NEW YORK STATE

CONSERVATIONIST

FEBRUARY/MARCH 2022

A Blueway of Opportunities in Buffalo

The Many Benefits of Estuaries

How the Public Can Help Protect our Environment

Combating Climate Change—New York Leads the Fight

Dear Readers,

In this issue, our feature story about the Buffalo Blueway shows how the restoration of the Buffalo River supported the revitalization of the city, serving as a resource for both recreation and local economies, connecting people with nature.

Through New York State's Superfund and Brownfield Cleanup programs, generational investments in water infrastructure across the state, and key state, federal, and local partnerships, New York is working to ensure communities have access to clean and healthy water and lands, which are critical to a healthy and vibrant environment and economy. These sustained efforts are vital investments, providing both immediate and long-term benefits, as demonstrated by the resurgence of the Buffalo River and surrounding communities.

As our world continues to evolve, we know we need to be more active stewards in protecting our natural resources and way of life. Climate change is the existential threat of our lifetime. We have already witnessed the consequences of our warming planet and understand urgent action is needed to address this growing global crisis. Thanks to the collective efforts of DEC's more than 3,000 environmental professionals working across the state, New York has become a national leader in the fight to turn the tide on climate change. Read more about the great work DEC is doing to lead a united front to preserve our planet.

Protecting nature is central to DEC's mission, and when it comes to environmental protection, no group is better at it than DEC's Environmental Conservation Police Officers (ECOs) and Forest Rangers. I know many of you enjoy reading On Patrol when you receive the *Conservationist*, and in this issue, you'll also learn the stories of how some ECOs have worked to achieve their current positions, and why being an ECO is so important to them.

DEC recognizes the benefits of a safe, clean, healthy, diverse, and beautiful environment, and we are committed to ensuring everyone, including future generations, will have access to all the wonders our environment holds.

I hope you will enjoy this issue of the *Conservationist*, and continue to be an advocate for our environment.

Sincerely,
Basil Seggos, Commissioner

NEW YORK STATE Department of Environmental Conservation

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Kathy Hochul, Governor of New York State

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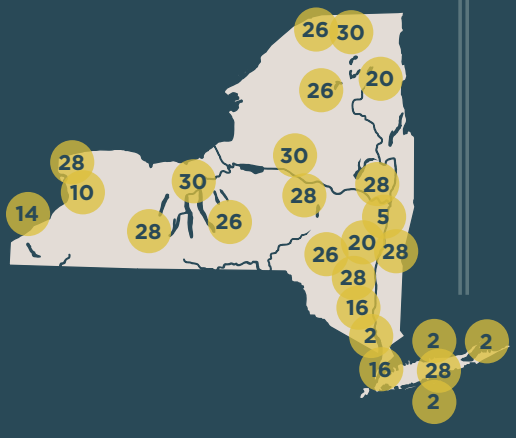

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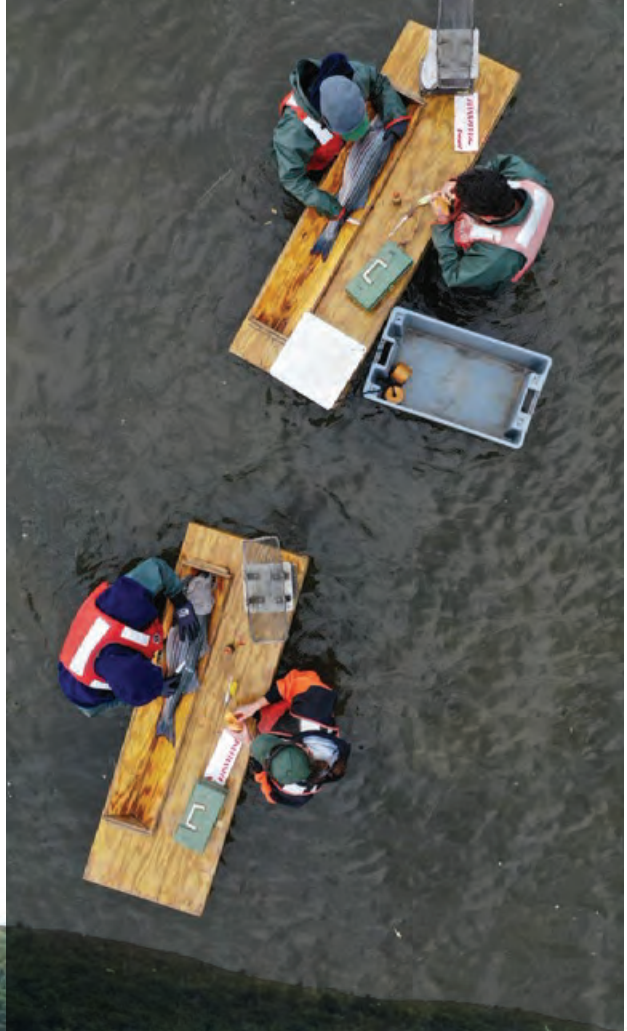
FRONT COVER: Buffalo River Blueway, by TJ Pignataro; **BACK COVER:** Tivoli Bays, by Colin Duryea



New York's Estuaries –

Promoting Unique and Productive Ecosystems and Outdoor Fun

BY STEVE STANNE

You've probably heard the word estuary. You likely know it's related to water, but might not be sure what exactly an estuary is, or why estuaries are important.

Estuaries are bodies of water where salty ocean water meets and mixes with fresh water that drains from the landscape. Examples include bays, harbors, and sounds. Because they are partially enclosed by land, estuaries are protected from the full force of ocean waves. Yet, estuaries are still dynamic environments, subject to rising and falling tides, shifting tidal currents, and fluctuating salt concentrations.

It might surprise you to know that estuaries are among the most productive ecosystems on the planet, fertilized by nutrients brought downstream by tributaries and swept in by ocean tides. As a result, life abounds in their waters, which provide habitats critical to many species of fish, shellfish, birds, and other wildlife. And estuaries are essential to supporting the multi-billion dollar commercial fishing industry.

You don't have to like seafood to recognize the value of estuaries to people and our society. Boating, fishing, and swimming are just a few of the recreational pastimes that estuaries offer. Because they are located where rivers meet the sea, estuaries have long been favored sites for trade and settlements; major cities have grown on their shores. And less tangible, but still valuable, is the aesthetic enjoyment estuaries provide.

Nurturing Coastal Resources

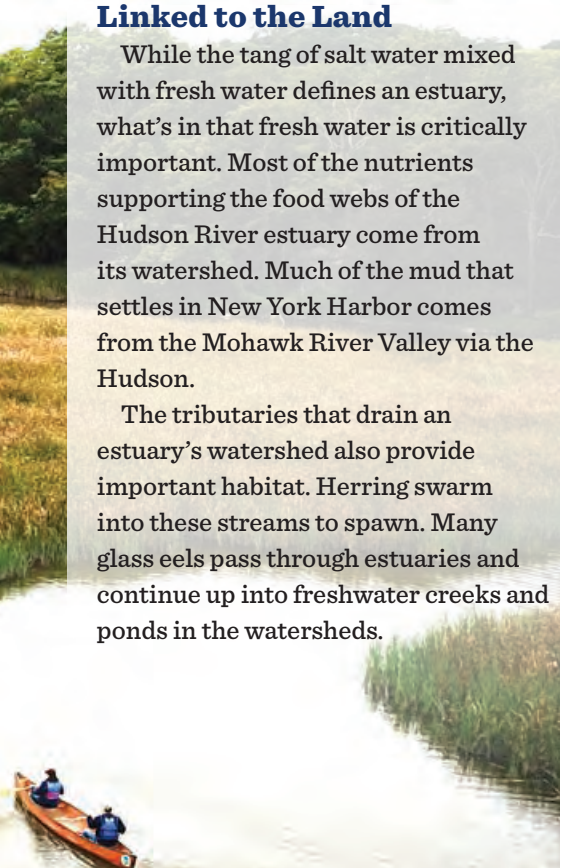
For many coastal fish, estuaries are essential. More than 75 percent of America's commercial fish species depend on estuaries at some point in their lives. A striped bass caught in Maine might well have been born in the Hudson River and lived much of its first year in New York Harbor or western Long Island Sound. American eels born in the Sargasso Sea in the North Atlantic travel a thousand miles to enter New York's estuaries as tiny transparent "glass eels." They may spend 20 years here before returning to the Sargasso to spawn.

The wealth of life underwater attracts birds to feed from above. Long Island's bays, the shallows of New York Harbor, and the wide reach of the Hudson River called the Tappan Zee host thousands of waterfowl in winter, and even more drop in to feed and rest while migrating. The state's largest breeding colonies of egrets and herons are found in New York Harbor, and bald eagles winter and nest along the Hudson River.

Linked to the Land

While the tang of salt water mixed with fresh water defines an estuary, what's in that fresh water is critically important. Most of the nutrients supporting the food webs of the Hudson River estuary come from its watershed. Much of the mud that settles in New York Harbor comes from the Mohawk River Valley via the Hudson.

The tributaries that drain an estuary's watershed also provide important habitat. Herring swarm into these streams to spawn. Many glass eels pass through estuaries and continue up into freshwater creeks and ponds in the watersheds.



Estuary Management Programs

Given their diverse values and the intricate ecological webs stretching from the ocean to a watershed through estuaries, these ecosystems require comprehensive management. Declines in the Hudson River's spawning stock of American shad may be caused by fishing in Nova Scotia or off the New Jersey coast. Contaminants in the sediments of New York Harbor can be traced to sources far upstream, and nutrients in treated sewage from New York City cause hypoxia (low oxygen levels) in western Long Island Sound. In the Peconic Bays, nutrients from residential septic systems and agriculture may be implicated in noxious brown tide events.

