

ANNUAL REPORT

OHIO DEPARTMENT OF NATURAL RESOURCES



HOCKING HILLS STATE PARK

Department Highlights for Fiscal Year 2017 | July 1, 2016 - June 30, 2017



MESSAGE FROM THE DIRECTOR

OHIO HAS BEEN BLESSED WITH AN ABUNDANCE OF NATURAL RESOURCES, AND HERE AT THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), OUR MISSION IS TO ENSURE A BALANCE BETWEEN THEIR USE AND PROTECTION FOR THE BENEFIT OF EVERY OHIOAN. AS DIRECTOR, I SPEND EACH DAY MAKING SURE THAT OUR STAFF UNDERSTANDS THE RESPONSIBILITY THAT ACCOMPANIES THIS IMPORTANT CHARGE.

Since becoming the ODNR Director in 2011, I have had the pleasure of working with Governor Kasich as Ohio's economy has flourished under his leadership. The oil and gas industry continues to safely explore Ohio's Utica shale providing a needed economic boost to much of eastern Ohio and allowing our state to become a leading producer of affordable natural gas. One of my primary goals has always been to provide Ohioans with oil and gas regulations that allow this important industry to succeed in Ohio, as long as that success does not come at the expense of our environment or the health of our citizens.

Another goal of mine has been to improve our facilities so they are both safe and provide Ohioans with all of the benefits our beautiful state offers. Over the last six years, Governor Kasich and the General Assembly have supported ODNR's efforts to address a long-neglected state-owned infrastructure. Our state park cabins, campgrounds and lodges had gone decades without essential updates and, in many instances, the simple basic maintenance that kept them warm, safe and dry for visitors. Our dams had aged to the point that downstream communities were in danger of being flooded. ODNR raised these concerns, and the Governor and the General Assembly responded to our call for assistance, making an unprecedented investment in Ohio's state park properties and state-owned dams. This commitment to providing Ohioans with safe, updated facilities has led to nearly \$400 million being spent on Ohio's dams and park facilities.

These are capital dollars invested to preserve Ohio's outdoor spaces for future generations, and these dollars will help protect Ohio's downstream communities from potentially catastrophic dam failures. This investment should provide increased safety, security and recreation for decades. However, our job does not end when the contractors are done. We need to commit to maintaining the success of our current efforts, and spend our dollars wisely, not simply to expand upon these projects, but to ensure that they are protected and preserved. With this in mind, we successfully pursued a dedicated funding source for maintenance at our state parks, and this led to the approval of the State Park Maintenance Fund. This new law will require that deposits be made that will be used exclusively for park maintenance. As one of only seven states in the nation where admission to state parks is free, this fund will be vital in providing funding for necessary routine maintenance. This fund will help ensure the preservation of our facilities for their long-term enjoyment for the more than 55 million visitors we have each year.

When Governor Kasich took office, decades of inattention to century-old private and public dams had created deficiencies in Ohio's infrastructure that had to be quickly addressed to help protect communities across the state. Recognizing the urgent need to address this critical threat, ODNR sought funds to rehabilitate its own dams. Governor Kasich and the General Assembly have responded with a \$261 million investment to date that is allowing us to repair and replace dangerous structures to protect recreational users and secure the safety of downstream communities.

ODNR owns 56 Class I dams, many of which were in decades-long need of rehabilitation when this administration began. These dams included structures at Buckeye Lake, Hueston Woods, Portage Lakes, Mt. Gilead and Shawnee state parks, all of which posed a threat to the people living in their flood inundation zones, and all of which have been repaired or are currently being remediated.

Everyone at ODNR is aware of the importance of the services we provide, and we are always grateful for the opportunity to serve. Thank you for reading about our department's accomplishments during the 2017 fiscal year.

A handwritten signature in black ink, reading "Matt Lehinger". The signature is written in a cursive style with a large, stylized initial "M".

OHIO DEPARTMENT OF NATURAL RESOURCES SNAPSHOT

ODNR IS CHARGED WITH REGULATING NATURAL RESOURCE EXTRACTION AND PROMOTING OHIO'S RECREATIONAL OPPORTUNITIES.

Ohio has been blessed with many natural resources, from Lake Erie and our inland lakes to the geological formations filled with natural gas, oil and coal beneath eastern Ohio.

ODNR owns and manages more than 640,000 acres of land including 74 state parks, 21 state forests, 136 state nature preserves and 144

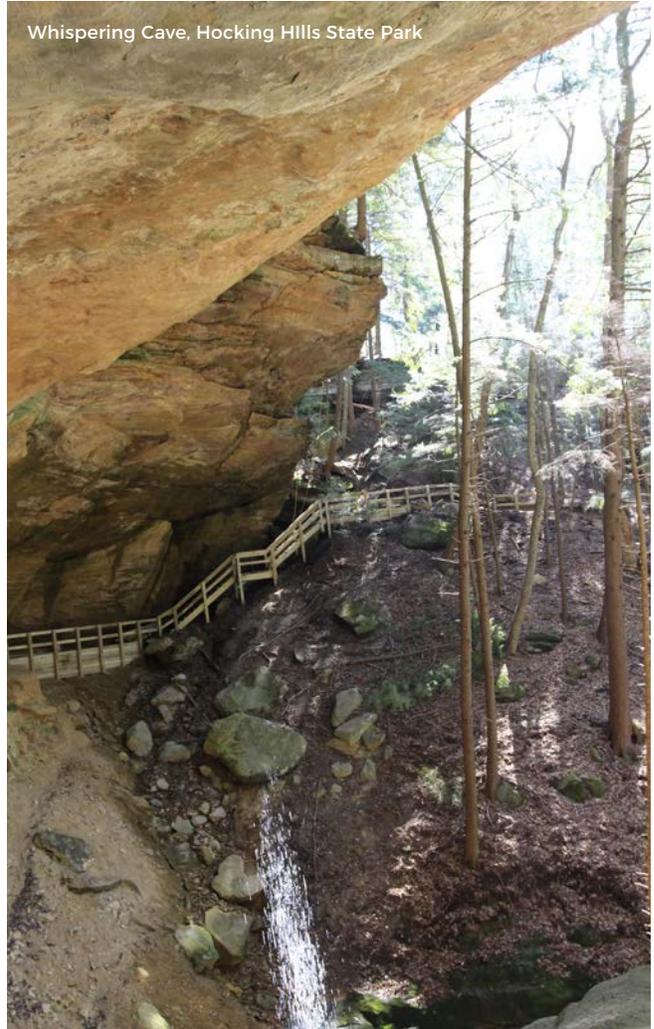


wildlife areas. The department has jurisdiction over more than 61,500 miles of inland rivers and streams, 451 miles of the Ohio River and 2.29 million acres of Lake Erie.

