife management throughout New Jersey.

Highlights

New Jersey Hunting & Trapping Explorer

Prior to the opening of the 2020-21 deer season, OIS released the New Jersey Hunting & Trapping Explorer web application. Compatible with desktop computers and mobile devices, the app allows hunters to plan hunting or trapping outings and navigate from home or in the field. Individuals can access ten new interactive maps of hunting or trapping zones for white-tailed deer, black bear, wild turkey and a variety of waterfowl and small game species. Within each interactive map, users can identify hunting or trapping zones for licensing, permitting and harvest reporting purposes and easily access information on seasons, regulations, and harvest statistics. The application also includes an additional interactive web map that can be used to locate authorized fishing and hunting license agents within New Jersey.



The New Jersey Hunting & Trapping Explorer web application makes it easy for hunters and trappers to plan their outings.

Citizen Science Survey Applications

To support the work of the Marine Fisheries Administration, OIS released two new web surveys. The Recreational Saltwater Volunteer Angler Survey and the Marine Protected Wildlife Reporter applications allow the public to directly participate in marine conservation efforts via their desktops and mobile devices as *citizen scientists*.

The saltwater fishing survey enables anglers to submit catch data on recreationally important marine finfish species. The information voluntarily collected provides data to support alternative management strategies that may increase/influence fishing opportunities in the future.

The marine wildlife reporter app enables the public to report sightings and interactions with federally listed endangered or threatened marine species, including marine mammals, sea turtles and sturgeon as well as many protected shark species. Citizen scientists can report the species encountered, plot map locations of sightings, upload photos and enter other pertinent information such as size and appearance/health condition. Division biologists can then use this data to track habitat use and collect biological samples to better manage the recovery of these protected species.

Great Fishing Close to Home

OIS partnered with the Bureau of Freshwater Fisheries to produce Great Places to Fish Close to Home in New Jersey, an interactive web map of publicly accessible lakes, ponds, and reservoirs. The application includes over 290 waterbodies personally selected by Division staff to have sizable populations of desirable species. Anglers and outdoor enthusiasts can use the map to choose a specific water and discover the primary sportfish species present, find out ownership information, permit requirements, outboard motor restrictions and the presence of other amenities like boat ramps, picnic grounds, and nearby camping areas.

Office of Mosquito Control Coordination

Scott C. Crans, Administrator

Created in 1974, the New Jersey State Mosquito Control Commission's Office of Mosquito Control Coordination (OMCC) is based in the Division's Trenton office. The office coordinates programs funded by the New Jersey State Mosquito Control Commission and serves as a public face on all state mosquito control matters. Actively collaborating with different bureaus in the Division and across DEP is a priority, as is maintaining existing standards and developing new methods of mosquito control. These efforts ensure that county-based mosquito control agencies across the state are improving the public's quality of life by reducing mosquito populations in an environmentally sound manner.

Highlights

COVID Challenges

In FY21, COVID-19 posed a considerable challenge to mosquito control operations throughout the state as programs struggled to balance the need to protect the public from mosquito-borne disease while safeguarding their own staff from a pandemic that was sweeping across the globe. To address the dilemma, the OMCC, with support from the New Jersey State Mosquito Control Commission, organized monthly virtual meetings to ensure that all 21 county programs continued to operate effectively. County program needs were closely monitored, and scientific support was provided where necessary as local agencies began transitioning staff back into the field and mosquito control efforts intensified. In addition, several county agencies were recruited to provide staffing for COVID-19 related activities that continued throughout the fiscal year.

Screening Samples

Throughout the summer, the OMCC continued to partner with state, county, and university laboratories to screen mosquito, equine, and avian blood samples for mosquito-borne viruses. This ongoing surveillance provides a critical early warning system for county response efforts.



A gravid mosquito collecting trap used for West Nile Virus surveillance. The stagnant water attracts females that having ingested a blood meal, begin searching for a suitable place to lay their eggs.

FY21 sampling efforts showed it to be the least active year for West Nile Virus (WNV) on record. The season started early and extended well into the fall, but positive samples remained low. Out of 185,220 mosquitoes, just 241 tested positive for WNV. Testing for Eastern Equine Encephalitis (EEE), likewise revealed a relatively inactive year. This was in stark contrast to the previous season, which was the most active year in New Jersey since the 1959 EEE epidemic.

Mosquitoes were also tested for Jamestown Canyon Virus (JCV), a type of encephalitis. Testing for JCV began in 2019 following activity seen in adjacent states. FY21 testing revealed six positive specimens out of 176,081 mosquitoes sampled.

By far, mosquito-borne transmission of WNV and EEE viruses pose the greatest risk in New Jersey, although the travel-associated introduction of Zika, Chikungunya and Dengue viruses remain a concern. These exotic viruses are detected here in global travelers each year, but fortunately, local mosquito-borne transmission has never occurred in our state.

Zika Virus Initiative

As part of DEP's continued Zika Virus Initiative, public awareness and outreach activities continue to prepare residents for the potential localized introduction of this disease. Since the federal grants earmarked for Zika virus support have expired, these educational efforts as well as the surveillance and control of exotic mosquito species are now supported through the OMCC.