To restore and protect estuarine resources, New York has joined with neighboring states and the U.S. Environmental Protection Agency (EPA) to create management programs for the New York/New Jersey Harbor, Long Island Sound, and the Peconic Bays. In addition, New York established the Hudson River Estuary Program in the Department of Environmental Conservation (DEC) to help people enjoy and protect the Hudson River and its watershed.

Along Long Island's ocean coast, the South Shore Estuarine Reserve is under the auspices of the New York State Department of State's Division of Coastal Resources. Watersheds of two other large Atlantic Coast estuaries–the Delaware and the Chesapeake Bay–also extend into New York State, which is a headwaters partner in the Chesapeake Bay Program; about 11 percent of New York's land area drains into the Chesapeake via the Susquehanna River.

The Hudson River Estuary Program

Ocean tides pulse 153 miles up the Hudson River to the federal dam in Troy, and seawater can often be detected 60 miles upriver at Newburgh (Orange County). The estuary has important spawning runs of Atlantic shad, striped bass, and Atlantic sturgeon, and flows through a scenic landscape rich in history. (see **https://www.dec.ny.gov/lands/4920.html**).

The New York/New Jersey Harbor and Estuary Program

Home to one of the nation's largest ports and framed by a grand urban skyline, the New York/New Jersey Harbor is also a vibrant ecosystem whose inhabitants range from elegant egrets to seahorses to horseshoe crabs. (see **https://www.hudsonriver.org/estuary-program**).

The Peconic Bay Estuary Program

The Peconic estuary is a complex of bays between the North and South Forks of eastern Long Island. Scallops and clams have traditionally been important resources here, and the bays' eelgrass beds support a great diversity of life. (see **https://www.peconicestuary.org/**).

The Long Island Sound Study

Long Island Sound, about 110 miles long and 21 miles across at its widest point, is popular for recreational boating, angling, and swimming, and has historically supported valuable commercial fisheries. (see **https://longislandsoundstudy.net/**)

The South Shore Estuary Reserve

Long Island's South Shore Estuary Reserve anchors the region's tourism, seafood, and recreation industries. It includes the Great South Bay, which is the largest shallow estuarine bay in New York State. (see **https://dos.ny.gov/long-island-south-shore-estuary-reserve-program**)

The Hudson River National Estuarine Research Reserve

Four Hudson River sites are included in a national system of reserves for estuarine research and education: Piermont Marsh and Iona Island in Rockland County, Tivoli Bays in Dutchess County, and Stockport Flats in Columbia County. These sites comprise 5,000 acres and contain a variety of natural communities that are intensively studied by scientists and eagerly explored by paddlers and hikers. (see **https://hrnerr.org/**)

National Estuaries Day

The National Estuarine Research Reserve system, EPA's National Estuary Program, and other federal and state agencies have designated the last Sunday in September as National Estuaries Day. The day celebrates the importance of estuaries and the need to protect them. For more information about public events associated with National Estuaries Day, contact a program listed herein.

These estuary programs offer many ways to explore their waters, from public canoe and school field trips to community science projects focused on river herring, glass eels, diamondback terrapins, and horseshoe crabs. Take advantage of these opportunities to see for yourself the amazing diversity and abundance of life in these critical ecosystems.

To view a video on the Hudson River Estuary, go to: **https://www.youtube.com/watch?v=KbIH0pZrhkU**

Steve Stanne is the President of Hudson River Sloop Clearwater. He served as education director for the Sloop Clearwater for 20 years and was the education director for DEC's Hudson River Estuary Program for 18 years. He also is a co-author of *The Hudson: An Illustrated Guide to the Living River*.

NEW YORK'S

ENVIRONMENTAL COMMITMENT—

Addressing the Climate Change Threat

Climate change is not a new concept—earth's climate has constantly changed since its inception. However, it is indisputable that human activity is a major cause of recent rapid climate change, and that we must take aggressive action to prevent earth's warming. Scientific studies have shown that rising temperatures will have drastic, long-term implications on worldwide crops, lead to a dangerous rise in sea levels, have major impacts on the health of our oceans, create an increased risk for global droughts, and have significant public health implications.

New York has experienced unprecedented storms and severe flooding that devastated roads and other critical infrastructure, and caused power outages for hundreds of thousands of people. DEC and our partner agencies have identified workable strategies to combat climate change, and New York's Climate Action Council (CAC) recently released a draft Scoping Plan that provides a framework for how New York can meet the requirements under the Climate Leadership and Community Protection Act:

- 70 percent of electricity must be from renewable sources by 2030
- 100 percent of electricity will be zero-emissions by 2040
- a 40 percent reduction in statewide greenhouse gas (GHG) emissions by 2030
- an 85 percent reduction in GHG emissions by 2050
- net-zero GHG emissions by 2050

DEC will continue to work with federal, state, and local partners to improve our resilience to storms, while also developing ways to diminish the occurrence of severe storms. Climate change is a main cause of severe weather, and we are working to develop and implement programs that will reduce extreme heat and heat waves, sea-level rise, and harmful ecosystem effects, while protecting lives and property.

In the following pages, you can read about our leading efforts to combat climate change and ways you can help.

Solving a global problem like climate change is not easy and won't happen overnight. But we are committed to action that will make a difference now and for years to come.

New York's Climate Action Council and seven advisory panels spent the last year-and-a-half drafting a plan that includes recommendations to meet the requirements of our State's ambitious climate laws. New York has been and will continue to be a leader in combatting climate change, and through the strategies listed here, I am confident we will meet our goals and ensure a healthy, sustainable world for us and future generations.

Basil Seggos

At COP26, Commissioner Seggos met with key environmental leaders, including Peggy Shepard of WE ACT for Environmental Justice.

BY TONY COLYER-PENDAS AND NEW YORK'S OFFICE OF CLIMATE CHANGE

Leading the Fight Against Climate Change

When we were young, most of us checked the temperature before heading outside, helping to ensure we were dressed appropriately for the weather—heavy coats and gloves to stay warm in the winter, and maybe shorts and t-shirts to be cool in summer. Our focus was mainly on how the current temperature would affect us. Today, in addition to checking the local forecast, we need to be concerned with how weather affects our lives, our planet, and our future. Our climate is now a global concern that requires immediate action.

Climate change—a long-term change in the average local, regional, and global weather patterns—is the greatest environmental and economic challenge facing the people, wildlife, and ecosystems of New York State and the planet. According to the National Oceanic and Atmospheric Administration (NOAA), July 2021 was the hottest month on record since recordkeeping began more than 140 years ago. Also in 2021, New York experienced three hurricanes (Henri, Ida, and Larry) that caused severe impacts across our state. Although these hurricanes were not caused by climate change, it likely worsened their effects by increasing the volume of precipitation.

Heat waves, heavy downpours, and sea level rise pose growing challenges to many aspects of life in New York and create significant adverse effects on our economy. Infrastructure, transportation, agriculture, fisheries, natural resources, and ecosystems are increasingly compromised by warming temperatures. The extent of the effects of climate change will be determined by our ability to prevent and mitigate those changes, and reduce harmful greenhouse gas emissions.

Gases that trap heat in the atmosphere are called greenhouse gases (GHG). Carbon dioxide (CO_2) is the primary greenhouse gas emitted from human activities—the result of the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation. Increasing concentrations of GHG are causing an increase in the temperature of the earth, which has already caused changes in precipitation patterns and storm severity—commonly referred to as the effects of climate change.

New York State is working to help communities and businesses adapt to a changing climate. Reducing GHG emissions is a fundamental goal. To protect people and our natural resources, we have taken aggressive action, and the Department of Environmental Conservation (DEC) has incorporated climate change considerations into agency activities.

Reducing Emissions While Boosting the Economy

The passage of the Climate Leadership and Community Protection Act (CLCPA), which became law in 2019, was a watershed moment in the State's comprehensive efforts to address this existential challenge. The CLCPA is the most aggressive climate and clean energy initiative in the nation, putting New York on a path to reaching net zero GHG emissions by 2040. It provides a clear timeline for protecting the health and safety of all New Yorkers, addressing pollution and poor air quality, while promoting clean energy projects that will transform the State's economy and create economic opportunity.

The New York State Climate Action Council is charged with implementing the Climate Law, and recently released a Draft Scoping Plan that creates a blueprint for achieving these ambitious goals. New Yorkers now have the opportunity to review the Draft Scoping Plan and get involved. The Council will hold at least six public hearings on the plan during the public comment period. The draft Scoping Plan, numerous supporting documents, and information on ways to comment are available at **https://climate.ny.gov**. Information on the public hearings will be available on the website.

Under the CLCPA, DEC established statewide GHG emission limits to achieve a 40 percent reduction of emissions from 1990 levels by 2030, and an 85 percent reduction by 2050. The CLCPA also commits the State to having at least 70 percent of its electricity come from renewable sources by 2030, and 100 percent of our electricity being emissions-free by 2040.

The transition to clean energy will create jobs and foster a green economy. The CLCPA builds on New York's unprecedented investments to ramp up clean energy. These investments include developing 91 large-scale renewable projects across the state, $1.8 billion to increase solar power supplies, more than $1 billion for clean transportation initiatives, and a commitment to develop 9,000 megawatts of offshore wind capacity. Combined, these investments are supporting more than 150,000 jobs in New York State.

A recent Clean Energy Industry Report showed that the CLCPA will create hundreds of thousands of green jobs across the state and make New York a hub of clean energy economic growth and renewable energy. One of the initiatives the State is actively working on, is building the infrastructure to support electric vehicles, so that we can reduce the number of gas-powered vehicles on the road.