ODNR is responsible for overseeing and permitting all mineral extraction, monitoring dam safety, managing water resources and mapping the state's major geologic structures and mineral resources. In addition, ODNR also oversees the registration of all of Ohio's watercraft and issues all of the state's hunting and fishing licenses.

ODNR has two main focuses, regulating the use of Ohio's vast reserve of natural resources while providing all of our visitors with the recreational opportunities that these resources provide. It is ODNR's job to continually protect Ohio's natural resources for long-term sustainability and enjoyment for all Ohioans. ■

Whispering Cave, Hocking Hills State Park



AGENCY HIGHLIGHT

2017 SAW THE FIRST NEW TRAIL OPENED AT HOCKING HILLS STATE PARK IN MORE THAN 50 YEARS.

The Hemlock Bridge Trail passes Whispering Cave and connects with the gorge trail to Old Man's Cave and Cedar Falls. Whispering Cave Trail is a spur off of the Hemlock Bridge Trail.

A new trail was cleared and opened at Hocking Hills State Park to much fanfare. This beautiful park continues to draw visitors and media attention from all over the world, and this added hike will offer them yet another scenic adventure in the Hocking Hills region.



DIVISION OF FORESTRY

THE ODNR DIVISION OF FORESTRY WORKED HARD IN FY 2017 TO ENSURE THAT EACH OF ITS PROGRAMS WAS IMPLEMENTED IN AN EFFECTIVE AND EFFICIENT MANNER.

The division's work is important ecologically, and it also complements an industry that harvests, processes and manufactures wood into paper, furniture and other wood products, while employing more than 118,000 Ohioans and contributing \$22 billion to the state's economy.

The ODNR Division of Forestry operates and maintains Ohio's 21 state forests, encompassing more than 200,000 acres. Ohio's state forests offer visitors more than 350 miles of back-country bridle trails, more than 80 miles of backpack trails, many day-use hiking and mountain biking trails, as well as camping, hunting, wildlife viewing and gathering places. Four designated all-purpose vehicle (APV) areas on state forest land are open for off-road all-terrain vehicle and motorcycle riding.

ODNR obtained independent review and recertification for all 21 state forests managed by the ODNR Division of Forestry after the annual surveillance audits. During 2017, state forests continued to be certified as well-managed based on meeting the standards of the Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI). The 21 state forests are the only dual-certified forests in the entire state of Ohio.

Additionally, in FY 2017, the ODNR Division of Forestry distributed more than \$2 million from state forest timber sales to 16 rural Ohio school districts and their corresponding counties and townships. Since the Trees to Textbooks Program started in 1999, more than \$27.2 million has been distributed to Ohio school districts and local governments.

The ODNR Division of Forestry administers a forest fire protection area of more than 8.6 million acres in southern and eastern Ohio. In FY 2017, 338 wildfires were reported and burned 1,482 acres, less than the average amount, mostly due to weather. However, the division recorded the largest wildfire in the fire protection area since 2009, when in April a 400-acre wildfire burned in the Shawnee Wilderness Area. The incident was mostly contained within one day, but it required a week of active suppression, due to the remote location and large amount of heavy fuels. The division also supported the national wildfire effort by sending 67 firefighters to 12 different wildfire incidents in the western United States from July through September 2016. This support consisted of three 20-person hand crews and various single resources. This was followed by a fall season in the southeast, one of the worst in recent memory for the southern Appalachian region. The division supported wildfire suppression in Alabama, North Carolina and Tennessee by dispatching two wildfire engines and various single resources. Sixteen firefighters



were dispatched to eight different incidents, including the devastating fire complex in Gatlinburg, Tennessee. To help fight wildfires here at home and protect Ohioans, the division trained more than 500 firefighters, mostly from volunteer departments, and distributed \$41,880 to departments for wildfire reporting and suppression efforts. Utilizing the Volunteer Fire Assistance grant program, the division awarded 31 rural fire departments with wildland fire protective equipment and tools. Additionally, the ODNR Division of Forestry awarded more than \$216,000 in federal grant funds for the purchase of wild fire suppression supplies and equipment.

The division used capital funding to purchase six large trucks and utilized Ohio Department of Rehabilitation and Correction labor to convert them to dozer transports. This was the first transport fleet upgrade since 2001 and augments the dozer purchase made the previous fiscal year. In addition to these purchases, capital funds were used to purchase two trucks to be used for hauling logs, as well as two tractor and mower packages for roadside maintenance. To upgrade facilities, capital funds were used to replace the mill shed building at Scioto Trail State Forest and perform roof repairs on the District 5 Office in Chillicothe.

The ODNR Division of Forestry's Service Forestry program is the primary source of forestry assistance for private woodland owners in the state. In FY 2017, the division's 19 service foresters provided one-on-one assistance to 1,979 Ohio landowners, helping them prepare for timber sales, create habitat for forest wildlife, plant trees for future forests and better understand the many benefits that their forests provide. Service foresters also assist landowners by developing woodland stewardship management plans, which include descriptions and maps of their woodlands, as well as recommendations and timelines for their woodland management activities. In FY 2017, service foresters wrote 352 plans covering 26,921 acres of forest land, bringing the total area of private woodlands in Ohio under stewardship plans to 303,104 acres. In addition, 6,881 people received woodland management advice at workshops, field days and other group educational events.

In FY 2017, the ODNR Division of Forestry's Urban Forestry program awarded more than \$200,000 in pass-through funds to four communities for tree canopy analysis and tree planting. The division facilitated the communities' receipt of funds from the U.S. Forest Service's Landscape Scale Restoration competitive grant process. The projects will help reduce storm water run-off in the Muskingum River Watershed and allow these communities to plan strategic, focused management activities that achieve broader sustainability goals.

The division's urban foresters also continued to provide formal training for Ohio Tree Commissions and municipal staff through the national award-winning Tree Commission Academy (TCA). TCA embodies the "teach people to fish" philosophy by empowering communities to build sustainable urban forestry programs from within. In FY 2017, the urban foresters conducted 36 TCA classes for 115 students from 57 communities. Since the inception of the academy in 2009, more than 1,000 citizens from at least 250 different communities have registered for the program, impacting more than 4.6 million Ohioans.