Biological Control

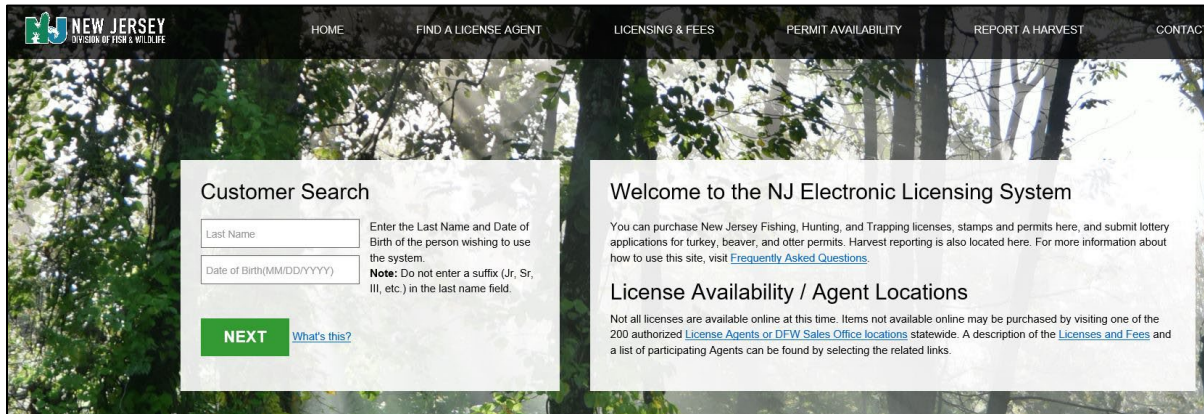
OMCC continued its collaboration with the Division's Bureau of Freshwater Fisheries to supply multiple species of mosquito larva-eating fish to county mosquito control agencies throughout the state. Biological control of mosquito populations is part of the state's Integrated Vector Management Plan and helps limit mosquito larvicide and adulticide use in certain areas. This past season was significantly impacted by COVID-19 when county programs stocked just over 140,000 fish, a considerably lower number than in previous years.

Targeting Mosquitoes from Above

The State Airspray Program experienced a relatively inactive season with 19 state-contracted missions. This program is primarily directed at controlling immature mosquitoes in expansive fresh and saltwater habitats exposed to heavy rains and tidal activity. When conditions warrant, however, special operations directed at adult mosquitoes (especially when the rate of transmission is greatest) are offered to county programs needing assistance. This year, five

county mosquito control programs requested aerial services resulting in the treatment of 20,683 acres.

Office of Business Administration Ginger Kopkash, Assistant Director



The Division's new Electronic Licensing System became operational in FY20. Above is an image of the screen once a customer begins the ordering process.

The Office of Business Administration is responsible for the Division's licensing, accounting, budgeting, purchasing, and billing functions. This office has three primary elements:

- *Licenses and Revenue*
- *Permits*
- *Budget and Procurement*

These three sections work together to provide fiscal services for the entire Division.



The system is powered by Aspira Hunting and Fishing License Software. Supporting the outdoors for more than 30 years, Aspira currently processes 25-percent of all hunting and fishing licenses, tags, permits and stamps sold in the United States.

The chart on the following page illustrates revenue, appropriations, and expenses for FY21.

FY21 DFW ANNUAL REPORT

RESOURCES

General State Fund Appropriation Hunters & Anglers	2,712,000
General State Fund Appropriation Shellfish and Marine Fisheries	3,668,000
General State Fund Appropriation Endangered Species	206,000
Subtotal GSF Appropriations	6,586,000
Hunters & Anglers Licenses/Permits	14,757,070
Lease Revenue	1,226,765
Endangered Species Revenue (License plates and Tax check-off)	357,488
Waterfowl Stamp Revenue	68,798
Miscellaneous Dedicated Account Revenue (Exotics, Sedge Island, Hooked on Fishing, Pump Out)	389,500
Shellfish and Marine Licenses/Permits	575,240
Subtotal Revenues	17,374,861
Federal Salary & Fringe Reimbursements	5,516,137
Federal Operating Funds	5,934,381
Carry-forward funds available from prior years -- Recurring Non-Federal accounts	4,981,966
Funds reserved or reverted by Treasury	(2,963,086)
Non-Federal reimbursements and transfers	465,422
Subtotal Federal & Other funding	13,934,820
TOTAL RESOURCES	37,895,681

EXPENDITURES

Hunters & Anglers Salaries (Includes seasonals, overtime, clothing allowances)	11,830,770
Shellfish and Marine Fisheries Salaries (Includes seasonals, overtime, clothing allowances)	4,344,830
Endangered Species Salaries (Includes seasonals, overtime, clothing allowances)	1,187,939
Hunters & Anglers Fringe Benefit costs assessed by Treasury Office of Management & Budget	7,132,772
Miscellaneous Dedicated Expenditures (Exotics, Sedge Island, Hooked on Fishing, Pump Out)	258,890
Waterfowl Stamp Expenditures	45,531
Hunters & Anglers Operating (equipment, repairs, fuel, utilities, licensing vendor...)	2,350,950
Shellfish and Marine Operating (equipment, repairs, fuel, utilities...)	733,912
ENSP Operating (equipment, repairs, fuel, utilities...)	59,946
Federal Operating Expenditures	5,867,947
DEP Assessments (Deputy Attorney Generals, DEP Division of Information Technology, Office of Administrative Law, Environmental Research Library, Office of Information Technology, Rent, Training Office)	844,238
TOTAL EXPENDITURES	34,657,725
*BALANCE	3,237,956

*Reflected balance includes funds in recurring non-federal accounts dedicated for specific purposes. Information as of 8/16/21.