Meeting the goals of the CLCPA will require reducing emissions from vehicles.

Reducing Vehicle Emissions

Emissions from transportation (e.g., gas-powered motor vehicles) is the second largest source of New York's GHG emissions, accounting for 28 percent of greenhouse gases in the state. This represents more than the emissions from electricity generation, waste, refrigerants, and agriculture combined. Meeting the CLCPA goals will require substantial reductions in GHG emissions from the transportation sector, which can be achieved through the adoption of electric technologies, such as electric passenger vehicles, trucks, and buses.

To significantly reduce air pollution from cars and trucks, New York Governor Kathy Hochul recently enacted a law that will reduce GHG emissions and air pollution from the transportation sector. The law sets a goal that all new passenger cars and trucks sold in New York State will be zero-emissions by 2035, and new medium-duty and heavy-duty vehicles will be zero-emissions by 2045.

In addition, DEC will propose regulations to accelerate zero-emission truck sales and significantly reduce air pollution from trucks. The regulations would require annual sales by truck manufacturers to meet a certain percentage of zero-emission trucks, beginning with model year 2025.

Electric vehicles have the potential to reshape the transportation sector in the United States, drastically reducing GHG emissions. However, challenges to

New York State is already rapidly increasing the number of charging stations throughout the state.

widespread use of electric vehicles remain, including the availability of electric charging infrastructure. To overcome these challenges, New York State has invested $1 billion in electrifying New York's transportation sector.

New York State is already rapidly increasing the number of charging stations throughout the state. To help people locate an electric vehicle charging station, the U.S. Department of Energy developed the Alternative Fuels Data Center, and created a website and app that provide information and a map of alternative fueling station locations. To locate an electric charging station in New York State, or to download the app, visit: **https://afdc.energy.gov/stations/#/find/nearest**.

Boosting the Economy with Renewable Energy

Climate change represents an enormous challenge for New York State; it has the potential for serious impacts on our natural resources, public health, communities, and economy. Reducing GHG emissions will require a fundamental transformation in how we produce and use energy. New York is already taking action. Governor Kathy Hochul recently authorized the Sunrise Wind project, executing a contract that will support an offshore wind project that has the potential to provide power to 600,000 homes, accelerating New York's transition to renewable energy.

Within the past two decades, there has been a dramatic increase in the use of wind as a clean, renewable source of power. Modern wind turbines are increasingly cost-effective and reliable, and can be designed to operate in cold climates. Wind power is an emerging industry that provides an opportunity for New York (and others) to meet key renewable energy targets, while securing green jobs and economic benefits. Our State recognizes the need for—and benefits of—clean wind energy, and currently has five offshore wind projects in active development. DEC is working closely with the New York State Energy Research and Development Authority (NYSERDA) to ensure that offshore wind is developed in a way that protects New Yorkers and our natural resources.

Ørsted and Eversource, the partners for the Sunrise Wind project being developed 30 miles east of Montauk Point in Long Island, will construct the foundation components of its wind turbines at the Port of Coeymans, near Albany. This project will create hundreds of new construction and steel manufacturing jobs in the Capital Region and Western New York. So, in addition to helping

The CLCPA will ensure climate equity; community benefits and environmental justice for all New Yorkers.

fight climate change and result in cleaner air, it will help develop a supply chain for offshore wind equipment that will stimulate huge economic growth potential.

Efforts during the past decade to reduce GHG emissions from the power sector have made New York's electricity some of the cleanest in the nation. The use of the Port of Coeymans to build wind turbine parts will help accelerate New York's transition to renewable energy, create hundreds of green jobs, and generate millions of dollars of investments in the State.

Climate Justice

Historically, underserved communities have suffered disproportionate and inequitable environmental impacts, including those caused by climate change. Key goals of DEC and the CLCPA include helping these affected communities address environmental concerns and environmental impacts.

The CLCPA led to the creation of the Climate Justice Working Group, which is comprised of representatives from environmental justice communities and State agencies. The Working Group is taking steps to ensure communities are considered in the implementation of the Climate Act, with a goal that Disadvantaged Communities

New York State will continue to be a leader in combating climate change.

receive 40 percent of the overall benefits of spending on clean energy and energy efficiency programs, and at least 35 percent of the benefits of such State investments.

The CLCPA also created a community air monitoring program to track emissions and develop strategies to reduce emissions of toxic pollutants and greenhouse gases in Disadvantaged Communities. State agencies will work to ensure that permitting, licensing, contracting, and other decisions will not disproportionately burden these communities. To learn more, go to: **https://climate.ny.gov**.

Climate Change and the Future

New York recognizes the need to take aggressive action to reduce greenhouse gas emissions and successfully combat the climate crisis. The CLCPA will achieve this, and transform New York's economy, create new jobs, and stimulate industry and innovation, while building more resilient communities which will benefit and protect all New Yorkers. However, achieving the goals of the CLCPA and reducing GHG emissions will require coordinated action by people and all levels of government.

The CLCPA solidifies New York's status as a climate leader. The State is rapidly advancing its critical work to achieve the Climate Act goals, recognizing that the choices we make today will greatly influence our climate, our natural resources, and the lives of future generations. To learn more about the Climate Leadership and Community Protection Act, visit: **https://climate.ny.gov**.

Jeff Boyer

New York State will invest in manufacturing alternative fuel infrastructure, generating thousands of green jobs.

CLCPA

The Climate Leadership and Community Protection Act commits New York to reaching net zero greenhouse gas emissions and includes a clear timeline for the targets and goals, including the following:

- **70 percent of the state's electricity must come from renewable energy by 2030.**
- **40 percent reduction of emissions from 1990 levels by 2030.**
- **100 percent of the state's electricity must be from zero-emission sources by 2040.**
- **85 percent emissions reductions by 2050, with the remaining 15 percent to either be directly reduced or offset through projects that remove greenhouse gases from the atmosphere.**

Tony Colyer-Pendas is the Assistant Editor of the *Conservationist* and New York's **Office of Climate Change** is a program of DEC.

the Buffalo River's COMEBACK

BY TJ PIGNATARO

The Buffalo River is alive. It's alive with fish, amphibians, and mammals. It's alive with humanity—in kayaks and boats, on paddleboards and water bikes, and at shoreline picnic tables and fishing piers. And the river is alive with businesses too. A lot of them. New restaurants, pubs, and apartment houses have sprung up along its shoreline.

This is a resurrection—or a "resurgence," as heralded by a new brew house of the same name—of a river that was once declared biologically dead. Solving the Buffalo River's restoration puzzle was thoughtfully accomplished, one piece at a time.

Removing the toxins. Restoring wildlife habitat. Improving recreation. Supporting economic development. Sustaining progress.

Buffalo residents and visitors gather at the river now, rather than avoiding it. And waterfront access is the hallmark of the Buffalo River "Blueway" corridor's revitalization.

"Having kayaked the Buffalo River through to the Erie Basin with our partners from the Buffalo Niagara Waterkeeper, I've experienced the transformation first-hand. It's nothing short of remarkable," said Department of Environmental Conservation (DEC) Commissioner Basil Seggos. "It shows that seeking an ever-cleaner, greener environment is always the winning move: for nature, for people, and for economic development. It's tremendous."

Waterfront Attractions

The newest jewel along the river is DEC's Buffalo River Ohio Street Fishing Access Site. Opened in September 2021, the $2 million project, funded by Empire State Development and constructed by Buffalo Niagara Waterkeeper, enhances recreational opportunities along the shoreline and provides added natural shoreline habitat.

DEC acquired the abandoned railroad property on Ohio Street in the 1980s, using funds from the State's Environmental Quality Bond Act. The revitalized site now features a 220-foot-long shoreline pedestrian walkway and fishing platform, both of which are compliant with the Americans with Disabilities Act. The site also features a car-top boat launch, improved parking, and some unique natural and aesthetic enhancements.

"There's a reason for people to come down here," DEC's Acting Region 9 Director Chad Staniszewski told those gathered for the site's ribbon-cutting celebration in September 2021. "This gives people recreational opportunities in an area that continues to improve."

Across the Buffalo River from the Ohio Street Fishing Access Site is the sprawling RiverWorks ice rink, restaurant, and entertainment complex. Readily identified by the nearby iconic Labatt Blue "six-pack" painted on a historic shoreline grain elevator, initial cleanup efforts in the river's corridor spurred the early multi-million dollar private development.

"RiverWorks was a game changer on the private side," said Martin L. Doster, a former DEC remedial engineer in the region. "It is bringing people to a river that no one would typically go to."

DEC played a major role in the Buffalo River's comeback from the effort's earliest days, and later through the State's Brownfield Cleanup Program. Three brownfield sites neighboring DEC's fishing site were cleaned up, and followed by multimillion-dollar redevelopments. Those include a pair of residential shoreline condominiums and the Resurgence Brewing Company, which is housed in a retrofitted 1800s building where wooden barrels were once hand-crafted.

"The State's Brownfield Cleanup Program was instrumental in accelerating the progress and redevelopment along the Buffalo River," Staniszewski said. "It provided an avenue that hastened remediation and spurred private investment."

There are about a dozen brownfield sites in the Buffalo River "Blueway" corridor that have been redeveloped or are in various stages of redevelopment. At the "Silo City" brownfield site, historic grain elevators are being transformed into artist lofts and apartments on seven unique shoreline acres. Contamination from asbestos, PCBs, and other toxins are gone, but historic remnants from Buffalo's industrial past remain.