The ODNR Division of Forestry's Forest Health Program conducts surveys and suppression activities for various forest health threats, including Asian longhorned beetle, hemlock woolly adelgid, emerald ash borer and non-native, invasive plants. Hemlock woolly adelgid was discovered in one new location in Shawnee State Forest in 2017, and now it is known to be present in eight southern Ohio counties. Infestations discovered on state land are being actively managed using chemical and biological controls. The ODNR Division of Forestry is working collaboratively with other ODNR divisions, the Ohio Department of Agriculture, Ohio State University Extension, The Nature Conservancy and other groups to detect and manage this important forest pest. ■



DIVISION OF NATURAL AREAS AND PRESERVES

OHIO'S 136 STATE NATURE PRESERVES PROTECT THE INCREDIBLE DIVERSITY OF OHIO'S NATURAL WORLD AND PROVIDE SANCTUARY FOR MORE THAN 40 PERCENT OF OHIO'S ENDANGERED SPECIES AND 58 PERCENT OF OHIO'S STATE THREATENED SPECIES. STATE NATURE PRESERVES ALSO PROTECT 83 PERCENT OF THE FEDERALLY LISTED PLANT SPECIES FOUND IN OHIO. WITH A MAJORITY OF THESE SITES OPEN DAILY TO THE PUBLIC, OHIOANS HAVE THE OPPORTUNITY TO GET UP CLOSE AND PERSONAL WITH OHIO'S RAREST NATURE.

Ohio's Income Tax Donation Program supports improved hiking trails, upgraded educational signage and allows for greater public access to the greatest natural wonders available in Ohio. Additionally, these donations are critical for the division's ecological management activities, including efforts to remove non-native and invasive species, which pose a serious and ever-growing threat to sensitive habitats and endangered species. In statewide efforts, more than 25 different species of invasive plants have been controlled with a variety of treatment measures covering about 1,900 acres statewide with more than 4,000 hours of staff and volunteer labor.

The ODNR Division of Natural Areas and Preserves completed protection through conservation easement of the 76-acre Thompson tract in Logan County, which contains mature woods and numerous category 3 wetlands. Another recorded easement is the 46-acre Andreas tract in Hocking County owned by Crane Hollow Inc. and adjacent to an existing conservation easement held by the division, which protects the federally listed small whorled pogonia. This new tract contains mature hardwoods and significant geologic formations.

Using capital improvement funds, the division has contracted for and work has begun on a nearly 600-foot Americans with Disabilities Act (ADA) compliant boardwalk at Headlands Dunes State Nature Preserve. Once completed, the new boardwalk will allow all visitors to view the amazing sand dune community and Lake Erie coastline.

Additionally, Ohio Department of Transportation (ODOT) funds were utilized to improve the gravel parking area at Lawrence Woods State Nature Preserve. The gravel lot was paved so that visitors with limited mobility may now more easily get to the accessible boardwalk trail. ODOT funds were also used to improve several existing parking lots and roadways.

Nature education continues to be a priority for state nature preserves. The division continues to offer numerous programs for the general public as well as specialized programs for school and community groups. The division also partnered with the ODNR Division of Wildlife on a new spring wildflower guide, and the division also published an updated Guide to Ohio State Nature Preserves. ■



Alum Creek State Park

A.W. Marion State Park

Caesar Creek State Park

DIVISION OF PARKS AND WATERCRAFT

THE ODNR DIVISION OF PARKS AND WATERCRAFT IS PROUD TO BE ONE OF ONLY SEVEN STATES IN THE NATION TO OFFER FREE ADMISSION AND PARKING TO ALL **74** OF OUR STATE PARKS. OHIO'S STATE PARKS PROVIDE MORE THAN **1,000** MILES OF WOODLAND TRAILS AND **64** LAKES WHERE VISITORS CAN FISH, SWIM, BIKE, HUNT, BOAT, HIKE OR SIMPLY SPEND TIME OUTDOORS.

Parks and Watercraft staff and volunteers are charged with maintaining and managing more than 174,000 acres of park lands and waters for the enjoyment of our visitors, and there are state parks in 59 of Ohio's 88 counties. Last year collectively, Ohio State Park campgrounds, cabins and lodges received a total of 2.4 million overnight visits. By continuing to improve our state parks system, we have the opportunity to showcase our facilities and draw more tourism dollars into Ohio.

Ohio State Parks has received more than \$126.5 million for capital improvements in Governor John R. Kasich's last two capital budgets. This historic investment has allowed work to be done that is making our Ohio State Park properties more inviting for Ohioans and travelers from across the globe. These funds and the work they have made possible are paying dividends as overnight visitation at Ohio state park facilities have increased by more than 13 percent in the first half of 2017.

Ohio State Parks has spent three years designing, modernizing, repairing and refurbishing various facilities throughout the state park system. The work was prioritized for public safety, necessity to maintain operation, condition of facility and visitor feedback received via an online survey. The past year has been spent finishing the identified projects and unveiling them for public use. ODNR continues to receive positive reviews on the steps we are taking to improve our facilities, as well as additional requests from the public for other projects and improvements. The full list of projects is maintained, and progress tracked, at parks.ohiodnr.gov/improvementprojects.

Parks and Watercraft staff work with local, state and federal agencies, along with conservancy districts, to provide funding assistance through the Waterways Safety Fund for recreational boating public access projects statewide.

This work enables Ohio boaters to enjoy free parking and boat launch facilities at hundreds of public sites statewide, including most of Ohio's state parks. Senate Bill 293, which passed in the beginning of 2016, combined the divisions of Watercraft and Parks and Recreation, and it has enhanced efforts to maintain access points for boaters statewide, allowing Ohioans easier access to boating, paddling and fishing opportunities across the state.

For the eighth consecutive year, Ohio is in the top 10 states for the number of registered boats. In 2016, Ohio registered 505,524 recreational boats and commercial vessels, an increase of 30,923.

Paddlesports continue to rapidly gain popularity in Ohio, with total registrations reaching 190,752 canoes and kayaks. This compares to 75,801 such vessels registered in the state 10 years ago and marks an increase of 29,885 from just last year.

In FY 2017, the ODNR Division of Parks and Watercraft returned more than \$15,231,894 to the boaters and boating communities in the form of grants for boating safety education, marine patrol, dredging and facility development or improvements. Watercraft staff offered a number of programs to help encourage growth in



boating, fishing, hunting and other outdoor recreational activities around the state. Many of these programs were offered in partnership with Ohio State Parks, the ODNR Division of Wildlife and other boating partners. These opportunities allow Ohioans to enjoy and experience new water sport activities. Through events and programs like Paddle Palooza, Paddle Ohio and Ohio Women's Outdoor Adventures, ODNR staff are able to introduce paddlesports and other water activities to individuals and groups across the state.

By offering additional opportunities for people to experience and enjoy Ohio's waterways in a safe, educational setting, the division hopes to increase participation in water sports while increasing safety on and around the water. ■

Middle Bass Island State Park



IMPROVEMENT PROJECTS

A number of projects have been unveiled for visitor enjoyment over the past year. Most recently, in June of 2017, the historic Lonz Winery property on Middle Bass Island was reopened to visitors after the completion of a \$6 million restoration project. While the original structure could not be saved, the more than 150-year-old wine cellars were preserved, along with the picturesque façade and tower that had long welcomed boaters to the island.

New marinas were also opened by the ODNR Division of Parks and Watercraft at Caesar Creek State Park and Alum Creek State Park so Ohio boaters can expect more updated and improved amenities when they come to these facilities. These projects are just a few of the investments that have been made to improve the experience of every Ohio State Park visitor, but they also serve to improve the amenities these communities can use to attract additional tourists to their region.



DIVISION OF WILDLIFE

OHIO OFFERS WORLD-CLASS OPPORTUNITIES FOR FISHING, HUNTING, TRAPPING, BIRD WATCHING, WILDLIFE VIEWING AND OTHER FORMS OF FISH AND WILDLIFE RECREATION IN **144** STATE WILDLIFE AREAS, ENCOMPASSING **195,000** ACRES OF PUBLIC LAND.

The ODNR Division of Wildlife manages these lands and helps Ohio landowners conserve and improve fish and wildlife resources and their habitats. The division also manages Ohio's fisheries, which cover 124,000 acres of inland water, 7,000 miles of streams, 2.29 million acres of Lake Erie and 451 miles of the Ohio River.

Fish and wildlife management and research consists of projects that affect fish and wildlife populations, their habitats and the Ohioans that benefit from a healthy, wild landscape. Projects include population and habitat management,

fish and wildlife resource research, as well as fish and wildlife recreation promotion. The ODNR Division of Wildlife offers a variety of educational programs to increase the skills, knowledge and participation of those interested in wildlife.

Lake Erie offers excellent fishing opportunities for walleye, yellow perch and smallmouth bass. Angler success rates for walleye were among the highest ever. Lake Erie had good hatches for both walleye and yellow perch, and the future continues to be bright for Ohio sport fishing.

NEW LICENSES SYSTEM GOES INTO EFFECT

Ohio's new online licensing system went live at the end of February 2017. The new Ohio Wildlife Licensing System (OWLS) replaces the previous online system, which had been in use since 2009. The new system, built by Sovereign Sportsman Solutions LLC, is more economical, user-friendly and considerably more powerful than the system it replaced.

LAKE ERIE PERCID MANAGEMENT ADVISORY GROUP MODEL CONTINUES TO PAY DIVIDENDS

The Lake Erie Percid Management Advisory Group (LEPMAG), a stakeholder-based structured decision process, is continuing work to guide harvest policy of yellow perch on Lake Erie. LEPMAG formed in 2011 to guide harvest control rules for walleye, which are an important commercial fishery in Canada and important sport fisheries in Michigan, Ohio, Pennsylvania and New York, states that do not allow commercial walleye fisheries. With the completion of the walleye component of this effort, work began more than two years ago to continue the LEPMAG efforts and guide policy and harvest strategies for yellow perch fisheries. The yellow perch process is entering its third year, and similar to the walleye process, it is facilitated by Mike Jones of the Michigan State University Quantitative Fisheries Center and supported by the Great Lakes Fisheries Commission. Ohio's positive experience with the LEPMAG process has encouraged the ODNR Division of Wildlife to initiate a Structured Decision Making (SDM) approach for incorporating stakeholder interests in a 10-year white-tailed



DEER STAKEHOLDERS GROUP BEGINS WORK ON 10-YEAR SCIENCE-BASED DEER MANAGEMENT PLAN

Ohio continues to be nationally recognized for exceptional deer hunting - providing good hunter success rates, high-scoring bucks and a diversity of opportunities. Effectively managing these hunting opportunities is a challenge, which requires the best possible understanding of the varied views, opinions and interests among sportsmen and landowners, in addition to science-based management. The ODNR Division of Wildlife is preparing for the future of deer management by developing a Deer Management Plan, which involves substantial contributions from stakeholder organizations. The purpose of the plan is to provide a 10-year framework for managing huntable deer populations based on historical perspectives, stakeholder interests and science-based management.

The stakeholder group included representatives from the following:

- Ohio Conservation Federation
- Ohio Bowhunters Association
- Ohio Outdoor Writers Association
- Whitetails Unlimited
- Quality Deer Management Association
- Ohio Farm Bureau Federation
- Buckeye Big Bucks Club
- Buckeye Firearms Association
- Social Media
- League of Ohio Sportsmen
- Ohio Forestry Association
- The Nature Conservancy
- The Ohio State University
- Ohio Farmers Union
- Ohio General Assembly
- Ohio Wildlife Council
- Ohio Department of Agriculture
- Private Forestry Consultant
- Whitetail Deer Farmers of Ohio

OHIO POLLINATOR HABITAT INITIATIVE

In response to the Monarch listing petition, the Ohio Pollinator Habitat Initiative (OPHI) was formed. This partnership includes the ODNR Division of Wildlife, U.S. Fish and Wildlife Service, the Ohio Department of Transportation (ODOT), The Ohio State University - Extension, Ohio Department of Agriculture, U.S. Department of Agriculture (USDA) Farm Service Agency, Pheasants Forever/Quail Forever and many other conservation organizations across the state.

In partnership with the Ohio Pollinator Habitat Initiative (OPHI):

- The first Pollinator/Monarch Symposium was held in Columbus to raise awareness of the plight of these species. More than 350 people attended.
- A statewide milkweed pod collection was conducted. ODNR Division of Wildlife had several private lands biologists who were instrumental in the transportation of pods from county soil and water

conservation districts (SWCDs) to various prisons across the state for pod and seed processing. More than 2,500 gallons of pods were collected.

- In cooperation with ODOT, a “how-to” manual was developed for establishing roadside pollinator and monarch habitat.
- Work began to develop monarch/pollinator habitat with non-traditional partners such as ODOT, American Electric Power (AEP), First Energy, golf courses, county and state parks and Marathon Petroleum.
- ODNR Division of Wildlife private lands biologists, working in cooperation with USDA’s Farm Services Agency, will implement and assist landowners enrolling in the new Conservation Reserve Program (CRP) Pollinator/Monarch State Acres For Wildlife Enhancement (SAFE) program. This SAFE project covers 43 Ohio counties with an enrollment allotment of 30,000 acres of habitat for pollinators and the monarch butterfly.