The estimated $43 million adaptive reuse of a former malthouse and flour mill at Silo City on the river's shoreline aims to transform 247,000 square feet into 168 residential units, in addition to space for community and commercial activities. Just down the path from Silo City are several "pocket parks," small urban nooks that offer natural areas attracting birdwatchers, anglers, nature watchers, and outdoor enthusiasts.

Another exciting showpiece underway is Buffalo's Riverline trail. Conceptually modeled after the High Line in New York City, Riverline is already listed on the High Line Network. Under development by the Western

DEC's Acting Region 9 Director Chad Staniszewski and environmental partners cut the ribbon last September at the revitalized Ohio Street Fishing Access Site.

New York Land Conservancy, the nature trail will boast a unique mix of natural habitat and passive recreational opportunities, and connect two city neighborhoods along the former Delaware, Lackawanna and Western (DL&W) elevated railroad line.

Beginnings

The Buffalo River is more of a shallow creek, or at least was designed by nature to be that way. Its headwaters begin miles to the east in the highlands of Wyoming County, and its 447-square-mile watershed comprises sub-watersheds of the Cayuga, Buffalo, and Cazenovia creeks.

The river originally looked very different from the waterway we know today. It was much more of a natural estuary than a river channel and river mouth. The Buffalo River's final six to seven miles were a vast floodplain with native vegetation and significant shoreline wildlife habitat on its way to emptying into the eastern end of Lake Erie. Its bounty was so vast, it served as prime hunting, fishing, and gathering grounds for the indigenous Haudenosaunee (Iroquois) Confederacy.

When Buffalo was first settled as a village, then as a city in the early 1800s, the landscape was dramatically altered. Early settlers began dredging the river's channel to allow for better passage of boats. The opening of the Erie Canal in 1825 accelerated the Buffalo River's first transformation. Industry, shipping, and commerce sprung up along its shoreline, launching Buffalo's commercial rise.

Because of its abundant freshwater and the connections linking the nation's interior to the East Coast, Buffalo became an international port for shipping grain and other products. The Industrial Revolution further altered the river's once-pristine shoreline wetlands. Chemical and dye-makers—the first indigo dyes that made blue jeans blue were manufactured along the Buffalo River—and steel and coke plants, grain milling, and a myriad of other industries set up shop here.

Industrial development and population growth seemed endless. But without strong environmental protections, so too did the pollution. Urbanization and industrialization cut off the waterway from its natural floodplain, and the river was channelized and heavily polluted with chemicals and municipal sewage.

'Dead River'

It's likely you've heard the stories about the Cuyahoga River burning in Cleveland (see *Your Voice Matters*, pg. 22). It happened in Buffalo too when oil and chemicals discharged into the river caught fire in 1968.

The toxic brew of chemicals discharged into the river included PCBs, carcinogenic polyaromatic hydrocarbons, organic dyes, and heavy metals. Combining with those toxic chemicals was raw sewage from Buffalo's often overwhelmed combined sanitary and storm sewer system. As a result, the oxygen—and with it, aquatic and plant life—disappeared from the river.

The birth of DEC and the U.S. Environmental Protection Agency (EPA) in 1970, along with the advent of

The Ohio Street Fishing Access site features bat houses and natural habitat areas, along with a pedestrian walkway, fishing platform, and car-top boat launch.

environmental regulations like the federal Clean Water and Clean Air acts, brought hope for change. Riverside industries scattered from their long-time home bases, but left behind a legacy of hazardous waste. That hazardous waste found its way into the river and its sediment.

In the 1970s and 1980s, the United States and Canada enacted a pact aimed at restoring the quality of the Great Lakes. In 1987, 43 of the most highly contaminated waterbodies across the Great Lakes were listed as "Areas of Concern."

Although the inauspicious designation was not celebrated, the Area of Concern listing helped pave the way for the Buffalo River's eventual restoration. As part of that process, DEC, in collaboration with the grassroots Friends of the Buffalo River and other partners, developed a cleanup plan for the river in 1989.

DEC assessed the condition of the waterway and in response to its deteriorated condition, focused on addressing pollution sources. Legally binding settlements to address the pollution were inked with ExxonMobil and Honeywell International, a successor company to Allied Chemical.

Cleaning and Restoring

With the Great Lakes Action Agenda in place in the early 2000s and funds flowing in later through the Great Lakes Restoration Initiative, DEC partnered with the EPA, the U.S. Army Corps of Engineers (ACOE), the City of Buffalo, Honeywell International, and what's now Buffalo Niagara Waterkeeper to further advance the river's remediation and recovery.

Once the pollution sources were addressed, the last remaining piece was the cleanup of the sediment. When core sediment samples were taken, they revealed the history of Buffalo's industrialization. Clean material was clearly distinct from other, more recent sediment layers impacted by industrialization.

"When you took a core sample of the sediment, it was like reading the newspaper of the industrialization of Buffalo," said former DEC remedial engineer Martin Doster. "You could clearly see the clean material, and then you could clearly see when the industrialization took place. You could almost mark it like the rings of a tree."

Over the course of several years in the 2010s, the ACOE removed up to 1 million cubic yards (more than 300 Olympic-sized swimming pools worth) of toxic sediment from the river bottom and its banks. By 2018, the sediment was clean enough for reuse in a habitat improvement demonstration project on Buffalo's Unity Island along the Niagara River. It was the first ACOE project in the Great Lakes where beneficial uses of dredged material helped

A new pedestrian walkway at DEC's Ohio Street Fishing Access Site memorializes the site's railroad history.

recreate a wetland. The 10-acre wetland is now an interconnected habitat that allows fish passage between three interior ponds and the nearby Niagara River.

In late 2021, the ACOE entered into a partnership agreement with the Erie County Harbor Development Corporation to create a new coastal wetland ecosystem on Buffalo's Outer Harbor using dredged material from the Buffalo River. Over the next six years, about 285,000 cubic yards of Buffalo River sediment will be used to create 6.7 acres of wetland habitat on the harbor adjacent to Wilkeson Pointe as part of the $14.8 million restoration project.

The habitat restoration and maintenance stage of the Buffalo River's cleanup continues, and studies are underway to quantify its progress. Anecdotally, recent discoveries are impressive. Various fish species have repopulated the river, including walleye, bass, bullhead, carp, and steelhead. Mammals, amphibians, and birds are also repopulating the shoreline and upland areas, including deer, beaver, muskrat, mink, and turtles.

"We're seeing more species that we haven't seen in a generation," said Jill Jedlicka, executive director of the Buffalo Niagara Waterkeeper. "There are signs that are painting a bigger picture that the system is recovering." Jedlicka also noted there's recent evidence the spiny softshell turtle is using the restored shoreline habitat at Katherine Street peninsula.

Collectively, all these efforts to restore the Buffalo River ecosystem will help boost the river's recovery, and with it, a sustainable return of wildlife, people, and economic development. What's more, the Buffalo River's success is already informing the way cleanup and restoration efforts are happening in other sites throughout the Great Lakes Watershed and Western New York.

Yes, the river is alive, and there's more to come.

TJ Pignataro is the public information officer for DEC's Region 9 Office in Western New York.

CISCO RESTORATION EFFORTS IN LAKE ERIE

BY JASON ROBINSON, JAMES MARKHAM, AND MEGAN GOLLWITZER

Last spring, the Department of Environmental Conservation's (DEC's) Lake Erie Fishery Research Unit participated in a historic moment, as they stocked 50 acoustically tagged cisco into Lake Erie.

Also known as lake herring, cisco (*Coregonus artedi*) are a slender, bright silver-colored fish that typically ranges between eight to 16 inches in length. Cisco played a historically important ecological and economic role as the primary native coldwater prey fish in Lake Erie, supporting predator species such as walleye and lake trout, along with the largest commercial fishery in the Great Lakes.

However, by 1925, overfishing, habitat destruction, and the introduction of invasive species led to the collapse of the cisco population in Lake Erie. Cisco are now considered extirpated from the lake and are among the most imperiled native species throughout the Great Lakes Basin.

Aboard DEC's research vessel *Argo*, Lake Erie Fishery Research Unit Senior Aquatic Biologist James Markham and Unit Leader Jason Robinson carefully stocked 50 acoustically tagged cisco into Lake Erie's chilly spring waters off Dunkirk Harbor, Chautauqua County.

Today, conditions in Lake Erie bear little resemblance to those when the cisco population collapsed a century ago. This past spring, as part of a collaborative research study spearheaded by the U.S. Geological Survey (USGS), 100 cisco were surgically implanted with special acoustic tags at the USGS Tunison Laboratory of Aquatic Science in Cortland, New York. The tagged fish were stocked in two locations in Lake Erie—50 in the east basin off Dunkirk, New York and 50 in the west-central basin off Huron, Ohio.

Researchers will be able to monitor the temperature, depth, and movements of the tagged cisco to determine what type of habitat they occupy in the lake. The tags can also detect when a cisco is eaten by another fish, providing information about mortality and predation.

Results from the study will provide critical data on the ability of cisco to survive in Lake Erie as it exists today. If the results are promising, the stocking efforts by DEC's Lake Erie Fishery Research Unit and partners could represent a historic first step in the restoration of this once abundant species.

Jason Robinson is the Unit Leader for DEC's Lake Erie Fisheries Research Unit.

James Markham is a Senior Aquatic Biologist in DEC's Lake Erie Fisheries Research Unit.

Megan Gollwitzer is a Public Participation Specialist in DEC's Region 9 office.

Senior Aquatic Biologist James Markham transfers 50 acoustically tagged cisco into holding tanks for later stocking.

Lake Erie Unit Leader Jason Robinson lowers tagged cisco into Lake Erie.

A cisco with an acoustic tag implanted.

DEC and USGS partners after loading the cisco onto the *Argo* for stocking.

BECOMING AN ECO

Having completed rigorous education and training, a new class of ECOs graduated and will head out to their assigned patrol areas.

The history of DEC Environmental Conservation Police Officers (ECOs) dates back to 1880, when the first Fish & Game Protectors were appointed "to enforce laws to protect deer, birds, and fish, and to bring legal action against those who violate these laws." In 1964, the title of Game Protector was changed to Conservation Officer, and in 1970, DEC's Bureau of Law Enforcement was tasked with enforcing many public health and agriculture laws, along with efforts to prevent and control pollution, including solid waste, air emissions, industrial chemical disposal, and more. A year later, ECOs were given full statewide police status.

Today, there are 282 ECOs and Investigators across New York State. In 2021, they responded to 26,207 calls and worked on cases that led to more than 11,500 tickets or arrests.

Like most law enforcement officers, being an ECO is not an easy job. It might include patrolling remote areas, investigating criminal behavior, conducting surveillance, and/or responding to emergency situations.

So, why would someone want to be an ECO? There are many reasons, and each ECO has a story about why they chose to pursue such a career. On the following pages, we highlight a few ECOs and their stories.

ECO Josh Schneider
Region 3 – Mid-Hudson Valley

Growing up in northern New York, in the shadow of the Adirondacks, hunting and fishing was not only a way of life, but a way to put healthy meat on the table for friends and family to gather and enjoy. Everyone knew of Environmental Conservation Officers (known as ENCON officers back then), and most people respected their job of protecting our vital resources.

As a young high school student, I had always planned on joining the military. On September 11, 2001, as a senior, that plan was shoved to the forefront of my mind and I enlisted.

After returning from service in 2007, I was looking to continue my service to my country and community. I was accepted into the Department of Defense, and within five years made my way to the Game Warden Division. I met some of the local New York State Encon Officers and worked beside them on poaching cases. It was glaringly obvious that they were the gold standard. Observing them treat every situation and person with the utmost professionalism and tact gave me a new drive and purpose. I decided to use my GI Bill to finish college so I would qualify to take the civil service exam to join their ranks.

Two years after taking the exam, I received notice to schedule my physical fitness aptitude test, the first step in what would be a long process to even get accepted into the ECOs' Basic School for Uniformed Officers. After a year of tests and evaluations, I finally was accepted into the 22nd Basic School for the Environmental Conservation Police.

In May 2019, I reported to the academy and realized that it was going to be a long, hard fight to prove myself. To survive the next 29 weeks of this live-in academy would require teamwork with my classmates, both physically and academically. The academy was designed to weed out those who could not think on their feet or were not prepared mentally and physically. The instructors always kept their eyes on us, making sure we did not stray from the rigorous and structured course that would set us up for success when it was time to hit the road on our own. The training and instruction were long and hard, with the expectation that they could one day save our lives. As the academy began, I realized that I was 8 to 10 years older than most other recruits. Thoughts that I was starting too late in my life started to creep into my mind, but I quickly shoved them aside, knowing I had finally found a career that only a few had the chance to enter, and even fewer succeeded in.

The training was hard, and the academics were even tougher. Those who really wanted it, found ways to push themselves past the average person's breaking point, to succeed in meeting all the drill instructors' demands. I spent

ECO Josh Schneider

many nights studying the Environmental Conservation Law, Penal Law, and Criminal Procedure laws until the early morning hours, knowing the possibility of that all too familiar sound of Drill Instructor boots on the deck at 2 a.m., which meant it was "time to go to work!" Day after day, week after week, month after month, and test after test, they weeded out the ranks, until only 30 hardened and hungry cadets stood for graduation.

For the Field Training Officer process, I was assigned to a part of the state I had never been to, and I was ready for it to be a steep learning curve. I persevered using the unparalleled training base I had received in the Basic School and field knowledge I ascertained from the more senior officers. It was a time to learn as much as I could prior to responding to the public's needs on solo patrol. You know that if you lose focus for even just a moment, it could mean that all the testing and training you endured would have been for nothing. Much worse, it could cost you your life, or the life of your partner.

The sector I was assigned to was enormous, spanning 839 square miles, with only three officers—just one officer on shift at a time. The complaints were not what one might think of for a traditional game warden. They included issues related to water quality and air quality, wetlands protection, and solid waste disposal, in addition to hunting and fishing complaints. The calls seemed endless and spanned all hours of the day and night. I understood why the drill instructors were so hard on us throughout the academy. Often, while investigating complaints, I was the only ECO around for miles and had to rely on the training I received to make sure everyone and everything was handled safely and properly.

The work keeps you busy and the calls seem never-ending, but through it all, the only regret I have is that I did not do this sooner in my life. The job is both challenging and rewarding, but the freedoms it offers with flexibility in hours and the

opportunity to do something different each day, make the entire process worth it. Finally, after years of searching for that job I will love doing, I reached the end of that long road and can say I am a New York State Environmental Conservation Police Officer.

ECO Paul J. Pansini
Marine Enforcement Unit, Region 2 - New York City

My life before becoming a New York State Environmental Conservation Police Officer was like many experienced by those interested in a career protecting the environment. I earned my bachelor's degree in Environmental Science and as soon as I was able, I took the civil service test for Environmental Conservation Officers, which is only offered every few years.

Awaiting the start of the next academy class, I worked various jobs in and around New York City, from retail sales to installing heating systems. But I've always had a passion for the outdoors and wanted a career protecting the natural resources I grew up enjoying. Knowing that becoming an ECO was my goal, I stayed focused, continued to work toward that goal, and was fortunate to earn a spot in DEC's 22nd Basic School for Environmental Conservation Officers.

My time in the academy was like nothing I had experienced before, and the training was at a high level. I thought I had prepared myself both mentally and physically, but once I began the 29-week Basic School, I knew I would have to push myself to graduate. As tough as it was, and with my fellow recruits beside me facing the same challenges every day, I made strong bonds and friendships. The academy fostered teamwork, and through high stress scenarios and surprise midnight trainings that kept us all on our feet, it brought out strengths that many didn't

ECO Paul J. Pansini

ECO Christine Brussell

even know they had. Firearms training was the most fun experience, with emergency vehicle operations a close second. Without a doubt, the training helped me prepare myself for life as an ECO.

After graduating the academy, I began my three-month field training program with a senior officer. I found myself completely immersed in the job, learning how to deal with the public and the intricacies of enforcing New York State laws. I was lucky enough to obtain a spot in our Marine Enforcement Unit in New York City, and every patrol since has been a learning experience.

I wake up every day and patrol the areas where I grew up fishing, and I work regularly with our partner agencies, including the U.S. Coast Guard, NYPD, FDNY, the U.S. Park Police, and federal agents from the U.S. Fish and Wildlife Service, NOAA, U.S. Customs and Border Protection, and the Secret Service. I've received specialized training in tactical vessel operations for security patrols on one of the world's busiest waterways. In addition to routine search-and-rescue water operations and checking vessels for environmental and navigation violations, I've been tasked for security patrols of Presidential Details, the NYC Marathon, United Nations Week, and Securing the City details.

I never knew that becoming an ECO would allow me to be involved in so many different things in New York, but I am very fortunate to be part of it.

ECO Christine Brussell
Region 2 - New York City

I grew up in a small Upstate New York town, where I had the opportunity to explore the great outdoors and develop an appreciation for our natural environment and resources. This led me to pursue a degree in Geology, and following

my graduation in 2013, I pursued internship opportunities out West. I gained a variety of exciting and interesting work experiences, and they deepened my desire to work in a career that satisfied my love for adventure and working with the public. I applied for positions across the country, but ultimately decided I wanted to pursue a career at home, in New York State. I settled for jobs in retail, then factory work. While I acquired some valuable skills, I couldn't see myself doing that type of work for the next 30 to 40 years.

My first interaction with an ECO was at a sportsman education class I attended in 2015. My interest was piqued. I learned all I could about the position and signed up for the next ECO civil service exam. The day I found out I had been accepted into the academy, I told myself I would see it through, no matter how difficult. And the academy was challenging in every sense of the word. As a recruit class, we faced many obstacles and were pushed to our limits. The training was exceptional. Now, with my fellow officers, I am confident in our ability to take on just about any task we are faced with. It was the most rewarding experience of my life, and my proudest accomplishment.

Today, almost two years after my academy graduation, I cannot imagine myself on any other career path. I have worked details involving everything from monitoring commercial vehicles to COVID response, to regulating pesticides and investigating poachers. I have patrolled the streets of New York City and the waterways of New York Harbor. I have traveled throughout the state for training, and am frequently presented with new and exciting opportunities. I have also collaborated with numerous agencies, all to—as our mission states—"protect the environment, natural resources and people of the State of New York..." This is so much more than just a "job." It's a way of life.

ECO Kaitlin Grady
Region 1 - Long Island

After college, I worked in subatomic particle research at Stony Brook University and Brookhaven National Lab on Long Island. I also worked as a bartender, and later as an engineer, spending long hours in a positive-pressure clean room environment, with no windows or natural light.

Although I enjoyed the work, my quality of life left much to be desired. I missed being outside to hike, fish, and paddle, so I started exploring other career options. When I heard about the job of an Environmental Conservation Officer, it sounded too good to be true. But once I set my sights on getting into the Academy, there was no looking back.

The Academy experience was a new one for me. It was immersive training in what seemed like a world away from home. To call the training "challenging" is an understatement; you are pushed to your physical and mental limits. You really have to want to be there, but it really is worth it.