ORPHAN WILDLIFE PROGRAM – BORN WILD, STAY WILD CAMPAIGN

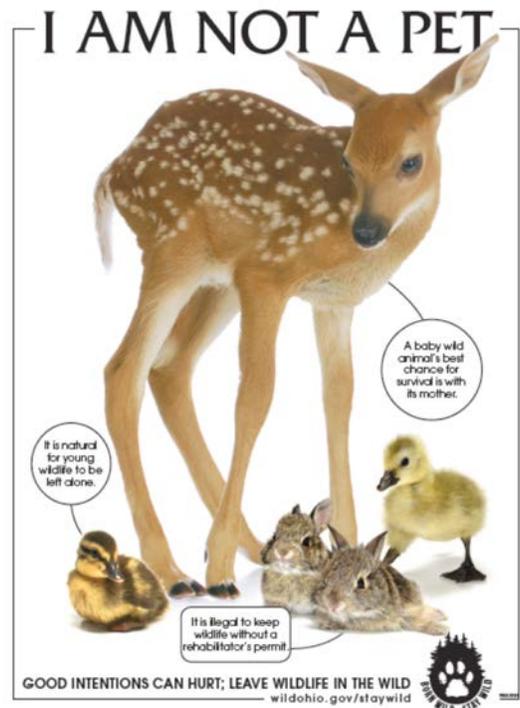
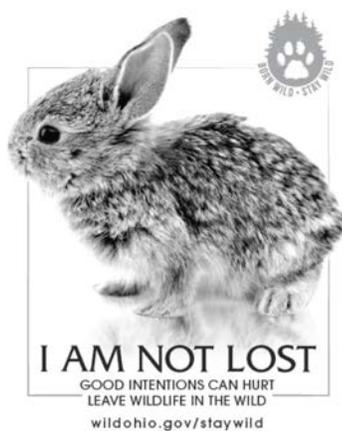
The ODNR Division of Wildlife staff are spending an increasing amount of time dealing with situations involving animals taken from the wild. These situations often do not end well, and social media has allowed some situations to elevate animals to “celebrity” status.

This program’s purpose is to establish an agency-wide plan to be proactive.

Key components in the development of this program were to research other state/organization programs, identify key messages, identify target demographics and ultimately identify how best to communicate and connect with public.

Campaign messages were distributed through expanded content on our website, increased use of social media, special publications, newspaper ads, posters and displays at public events.

Some of the messaging included the following images:





LAST YEAR OF WHITETAIL DISEASE SURVEILLANCE AREA (DSA)

A chronic wasting disease (CWD) positive deer detected in a captive herd in Holmes County, Ohio, in 2015 resulted in the ODNR Division of Wildlife implementing a disease surveillance area (DSA) in 11 townships surrounding the facility where the CWD positive was detected. All deer harvested during the gun and muzzleloader seasons from within the DSA had to be taken to inspection stations for CWD sampling. The DSA remains in place for three consecutive years, assuming no additional CWD positive deer are found. With two years of no positive detects behind us, the 2017 deer hunting season will be the final year of the DSA in place. Compliance (harvested deer brought to inspection stations) during the first year was 60 percent, but dropped to 30 percent in the second year.

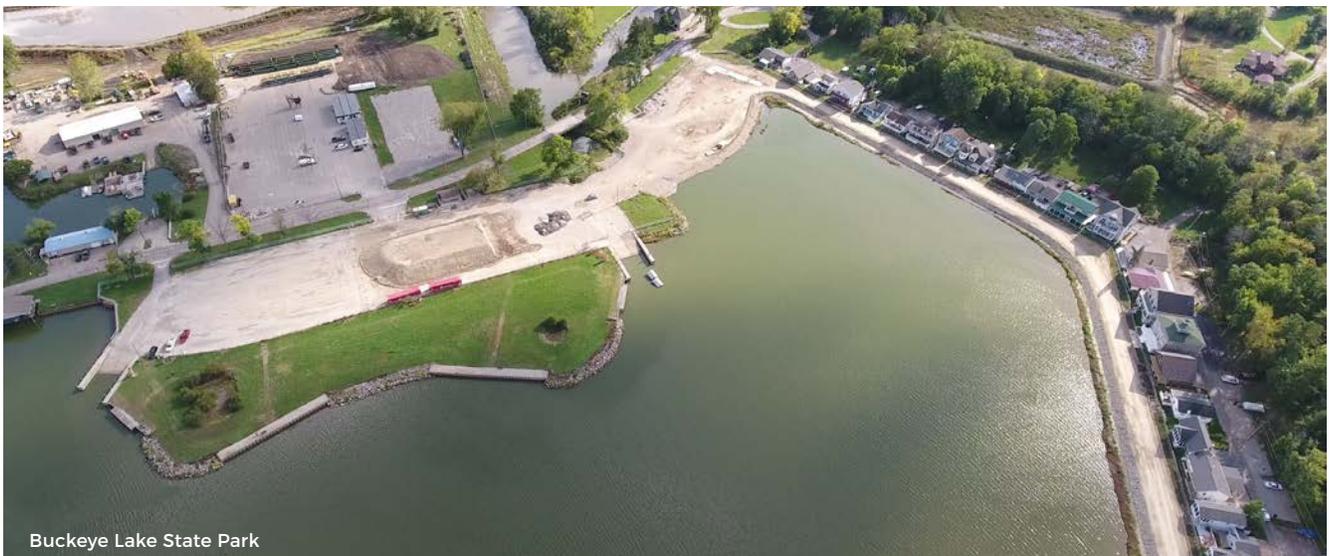


DIVISION OF ENGINEERING

PART OF ODNR'S MISSION, REGARDING ITS OWNERSHIP, INSPECTION AND MAINTENANCE OF 177 STATE-OWNED DAMS, IS TO SAFEGUARD THE PUBLIC BY ENSURING THAT OUR DAMS DO NOT POSE AN UNACCEPTABLE RISK TO PUBLIC SAFETY. OUR PRIORITIES ARE TO ENSURE THESE STRUCTURES (INCLUDING 56 CLASS I HIGH-HAZARD POTENTIAL DAMS) ARE PROPERLY OPERATED AND MAINTAINED, THAT THEY MEET DAM SAFETY REQUIREMENTS AND THAT RISK REDUCTION MEASURES ARE TAKEN AS NECESSARY.

Among the accomplishments for this division during FY 2017:

- Finalizing dam safety improvements at Lake White; near final completion of adjacent roadway improvements in a joint project with ODOT.
- Completion of dam improvements at Long Lake; final design and Notice To Proceed issued for construction of dam improvements at East Reservoir in Portage Lakes State Park.
- Notice To Proceed issued for construction of dam improvements at Cutler Lake (Blue Rock State Park); ongoing dam improvement projects with completions scheduled for FY 2018 include Mt. Gilead, Lake Loramie and Indian Lake.
- Phase 2 construction starting at Buckeye Lake Dam for installation of permanent risk reduction measures, which include a new dam structure.
- Planning and design in process for improvements to the historic wooden lock and dam system along the Muskingum River, and additional Class I dams, including North Reservoir at Portage Lakes State Park, Lake Logan, Hargus Lake and Lake Milton.
- Other related risk reduction measures in which the division has a significant role include providing outreach to community first responders and emergency management agencies with regard to distribution and use of newly revised Emergency Action Plans (EAP) for state-owned Class I dams. It also includes providing essential dam emergency response training to key ODNR staff. ■





DIVISION OF GEOLOGICAL SURVEY

FIRST ESTABLISHED BY THE STATE LEGISLATURE IN 1837, THE ODNR DIVISION OF GEOLOGICAL SURVEY IS THE OLDEST NATURAL RESOURCES AGENCY IN OHIO.