The training is painful, but fun; scary, but exhilarating; intense, but rewarding. The best part of the Academy by far was the people I met there. The camaraderie with my fellow recruits helped keep me focused and made me push myself further than I ever could have done alone. You realize pretty quickly that you're stronger together, and if you leave anything on the table, you're not going to make it. You see each other at your best and at your worst, and by the end of it all, you are family.

I completed the 18th Basic School in 2008, and was excited to be stationed back home on Long Island upon graduation. Twenty-six weeks sounds like a long time when you're in the Academy, but it just scratches the surface of learning what it takes to be an ECO. It's been more than 13 years now, and I am still learning every day. The nature of the work changes by the day and by the season, and I can honestly say it has never been boring. Our duties include education as well as enforcement, and it's been wonderful to get involved with sporting organizations, and community and youth groups. The more I put into this job, the more I get out of it. I've had access to training, travel, and experiences that I never could have imagined, and I wouldn't trade a second of any of it.

ECO Kaitlin Grady

On Patrol

Real stories from Environmental Conservation Police Officers and Forest Rangers in the field

Wilderness Rescue—Greene County

On November 21, 2021, Greene County 911 received a call about two hikers having trouble hiking out from Echo Lake. After a two-night camping trip, the pair stopped and climbed a tree to check out the view and one of the hikers fell approximately 20 feet to the ground. The other hiker assisted the fallen hiker before calling 911. Forest Rangers Dawson and Gullen responded and located the hikers three-quarters of a mile in and 100 feet off the trail. The Rangers provided medical care and determined both hikers could walk out with the assistance of hiking poles.

Wilderness Rescue—Essex County

On December 27, 2021, Forest Rangers were alerted about an ice climber with a possible leg injury on the Arm and Hammer/Tendonitis climbing route of Pitchoff Mountain. The 49-year-old climber fell approximately 50 feet. He was wearing a helmet, but injured both legs in the fall. A nearby guide who is a member of a DEC-trained volunteer climbing rescue team saw the climber in danger. He reached the climber at the cliff, performed a mid-face rescue, and lowered the subject to the base. Rangers Mecus, Lewis, Evans, Praczkajlo, and O'Connor accessed the base of the climbing area utilizing steep-angle mountaineering techniques and took the injured climber to an awaiting Lake Placid Ambulance.

Debris Fire—Suffolk County

On December 21, 2021, Forest Ranger Hicks overheard a Suffolk County dispatch call about a debris fire in Yaphank, in the town of Brookhaven. Ranger Hicks responded along with Brookhaven and Yaphank fire departments. The fire was caused by a homeowner dumping fireplace ash onto debris behind his home. The responders suppressed the fire in approximately one hour, and Ranger Hicks educated the homeowner about proper disposal to help prevent a fire from happening again.

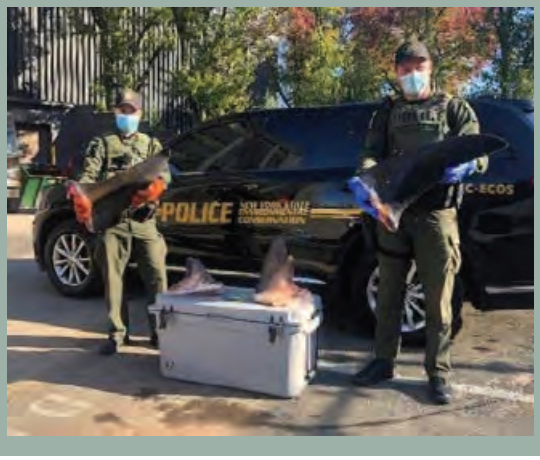

Carl Heilman II

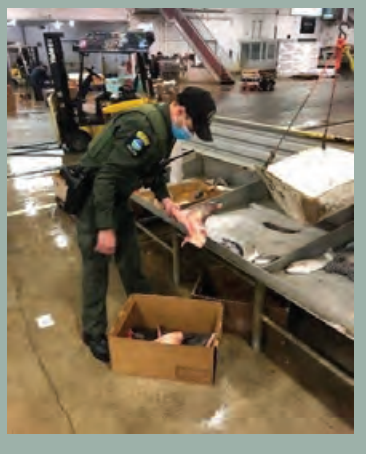
Young Angler Honored—Niagara County

After learning of Harry Hazlett's struggle with bone cancer and his passion for fishing, ECO Kevin Holzle reached out to DEC's Division of Fish and Wildlife to lead the creation of a new Exceptional Angler award. On December 15, 2021, ECO Holzle hand delivered the "Exceptional Angler" award to Harry at his home in Niagara County, along with more than $100 worth of lures, tackle, and other items donated by the New York Conservation Officers Association. ECO Holzle's compassion and extra effort were appreciated by Harry and his family, and inspired everyone involved.

Shark Fin at Market—Bronx County

On November 9, 2021, ECOs Veloski and Currey conducted a patrol of the Fulton Fish Market in Bronx County. During the routine check of the permitted seafood wholesaler, the Officers found a box of what appeared to be fresh shark fins on the selling floor. After interviewing and collecting invoices from various wholesalers, the ECOs determined the shark fins were from a thresher shark caught off Long Island. The fins had been detached from the body of the shark and offered for sale. Commercial fishing regulations prohibit selling shark fins, and the Officers issued the wholesaler a summons for possessing the box of illegal shark parts.





Top New York Wildlife Conservation Police Officer Honored

Environmental Conservation Police Officer (ECO) Steven Shaw was honored with the Wildlife Officer of the Year Award from the Shikar-Safari Club International. ECO Shaw has served as an Officer for 18 years in Saratoga County (DEC Region 5). Each year, the club sponsors an award for the Wildlife Conservation Police Officer of the Year in all 50 states and 10 Canadian provinces, acknowledging the important role ECOs play in local, national, and international wildlife conservation. In 2020, ECO Shaw responded to approximately 300 calls for service. Congratulations to ECO Shaw!

Bait Camp Busted—Greene County

On November 21, 2021, Environmental Conservation Police Officers (ECOs) received tips about a baited hunting camp in the town of Hunter. ECOs Palmateer and Smith, and Investigator Sulkey entered the property and found three different subjects hunting over large piles of corn. After further investigation, the Officers discovered that a fourth hunter had shot a black bear on the same property. The ECOs found the bear lying untagged approximately 10 yards from the bait. The Officers seized the bear and ticketed the shooter for hunting with the aid of bait, failing to tag as required, and illegally taking black bear. The three other hunters were ticketed for hunting with the aid of pre-established bait.

Your Voice Matters

The Importance of Public Participation in Environmental Decision-Making

BY KARL BERGER & EMMA ANTOLOS

A fundamental duty of government is to protect its people.

Although there may be times you disagree with a government policy or specific action (or inaction), it's important to note that you have opportunities to express your views and opinions—formally and/or informally—to ensure your voice is heard.

Public participation in the environmental decision-making process has grown over the years and now plays a key role in our lives. At one time, major industries and companies were largely unregulated, and there was very little transparency in their actions. Commercial activity was generally viewed as beneficial, with few people questioning or evaluating its potential negative impacts on the environment and public health. While many companies were (and are) good stewards, we now recognize the need for close public scrutiny of their actions. Such scrutiny can draw attention to concerns such as chemical use and disposal, which was the cause of the Love Canal toxic contamination and its subsequent public health effects—a situation that had repercussions even decades later.

A substantial shift in public interest in environmental issues occurred in the mid-twentieth century as scientific information became more readily available to the masses. Americans had better access to information as the popularity of print, radio, and television platforms grew rapidly. In 1949, *A Sand County Almanac: And Sketches Here and There* was published. This non-fiction book, a collection of essays by American environmentalist Aldo Leopold, advocated for a responsible relationship between people and the land they inhabit. The book is considered a landmark in the American conservation movement, and it inspired and influenced the actions of a generation of activists and their supporters. In 1962, Rachel Carson published her bestselling book *Silent Spring*, which revealed the ecological dangers from the use of DDT, an unregulated pesticide. Americans were shocked to learn that their national bird, the bald eagle, was facing extinction due to excessive DDT use and other factors.

Increased media coverage of events such as the Santa Barbara oil spill in California and Cuyahoga River chemical fires in Ohio in the 1960s opened many Americans' eyes to the significant threats unregulated industries can have on the

Love Canal

Offshore oil rig in Santa Barbara

environment. Many were determined to change the status quo regarding these issues and many took to the streets to let policymakers know what they thought and felt.

New Yorkers were at the forefront of this movement. In 1962, Storm King Mountain, a beautiful hiking spot with amazing views of the Catskills and Hudson Valley, became the topic of an environmental controversy. Local activists formed an organization (which later became Scenic Hudson) to fight plans by Consolidated Edison to remove part of the mountain near the Hudson River to build a hydro-electric power plant with transmission lines that would extend across the river. In a lawsuit brought by the coalition, a judge ruled—for the first time—that environmentalists had standing to challenge Executive Branch decisions in federal court.

The environmental movement continued to grow and make a difference. In an effort to get environmental issues on the national agenda, Wisconsin Senator Gaylord Nelson proposed observing a nationwide Earth Day, and the first celebration occurred on April 22, 1970. Twenty million Americans took to the streets that day or gathered at schools and town halls to demand clean water and air. Hearing the pleas of their constituents, government took a new, greater role in helping to preserve our natural environment. Coinciding with the first Earth Day, the New York State Department of Environmental Conservation was created. Congress followed suit and created the U.S. Environmental Protection Agency (EPA) in December 1970. In addition, new laws such as the Clean Air Act, Clean Water Act, and the Endangered Species Act were passed soon after, helping to protect critical natural resources across the country.