Since its inception, the Geological Survey has researched and reported on the state's geology. More than 175 years of information and data on the state's energy, water and mineral resources have been gathered to the benefit of industry, academics, planners, private citizens and local, state and federal governments so they may wisely manage Ohio's abundant Earth resources.

The Geological Survey's mission—to provide geological information for the responsible use of Ohio's natural resources—is accomplished by data collection, analyses, mapping and publication of scientific investigations. The division staff consists mostly of geologists with various specializations and expertise, including glacial deposits, industrial minerals, oil and gas, seismicity, paleontology and the Lake Erie coast. These specialists

rely on an array of tools to fulfill the division's mission, including geophysical logs, seismic data, geographic and spatial information, mineral production data, drill-hole cores and a range of other data types.

The ODNR Division of Geological Survey has conducted detailed surficial mapping for more than 20 years, and approximately 70 percent of the state has been completed. In January 2017, the mapping group implemented a five-year plan to complete the remaining unmapped areas of the state. The project will produce a seamless geographic information system (GIS) based, statewide surficial map and a set of derivative maps showing potentially mineable sand and gravel, limestone, dolomite and sandstone resources. This plan is supplemented by surficial mapping funded through the United States Geological Survey (USGS) State Map program and Great Lakes Geologic Mapping Coalition (GLGMC).

The GLGMC funded surficial and karst mapping projects, which resulted in Open-File Report 2016-4: Karst of the Belfast and Sugar Tree Ridge 7.5-Minute Quadrangles, Ohio. In addition, the division published detailed surficial maps depicting the surficial geology, bedrock topography, drift thickness and digital elevation model for the Chillicothe East 7.5-minute quadrangle in central Ohio. Current GLGMC-funded projects include mapping karst features in the Sinking Spring quadrangle in southern Ohio, completing a statewide study on the geomorphology of sinkhole regions in Ohio, and surficial mapping for five 7.5-minute quadrangles in central Ohio.

The ODNR Division of Geological Survey is also conducting a coal resource study funded by a grant from the Ohio Coal Development Office. For this project, maps and coal resource estimations are being created for the Lower Kittanning (No. 5) and Middle Kittanning (No. 6) coals in eastern Ohio.

As part of its continuing commitment to Ohio's resources, the Geological Survey completed its 2015 Report on Ohio Mineral Industries, which is an annual summary of all mineral production in Ohio. This information is used by industry, local, state and federal government for analyses and planning. Currently, the group is compiling data for the 2016 Report on Ohio Mineral Industries.

The Lake Erie Group of the Geological Survey prepared an update to the ongoing Coastal Erosion Area (CEA) map initiative, with new maps and erosion data generated from aerial imagery and Light Detection and Ranging (LiDAR) data obtained in 2015. This is the third round of mapping conducted since the program's inception in the 1990s. Although still in preliminary draft form, the latest maps indicate that when compared to the first maps released two decades ago, erosion affects a smaller portion of the Ohio coast. This is likely a result of continuing land development and shore protection—although the loss of land continues to plague portions of the coasts of Lake and Ashtabula counties. The public release of the maps is anticipated for summer 2017. Following a period of comments and possible revisions, the maps will be finalized in 2018.

The Ohio Seismic Network (OhioSeis) has expanded its network of seismometers in exceptionally remote, quiet locations in Henry, Scioto, Lake and Champaign counties. Additional such installations are planned for 2017 and 2018, along with power upgrades to the existing stations. OhioSeis also has benefitted from the addition of four other seismometers and their real-time data feeds from Miami University. OhioSeis participated in the highly publicized and successful “Fan Quakes” project that instrumented Ohio Stadium with seismometers to record fan-generated ground shaking. Staff also acquired two new instruments to measure depth to bedrock for mapping geologic hazards in the Anna Seismic Zone.



The groundwater section, once located within the ODNR Division of Water Resources, merged with the Division of Geological Survey in May 2017. As a result of this merger, the division will answer public service requests, maintain the water well database and the water well observation network, as well as produce monthly water inventory reports.

The information published by the ODNR Division of Geological Survey is used by state and federal regulators, industry, consultants and the general public to foster wise use of Ohio's natural resources. In recent years, public outreach efforts have expanded significantly in an effort to convey this information to stakeholders. The division regularly makes presentations to local schools, hosts workshops, participates in rock and mineral shows, offers open houses at its core repository and sponsors events to promote the national Earth Science Week each October. ■



Active Industrial Minerals Mining



Restored Mine Lands, Perry State Forest

DIVISION OF MINERAL RESOURCES MANAGEMENT

THE ODNR DIVISION OF MINERAL RESOURCES MANAGEMENT PROVIDES FOR THE SAFE AND ENVIRONMENTALLY SOUND DEVELOPMENT AND RESTORATION OF COAL AND INDUSTRIAL MINERALS EXTRACTION SITES. MULTIPLE PROGRAMS ADDRESS THE ENVIRONMENTAL AND SAFETY ASPECTS RELATED TO COAL AND INDUSTRIAL MINERALS MINING.

Program and support services include permitting, hydrology, bonding, inspection and enforcement, abandoned mine land, engineering and design services, mine safety, data and records management, geographic information system (GIS) and central services support. Expertise is provided by a professional and seasoned staff of geologists, environmental specialists, engineers, blasting specialists, soil scientists, hydrologists, archaeologists, hydrogeologists, inspectors, GIS and program managers. Division staff works diligently to maintain a high standard of regulatory effectiveness.

INDUSTRIAL MINERALS (IM) PERMITTING AND REGULATORY PROGRAM

Ohio is a major producer of non-fuel minerals, also known as industrial minerals. There are currently 610 permitted sites located in all 88 counties of Ohio. More than 112 million tons of non-fuel industrial minerals were estimated to have been mined in FY 2016 throughout the state.

Industrial minerals produced in Ohio, listed in order of minerals and highest estimated tonnages produced include:

- limestone and dolomite (66,476,000 tons)
- sandstone and conglomerate (1,910,300 T)
- sand and gravel (37,501,900 T)
- clay (1,055,700 T)
- salt (4,530,705 T)
- shale (1,041,300 T)

During the year, the division issued nine new IM and 18 amendments to existing permits. Staff reviewed and approved 130 modifications to permits. Staff also responded to 36 formal complaints regarding mining operations during the year. Mineral resource inspectors conducted more than 1,866 inspections on IM mine sites.