Public voices helped preserve the beauty of Storm King Mountain.

Cuyahoga River Fire in Ohio

But there was still much work to be done. After decades of environmental negligence, communities began to take stock of the impacts left on them by unregulated industries. For example, in the late 1970s, working class families in a Niagara Falls neighborhood began noticing chemical odors emanating from their basements, and others complained of unknown substances surfacing in their yards or near playgrounds. Children came back from playing outside with mysterious burns and rashes on their bodies. Unbeknownst to the residents, the neighborhood had been built near a former chemical waste dump along the Love Canal, an abandoned waterway off the Niagara River. From 1942 to 1953, Hooker Chemical Company dumped roughly 21,000 tons of toxic chemicals directly into the canal. In 1953, the canal was covered with dirt and sold to the local Board of Education, and just a few years later, the 99th Street School was built and opened its doors to 400 students.

Investigations into the Love Canal situation uncovered unfortunate truths. Local homeowners had high instances of miscarriages and birth defects, and a myriad of other health issues. Studies revealed high levels of chemical contaminants in the soil and air, the likely cause of these ailments. Residents became increasingly frustrated by the lack of government action, and in an effort to unify their voices, they formed the Love Canal Homeowners Association. Through their efforts, they raised awareness of their plight and gained media attention and public sympathy for their situation.

The federal government declared a state of emergency at Love Canal in 1978 and relocated some of the impacted families. Following a second state of emergency in 1981, the remaining 700 families were also given the option to relocate. Remediation efforts began on the site and monitoring efforts continue to this day.

Sign posted at Love Canal

Love Canal is known as one of the worst environmental tragedies in modern U.S. history. However, its legacy has had an important, lasting impact, as it showed that when communities band together, they can accomplish a great deal. Public participation in the environmental decision-making process was still a relatively new concept at that time, but it would grow in the coming years and help ensure that our environment—and people—would not be ignored.

This new public engagement process was crucial in dealing with emerging challenges such as the 1986 New York State Low-Level Radioactive Waste (LLRW) Disposal Act. The LLRW Act led to a multiyear effort to identify a site for disposal of waste in New York. By June 1990, the LLRW Siting Commission's work had come under intense public scrutiny and criticism from affected communities. In a dramatic encounter, protesters on horseback prevented the commission from entering a site in Allegany County. Public efforts like this made a difference. The 1986 LLRW Act was amended to require a review of the Siting Commission's work by an independent panel of experts. In 1995, the NYS Legislature ended the Commission's work, and no site was selected for a LLRW facility—a victory for local communities and citizens.

The cases of Love Canal and the LLRW siting process encouraged greater public participation and set a precedent for future cases. For example, in more recent years, Western New York residents who lived near the Tonawanda Coke industrial facility were concerned about air pollution in their neighborhood. They built homemade air quality testing kits and, in 2005, began local monitoring efforts. They discovered elevated levels of benzene, a cancer-causing agent, in the air, and brought their findings to DEC. The facility operator was eventually charged with violating the Clean Air Act and the Resource Conservation and Recovery Act. DEC took legal action against Tonawanda Coke and revoked the company's air permits due to continuing violations; these actions led to the eventual closing of the plant in October 2018.

Hydrofracking is banned in New York State.

When hydraulic fracturing, or "hydrofracking," a method of natural gas extraction, was proposed in New York State, DEC received roughly 260,000 public comments on the Draft Supplemental Generic Environmental Impact Statement and proposed regulations. Community members across the state expressed their concerns about potential health and environmental impacts. Following an extensive seven-year review, the State prohibited hydrofracking in 2015.

These results all show that communities, when working together, can make a difference. Your voice matters, no matter how big or how small. As noted anthropologist Margaret Mead once said, "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has." That's been proven here in New York State, where public input has been an important tool that is available to all. And when voices are raised, government will listen.

Karl Berger, retired, is a former Director of DEC's Bureau of Public Outreach.

Emma Antolos is a Public Participation Specialist in DEC's central office.

New York encourages people to speak out on environmental issues that concern them, whether it's a local or state issue. It's easy to get involved in efforts to protect natural resources in your community. Sign up for email alerts on projects occurring near you. Attend a public meeting in your neighborhood, ask questions, and let your voice be heard. You can also submit written comments via mail or email.

For more information on how to express your views on proposed projects, check out the State Environmental Quality Review Act (SEQRA) webpage at: **https://www.dec.ny.gov/public/51805.html**.

Permanent Protection of Cayuga Lake Shoreline

A land purchase agreement has been reached for the 470-acre Bell Station on Cayuga Lake, the largest privately-owned undeveloped shoreline of the Finger Lakes. Cayuga Lake is a critical resource for drinking water, tourism, and recreation, and preserving Bell Station, on the east side of the lake in Tompkins County, will help protect critical habitat for plants and wildlife, and greatly enhance public recreation opportunities. DEC and the Finger Lakes Land Trust will create a public Wildlife Management Area on the lakeshore portion of the property.

LOVE OUR NEW YORK LANDS

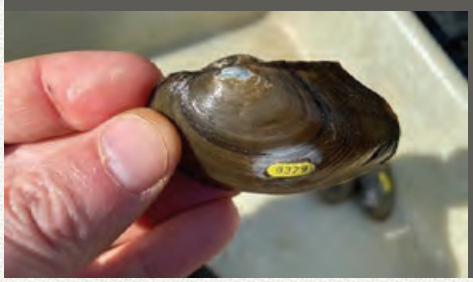
Record-breaking Overnight Campground Stays for 2021

During 2021, overnight stays at State Campgrounds reached record highs, as visitors embraced safe, healthy, and affordable recreation. DEC campgrounds were occupied for 394,401 nights, surpassing the previous record by more than 10 percent.

Last spring, DEC launched the "Love Our NY Lands" initiative to improve public safety and encourage visitors to State-owned lands. DEC operates 52 campgrounds and five day-use areas in the Adirondack and Catskill Forest Preserves that provide a wide variety of experiences. For more information about DEC campgrounds, visit: **https://www.dec.ny.gov/outdoor/camping.html**.

Historic Collaboration to Restore Wildlife Habitat

DEC collaborated with the Saint Regis Mohawk Tribe, New York State Museum, and other partners to help address contamination and improve habitat in the Grasse River. The Grasse River provides habitat for freshwater mussels and renowned bass, walleye, and muskie populations. The Grasse River's freshwater mussel community is remarkable for its density and diversity; at least 15 different species have been found there. Thanks to DEC's innovative strategies, hundreds of thousands of freshwater mussels and the Grasse River ecosystems that depend on them will thrive once again.



Do You Own Land Near a Stream, River, or Lake?

Trees and shrubs, provided for free by DEC, can help improve your property's resilience to flooding, support wildlife, and improve the look and feel of your land. Interested? Sign up for the Buffer in a Bag program today! Participants will receive 25 free tree and shrub seedlings in the spring to plant alongside their waterbody.

Landowners must have at least 50 feet along a connected waterbody where the trees and shrubs can be planted. To learn about the details of the program and if you qualify, please visit **https://www.dec.ny.gov/animals/77710.html**. Applications open February 10 and are due by April 11. Contact **treesfortribs@dec.ny.gov** with questions or to receive assistance with your application.

Landowners in the Hudson River Estuary watershed may be eligible for additional assistance with streamside planting projects. For more details, visit the Hudson River Estuary Program's webpage at **https://www.dec.ny.gov/lands/43668.html.**

New Regulations Protect Wildlife Management Areas

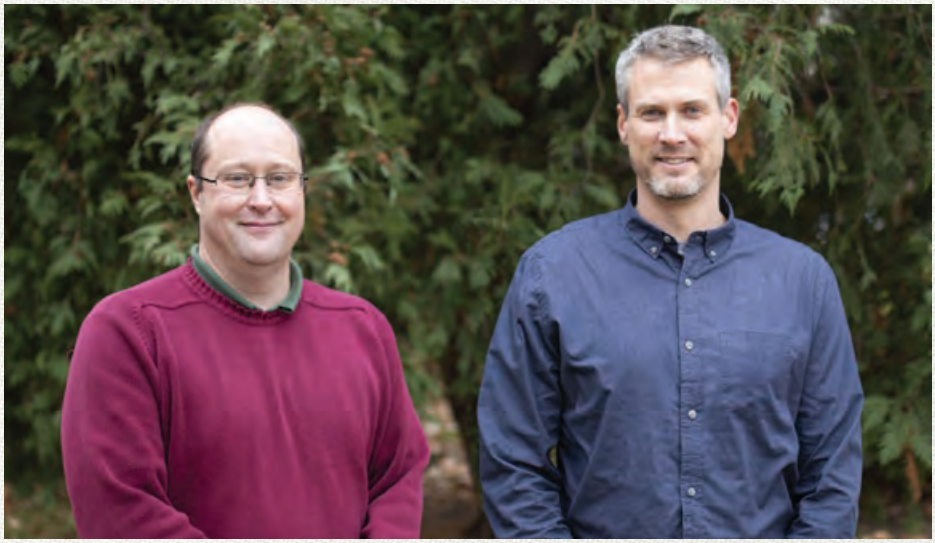
As public demand for outdoor recreation has increased, DEC recently adopted new regulations governing the public use of Wildlife Management Areas (WMA). The new rules ensure the WMA system continues to meet its primary goals of conserving wildlife and providing opportunities to safely hunt, trap, and appreciate wildlife. DEC's Division of Fish and Wildlife manages 125 WMAs and several Unique and Multiple Use Areas across the state—these areas comprise nearly 250,000 acres. Each WMA has a webpage that lists activities, available facilities, any site-specific restrictions, and a map of the area. For more information, go to: **https://www.dec.ny.gov/outdoor/7768.html**.