ABANDONED MINE LAND (AML) PROGRAM

The AML staff's work resulted in the following accomplishments:

- Reclamation of 11,703 feet of dangerous highwalls (more than double from the previous year)
- Stabilization of 3.6 acres of landslides and seepage
- Sealing of six mine portals and vertical openings
- Stabilized 27 mine subsidence sinkholes
- Contracted 49 projects
- Designed and began work on \$7.9 million in projects and completed \$5.5 million in final reclamation.

REMINING

The division recognizes there are thousands of acres of abandoned mined lands in need of reclamation that still contain valuable coal resources. With advancements in mining technologies and numerous recent federal and state incentives for active coal remining, the division worked with the industry as well as state and federal partners during 2016 to encourage coal remining permits. During 2016, the division successfully approved and issued four new adjacent area permits for remining of previously disturbed areas, which included elimination of 406 acres of pre-law water-filled pit impoundments and mine spoils, as well as 22,684 linear feet of dangerous unreclaimed highwalls. This adds to the long list of permits where pre-law mining sites in Ohio are being reclaimed by the mining industry through remining, making nearly unusable land productive again.

MINE SAFETY PROGRAM

Division Surface Mine Safety Inspectors trained 5,523 miners in Annual Refresher Training (ART), first aid and CPR as required by provisions of the Mine Act. During the year, Mine Rescue Operations Coordinators also trained 983 miners in mine rescue, and inspection staff trained 45 miners in electrical ART. In 2016, mine safety certification staff conducted examinations for miners seeking required certifications for work in key mining positions in Ohio's underground and surface mines. This includes the certifications of mine foremen, coal mine electricians and mine medical responders. Of those examined, 139 earned certification.



Cadiz, OH. Mine Safety Training Center

COAL PERMITTING AND REGULATORY PROGRAM

During the past year, permitting staff issued four new mining permits, five adjacent area permits and one exploration permit authorizing coal mining activities on 5,016 acres (1,442 surface acres and

3,541 underground acres, as well as 33 acres for exploration). The program also processed a total of 209 releases of performance security on coal mining operations for partial reclamation and complete reclamation releases on 9,036 acres, as well as excess bond releases where performance security exceeded the outstanding liability.

During the past year, Coal Mineral Resource Inspectors:

- Conducted 2,237 coal mining operation inspections
- Responded to 21 public complaints on coal mining operations
- Conducted 213 bond release inspections recommending approval on 195 reclamation segments totaling 8,997 acres
- Conducted five inspection releases on 40 acres re-affected by other regulated activities. ■



OFFICE OF LAW ENFORCEMENT

The ODNR Office of Law Enforcement, along with officers from the ODNR divisions of Wildlife and Parks and Watercraft, were honored to participate in the security of the Republican National Convention in Cleveland. With impeccable planning and detailed implementation, the week-long assignment was a true success.

The ODNR Office of Law Enforcement achieved Final Certification, on behalf of the department, from the Ohio Collaborative Community Police Advisory Board. The Ohio Collaborative is a 12-person panel of law enforcement experts and community leaders who establish state law enforcement standards. These new standards, including use of force and agency hiring practices, will hold everyone accountable and instill a greater confidence with the public.

The ODNR Office of Law Enforcement has launched an agency-wide training program on the awareness of opioid abuse. This program is designed to raise awareness of opiate and heroin addiction by better preparing employees to recognize and deal with heroin and opiate addiction at home and in the workplace. The ODNR Office of Law Enforcement is also continuing its training on active threat response, which has been met with great success since its inception.

DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

The ODNR Division of Oil and Gas Resources Management regulates Ohio's oil and natural gas industry by protecting Ohioans and our environment while ensuring that the state's natural resources are managed properly. The division oversees a number of aspects of the oil and natural gas industry: well pad construction, permitting, drilling, completion and production of oil and natural gas; the disposal of produced fluids and brine; and the plugging of wells and reclamation of well sites after production ends.

PRODUCTION AND PERMITTING

The Utica/Point Pleasant shale play continued to produce record volumes of oil and natural gas in FY 2017. Horizontal shale wells totaled 18,015,346 barrels of oil and 1,388,656,313 Mcf of natural gas. Ohio law does not require the separate reporting of Natural Gas Liquids (NGLs). Operators of horizontal wells submit production reports on a quarterly basis:

	2016 Q1	2016 Q2	2016 Q3	2016 Q4	Total
Barrels of oil	5,485,854	4,878,409	4,045,898	3,605,185	18,015,346
Mcf of natural gas	329,537,838	334,431,020	361,184,697	363,502,758	1,388,656,313

Natural gas production in 2016 exceeded production in 2015 as natural gas production grew by 45 percent while oil production decreased by 18 percent. Natural gas production in Ohio exceeds the state's consumptive demand, as estimated by the federal Energy Information Agency, providing an efficient source for home heating, electric generation and manufacturing feedstock.

	2015 (Shale)	2016 (Shale)	Percentage Change
Barrels of oil	21,985,351	18,015,346	(18.06%)
Mcf of natural gas	954,748,118	1,388,656,313	45.45%

At the end of 2016, a total of 2,385 horizontal shale wells targeting the Utica/Point Pleasant or Marcellus shale formations were permitted, with 1,908 wells drilled and 1,493 wells capable of production. An additional 40,000 conventional wells also produce oil and natural gas across nearly every county in the state.

DIVISION ACTIVITIES

The advent of shale resource development in Ohio necessitated the addition and expansion of several division programs to address emerging issues and the increased scope and scale of new oilfield technology.

The division's "One-Call" incident notification was enacted first by Executive Order on Aug. 9, 2016, and then by final administrative rules on Dec. 9, 2016. The One-Call emergency notification system requires oil and gas operators to notify the division when reportable oilfield incidents occur. The reporting of oilfield incidents allows the division's Emergency Operations and Response section to quickly dispatch specialized responders to assist local first responders and coordinate state resources, expediting mitigation measures to protect Ohioans and the environment.

Horizontal well drilling continues as the predominant method of oil and gas exploration and production. Ninety-nine horizontal well pads were permitted under the division's rules for these large-scale operations for calendar year 2016. Additionally, facilities that treat, store or otherwise handle oilfield wastes are reviewed and inspected by the division's engineers. The emerging issue of radiological safety associated with naturally occurring and technologically enhanced naturally occurring radioactive material in oilfield wastes, was addressed by the creation of a Radiation Safety section to facilitate the protection of human health and safety and the environment.