WILDLIFE RESTORATION

New Positions to Promote Sustainable Use of Forest Preserves

DEC recently created two new coordinator positions to help lead ongoing and collaborative efforts to promote sustainable use of public lands in the Adirondack and Catskill Forest preserves. McCrea Burnham (l) will serve as the Catskill Coordinator and Josh Clague (r) will serve as the Adirondack Coordinator, both longtime staffers from DEC's Division of Lands and Forests. The new Forest Preserve Coordinators bring decades of experience collaborating with local stakeholders to help address the environmental, economic, and public safety challenges affecting Forest Preserve communities.

There was a significant increase in the number of people who visited the Adirondack and Catskill Parks in 2021. DEC and its local partners recognize the need to conserve the Forest Preserves for future generations and to develop a framework to balance public use. The coordinators will help organize the implementation of management plans, develop consensus, oversee common resources, and coordinate the shared challenges caused by the uptick in visitors to the Forest Preserves.



BY ADVENTURE NY AND NEW YORK STATE PARKS STAFF

Many people look forward to the start of a new year, and here in New York, First Day Hikes have become a great way for people to enjoy nature, get some exercise, and spend time outdoors with friends and family.

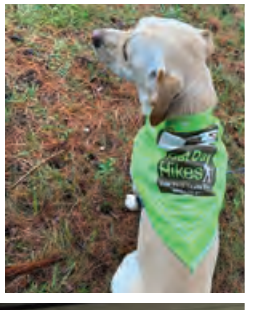
This year, more than 5,000 people participated in First Day Hikes sponsored by the Department of Environmental Conservation and the Office of Parks, Recreation and Historic Preservation. Hikes included lakefront and wilderness trails, historic forts and estates, mountain-top fire towers, and much more.

New York offers numerous hiking opportunities year-round, with trails for hikers of all skill levels, and there is likely a trail close to you that will offer a great outdoor experience.

The fun of First Day Hikes is clear in these photos—we hope they inspire you to get out into nature throughout the year.

For information on hiking and other recreational activities in New York State, visit: **https://www.dec.ny.gov/62.html**.

And don't forget to Love Our NY Lands when you are out in nature: **https://www.dec.ny.gov/outdoor/119881.html**.



Great Catch

I wanted to share a photo of my neighbors' son, Jameson Kisling, with a pike he caught ice fishing this past winter at Vischer Ferry Nature & Historic Preserve. Jameson was very proud of his catch!

SCOTT CRISAFULLI | SARATOGA COUNTY

What a great photo–you can tell how much Jameson was enjoying himself! Ice fishing can be a fun family activity, and you never know what you might pull up through the ice. Learn more about ice fishing on our website at ***https://www.dec.ny.gov/outdoor/7733.html*** *and in the December 2021/January 2022 issue of Conservationist.*

A Thorny Situation

I'm wondering if you could tell me what animal might have impaled these crab apples on the thorns of this bush? I know shrikes will impale prey, but I've never heard of, or seen, this before.

KEN SEHLMEYER | MALONE

This one has us a bit stumped! As you mentioned, shrikes will often impale prey on thorns, earning them the nickname "butcher birds", but after consulting with several of our bird experts, nobody is familiar with a bird impaling fruit like this. As best as we can figure, this might be the work of an industrious squirrel, stashing food for a later date. If any of our readers have seen something similar or have any other ideas, please feel free to share them with us!

A Squirrel of a Different Color

I wanted to share a picture of a white squirrel with a brown spot on his back. He frequents the ground below our bird feeder. He always comes alone and is chased away by other squirrels, but he bides his time and eventually gets his turn. A friend nicknamed him "Latte."

TERRY DUTTON | WEBSTER

Thanks for sharing! "Latte" is what is known as a leucistic squirrel, as opposed to the black, melanistic squirrel we featured in the August/September 2021 Letters section. Leucism is a condition where some of the normal pigments are missing, resulting in the white coloration. Animals with leucism can appear patchy, or even almost entirely white. All-white animals are often leucistic unless they have the characteristic reddish-pink eyes, making them albino, as is the case in the photo of "Squeakers" sent to us by John Raynor in Dewittville.

Ask the Biologist

Q: Can you please identify this pair of mushrooms and whether they are edible?

—BARRY STEVENS | CANASTOTA

A: *Visually, I think this is most similar to a purple-spored puffball (*Calvatia cyathiformis*), but it's extremely difficult to confirm that with just this picture. Trying to identify any mushroom with only a single picture from the top is always challenging, as the difference between species often depends on gill attachment, spores, and stem characteristics, which are viewed from the underside. As to whether or not it is edible, I always encourage people to do additional research with mycologists (mushroom experts) and local foraging groups, as some edible species can be easily confused with species that are toxic or even deadly. While many puffball species are indeed edible, they have some very deadly lookalikes, so it is very important to consult with experts before deciding to make a meal of them!*

—KELSEY MCLAUGHLIN, RESEARCH SCIENTIST, FOREST HEALTH DIAGNOSTIC LAB

The Turkey Has Landed

My wife and I found this unusual track in the snow. We think it is the track of a turkey landing. Thanks for a great magazine.

JIM AND KAREN DEMAY | CANANDAIGUA

Thank you for sharing your photos with us! This does indeed look like the result of a turkey coming in for a landing. Snow provides a unique opportunity to see what has been in your neighborhood, when normally you would never have known. Playing winter wildlife detective can be a fun activity, and you can see a guide to winter wildlife tracks on our website at ***https://www.dec.ny.gov/pubs/104996.html****.*

CONTACT US!

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Back Trails

Perspectives on People and Nature

It's a Dog's Life

BY PETER CONSTANTAKES

My dog is lying on the floor, sleeping or napping, which is pretty much what she does most of the time. But I've also noticed that she doesn't miss much when I think she's asleep. The words "who wants to go for a walk" are like an alarm clock for her. She immediately jumps up, runs to the front door, scratches it once or twice, and then rushes back toward me with a look that clearly says, "I'm ready. What's taking you so long?"

Of course, there are times when the weather doesn't cooperate. She's not a big fan of steady downpours or frigid temperatures, but other than that, she's always raring to go. And even in inclement weather, once her coat is on, she's determined to get out to sniff and explore (and, I hope, poop).

I was thinking about this on one of our recent early morning treks—one of those walks where she goes wherever her nose tells her to go. She has a route in mind and more dexterity than I do. She pulls and I trip over things I can't see in the dark. I almost always wind up with scratches on my arms or face when she rushes to and through bushes in pursuit of a creature I never even saw.

Maybe she gets her outdoor enthusiasm and energy because she's still young and spends most of her days resting and dreaming of adventures. I, on the other hand, envision a walk where I don't trip, or step into a deep puddle, or slip on the ice, or freeze parts of me that don't like to be frozen. I'm not young like her, but I realize I should let her enjoy her youth in the outdoors. I just wish she'd learn—desperately wish she'd learn—that trying to play with a skunk is a bad idea!

Regardless, I am still amazed at what she does. She uses every sense she has to explore the world around her. Every bush could be home to a playmate or a dinner entrée for her, and I've had to untangle her leash many times after it got wrapped up in those bushes. I sigh at the task; she sighs because it takes me too long to untangle her. There's so much more to explore, so we move on.

I think back to winters when I was young like her. I'd rush outside—often unprepared for the weather—to join my friends tobogganing, playing street hockey on snowy roads, skating on the cemetery pond, or just enjoying the snow. It seems so long ago that I had the freedom to explore such outdoor adventures, so I let my dog enjoy her time outdoors.

When we return from one of our winter forays, she rushes back into the house to her water bowl and slurps up its contents like she just came in from the desert, not the frozen sidewalks and snow-covered fields of a suburban neighborhood. And then she looks at me, questioning why her food hasn't been served yet.

People sometimes use the phrase "it's a dog's life." With my dog, it's clear she's living a good life. She seems happy, and that makes me happy. And I look forward to our next walk.

Peter Constantakes is the Managing Editor of the *Conservationist*.

Be a Part of the Climate Change Solution

Plant Trees and Shrubs from the DEC Nursery's Spring Sale

Trees remove carbon dioxide (CO_2) from the atmosphere through photosynthesis and then store the carbon in their leaves, roots, and trunks. Since climate change is largely driven by excess CO_2 in the atmosphere, maintaining our forests and planting more trees is a "natural climate solution." You can be part of that solution by planting low-cost trees and shrubs from DEC's Colonel William F. Fox Memorial Saratoga Tree Nursery.

Planting trees isn't just good for the climate, it can also improve wildlife habitat, protect water quality, and reduce heating and cooling costs. No matter your goal, remember to set that seedling up for success by choosing a species well-suited to your planting site's conditions.

DEC's Nursery has dozens of species available through the annual spring seedling sale, going on now through May 13. You can view species, prices, and ordering information on our website at **www.dec.ny.gov/animals/9395.html**. Species are sold in bundles of 25 seedlings or more, with some mixed species packets available. If 25 is too many, consider splitting an order with a friend!

New York's forests take 25.5 million metric tons of carbon dioxide (CO_2) out of the atmosphere each year that's equal to the CO_2 produced by about half of all the vehicles in New York State in one year of driving!

WANT FREE TREES FOR YOUR CLASS OR YOUTH ORGANIZATION?

Sign up for the Nursery's FREE School Seedling Program. Any school or youth-based organization in New York State may participate. Applications are accepted now through March 31. Visit our website at **www.dec.ny.gov/animals/9393.html** to learn more and to apply.

Colin Duryea