Created in response to induced seismicity issues associated with brine disposal and hydraulic fracturing, the division's seismic monitoring program has become a national model that addresses these rare events. The OhioNet seismic network includes 21 division-owned portable seismographs and accesses more than 60 seismographs to detect seismicity in real-time. If seismicity is detected, the division can respond quickly with regulatory actions that reduce risks associated with induced seismicity. This program has been highly praised by the U.S. Environmental Protection Agency, the U.S. Geological Survey and the Interstate Oil and Gas Compact Commission, among others.

A majority of the division's employees are field inspectors who live and work in the counties and communities where oil and gas is produced. County-based inspectors are readily available for frequent, unannounced inspections and construction oversight, while protecting their own communities. More than 26,000 inspections were conducted in 2016, included the scheduled witnessing of key construction activities and unscheduled assessments.

Additional sections of the division maintained regulatory responsibility over the oil and gas industries. Notably, the division's Underground Injection Control (UIC) program continued its role as the primacy authority over Ohio's Class II brine disposal injection wells and Class III solution mining wells. Changes to the Orphan Well Program were finalized, granting a new contract structure to vendors who plug improperly abandoned oil and gas wells. Oversight by the legal and surety and bonding section ensured that operators were in compliance with the law requiring insurance and bonding. Finally, continued prioritization of administrative rule making, and an overhaul of the division's electronic database will propel the division to stronger, more efficient regulation in the years to come. ■



DIVISION OF WATER RESOURCES

THE ODNR DIVISION OF WATER RESOURCES WORKS TO MONITOR OHIO'S WATER INVENTORY AND USAGE, THE SAFETY OF MORE THAN 1,500 REGULATED DAMS, AND IN SUPPORTING MORE THAN 750 COMMUNITIES PARTICIPATING IN THE NATIONAL FLOOD INSURANCE PROGRAM.

In 2016, the Dam Safety Program inspected more than 330 dams and responded to several dam safety emergencies. With more than 110 emergency action plans (EAP) approved, the program tripled the amount of EAPs approved in 2015. The program also continued work as part of the ODNR Dam Safety Team to implement risk reduction measures at ODNR-owned dams and improve emergency preparedness. The Dam Safety Program continued close coordination with county emergency management agencies and dam owners to increase awareness and understanding of the importance of emergency action planning. In addition, the program worked with the Ohio Water Development Authority to expand the availability of low-interest loan funds to include the development of often costly EAPs for dams and levees. One Notice of Violation and two administrative Chief's Orders were issued to owners of severely deficient dams, and seven dilapidated dams were breached or modified to reduce public safety risk.

The Water Inventory and Planning Program mailed 2,190 annual reporting forms for calendar year 2016 to all active, registered water withdrawal facilities in the state. This is 39 more forms than the previous year and a new record for form mailings. With the assistance of the ODNR Office of Information Technology, the program has completed development of an online (paperless) Annual Water Withdrawal Report form. Online report filing will reduce the number of paper forms mailed and time required to submit the information into the division's database. For the second year in a row, more than 99 percent of the water withdrawal reports were completed and returned, the highest return rate in more than 10 years. The program received and processed 165 registration forms for new water withdrawal facilities. Lake Erie basin water withdrawal, consumptive use and diversion data were compiled and submitted to the Great Lakes Commission. Program staff compiled information on other state water conservation programs and initiated the formation of guidelines for planning and implementing water conservation programs in Ohio. The division's water conservation and efficiency web pages were reviewed and revised as needed.

The Ground Water Mapping and Technical Assistance Program mapped the direction of ground water flow in three counties in southwest Ohio (bringing the total to 57 completed counties); mapped the ground water pollution potential in Noble County; assisted the ODNR Division of Mineral Resources Management with ground water model design or review of 6 mining sites; wrote a report on the hydrogeology of the flowing wells in northwest Ohio; added more than 5,600 water well records and more than 4,600 well sealing reports to the state database; provided assistance for ground water information to more than 1,600 customers; and (through the website search functions) provided ground water data to more than 57,000 customers who viewed more than 340,000 well records.

The Floodplain Management Program responded to numerous inquiries concerning the National Flood Insurance Program (NFIP) and assisted 750 Ohio communities in gaining and maintaining eligibility for participation in the NFIP by conducting community visits, workshops and training sessions. An extensive effort was undertaken to fully review the program's administrative processes and in completing documentation required by FEMA Region 5. ■

OFFICE OF COASTAL MANAGEMENT

THE ODNR OFFICE OF COASTAL MANAGEMENT MANAGES OHIO'S LAKE ERIE COASTLINE AND IMPLEMENTS SUSTAINABLE RESTORATION AND ENHANCEMENT PROJECTS IN PARTNERSHIP WITH LOCAL COMMUNITIES. THESE PROJECTS SUPPORT OHIO'S NORTH COAST ECONOMY AND HELPED PROTECT LAKE ERIE WATER QUALITY, IMPROVE COASTAL HABITAT AND ENHANCE PUBLIC ACCESS TO THE COAST.

In FY 2017, the ODNR Office of Coastal Management along with Ohio Lake Erie Commission and the City of Sandusky launched the multi-year Sandusky Bay Initiative. By strategically restoring a series of connected in-water wetlands and nature-based living shorelines, coastal habitat will be restored and water quality improved as it flows through the 64-square mile Sandusky Bay toward Lake Erie.

- Wetland complexes will slow water movement and sediment will settle from water column.
- Nutrients will be removed from the water column by wetland plants, thereby improving Lake Erie water quality and helping the State of Ohio meet its nutrient reduction goals.
- Restored coastal wetlands will provide needed habitat for fish, wildlife, and waterfowl, which will attract recreational users and enhance the local economy.
- Clean dredged material will be used to beneficially construct coastal wetlands and address the need to eliminate open-lake disposal of Sandusky Bay sediments by July 1, 2020.
- Public access will be enhanced by coordination of project designs with the City of Sandusky's recently approved master plan.

The Office also:

- Promoted environmentally sound economic development by facilitating brownfield revitalization in underused waterfront and coastal areas.
- Working in partnership with Ohio EPA and the Port of Cleveland, applied innovative technologies to reduce the amount of sediment that needs to be dredged from navigation channels by: 1) intercepting the sediments before they are deposited in the navigation channels, and 2) establishing public-private partnerships to reuse these sediments to provide benefits to the north coast economy.
- Reviewed and authorized shore protection structures and managed the public trust lands that underlie Lake Erie.
- Provided public education programs about Lake Erie, including free technical assistance to public and private landowners experiencing erosion.
- Promoted nearshore research that improves the Lake Erie fishery, maintains beaches and improves nearshore water quality.
- Created and distributed Ohio's Lake Erie Public Access guidebooks that promote public access to Lake Erie and enhances Ohio's north coast economy. ■



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