



Cedar Waxwing and Winterberry by John Whitney



**Erie County
Environmental Management
Council**

ANNUAL RECOMMENDATIONS REPORT 2020

Contents

Contents	3
Introduction.....	4
Climate Change.....	8
Climate Change Mitigation.....	8
Climate Change Adaptation.....	11
Ecosystem Health.....	15
Energy	17
Human Health and Environmental Justice.....	19
Land Use and Erie County Land.....	22
Solid Waste	24
Transportation	27
Water.....	30
Conclusion.....	33

Introduction

The Erie County Environmental Management Council (EMC), an advisory council to the County, is pleased to provide this report to the leadership of Erie County government. The report contains dozens of recommendations on how the County can work to protect our environment. Taking these recommended actions to protect the ecosystem we rely on is important for many reasons, including protecting human health and safety. The most pressing issue of our time, climate change, must be addressed in short order to avoid worsening dangerous conditions that are already evident locally, such as flooding, extreme heat and increases in vector borne diseases. The COVID-19 pandemic is sending shock waves throughout Erie County, New York State and the world. To better prepare for such events, it is essential that we build a more resilient system so that damage to the economy and harm to residents' health and safety is minimized. Building more resilience means improving our use of environmental resources to reduce damage or loss from a variety of natural hazards, while reducing our dependence on fossil fuels and ensuring an equitable distribution of County resources.

It is important to highlight that there is a real connection between the recent demands for racial equity, the global pandemic and climate change. For example, burning fossil fuels causes climate change and creates air pollution that harms our health, especially respiratory health. This is linked to racial inequality because, as described in The Washington Post, "68 percent of Black Americans live within 30 miles of a coal plant. Similarly, oil and gas facilities are disproportionately located in Black, Hispanic and indigenous communities. Hence, people in these communities are breathing dirtier air, making them more likely to die of COVID-19." It is vital that we link the solutions to the pandemic, climate change and racial inequity. **New York's Climate Leadership and Community Protection Act**¹ is the framework for such a solution, and our community needs to remain engaged in its interpretation and implementation.

The EMC's Annual Recommendations Report provides information for strategic planning and sets priorities for resource allocation. The report is divided into eight sections:

- Climate Change – Mitigation and Adaptation,
- Ecosystem Health,
- Energy,
- Environmental Justice and Human Health,
- Land Use and Erie County Land,
- Solid Waste,
- Transportation, and
- Water.

Although not called out in its own chapter, recommendations related to air quality are incorporated into Climate Change, Human Health and Environmental Justice, Land Use and Erie County Land, and Transportation.

To prepare this report, the **EMC**,² which is made up of municipal representatives and 12 at-large positions, used their monthly meetings to listen to and engage with County personnel and community-based organizations, concentrating on the issues addressed in the sections above. The EMC's recommendations were then developed from these conversations.

¹ <https://climate.ny.gov/>

² www.erie.gov/emc

It is important to note that the County has acted on many of the EMC's 2019 Recommendations. The EMC congratulates County leadership and staff for their work in improving Erie County's environmental quality. In particular the EMC wants to recognize that the County:

- Adopted and is implementing the **Erie County Climate Action and Sustainability Plan³** (CASP) for internal operations. The CASP was developed by the internal Green Team led by the County Executive's Office and was unanimously adopted by the Erie County Legislature. Highlights of the twenty-five CASP recommended initiatives include the Natural Resource Inventory for land management planning; the Native Plant Policy for County-owned facilities; stormwater management through green infrastructure; water conservation education for employees; guidelines for reduced waste; increased use of high efficiency and alternative fuel vehicles and equipment; improved access to alternative transportation modes; improved Erie County building energy efficiency; and most importantly, developing a financial mechanism to fund climate mitigation actions.
- Officially recognized the EMC's Climate Change committee, as the **County's Community Climate Change Task Force⁴** which includes representatives from not-for-profit and community-based organizations, municipalities, utilities, business organizations, and youth groups. The Task Force began meeting in January of 2019 and is advising the County on how to address community-wide greenhouse gas emissions and climate change impacts.
- Implemented measures to improve the **household hazardous waste⁵** collection events, including a new voucher drop-off program which gives County residents more opportunities to properly dispose of hazardous waste.
- Has contracted for both **on-site solar systems and energy performance improvements for County buildings**. These combined projects are projected to result in a more than 7% reduction in the County's greenhouse gas emissions for its internal operations.
- Has kicked off an exciting new program called **ECLIPSE** (Erie County Low Income Program for Sustainable Energy) that will work with the departments of environment and planning, social services and public works to address the home energy affordability gap for low income residents.
- Is expanding its **food composting program** at the Alden Correctional Facility to service other County buildings.
- Established the **Paris Fund** to fund sustainability programs using savings achieved through waste reduction and energy conservation projects. Unfortunately, this funding was drastically reduced as part of budget changes precipitated by the COVID-19 pandemic.
- Is working with partners to continue to creatively remind the community to bring reusable bags to stores in order to **reduce pollution from single use bags⁶**, including an inspirational project called Pollution Prevention through Art for K-12 students.
- Is collaborating with the **Greater Buffalo Niagara Regional Transportation Council⁷** to complete the process of creating a **regional bicycle plan⁸**.

³ www.erie.gov/casp

⁴ www.erie.gov/sustainability

⁵ www.erie.gov/recycling

⁶ www.erie.gov/recycling

⁷ www.gbnrctc.org

⁸ www.gbnrctc.org/bikebuffaloniagara



Aster by John Whitney

Members of the Environmental Management Council 2020

At-Large Representatives:

Anne Bergantz, Chair
George Besch
Meaghan Boice-Green
Paul Fuhrmann
Rosa Gonzalez
David Hahn-Baker
Jason Kulaszewski
Luke Krieg
Faustenia Morrow
Phil Stokes
Don Stribick
De'yrone Tabb

Municipal Representatives:

Amherst - Matthew Clabeaux
Aurora - Don Owens
Buffalo – Nadine Marrero*
Cheektowaga - Councilmember Linda Hammer
Clarence - Brenda Young
Concord - Supervisor Clyde Drake
Depew- Deputy Mayor Edwin Voll III
Eden - Greg Genco
Elma - Kimberly O'Rourke
Evans - Paul Michalec
Grand Island - Sam Akinbami
Hamburg (T) - Leona Rockwood
Hamburg (V) - Andrew Schrauth
Holland - William Kolacki
Lancaster (T) - Julius McCann
Newstead - Lewis Tandy
Orchard Park (T) - Richard Schechter
Tonawanda - Patrick Mang*
West Seneca - Karl Spencer
Williamsville (V) - Jane Vohwinkel

**Not formally appointed*

Members are appointed for a term from June 1, 2019 through May 31, 2021.

Over the past year, the EMC has also advanced and updated some of its own programs. The Sixth Annual EMC **Environmental Excellence Awards Program**⁹ continued to bring attention to municipal and not-for-profit projects with a positive environmental impact. There were four award winners this year: Cornell Cooperative Extension of Erie County's Master Gardener Volunteer Program, SUNY Erie & Buffalo Niagara Waterkeeper's Water Academy, the WNY PRISM Watercraft Inspection Stewardship Program, and Green Springville's Solarize Southtowns Campaign. The EMC will continue this award program next year with nomination forms to be released in January.

The EMC continues to advance its **Healthy Lawns Campaign**,¹⁰ called "**A Safe Home for the Gnomes**,"¹¹ by adding a lawn sign campaign where residents pledge to not use pesticides on their lawn and then receive a lawn sign to post on their property. The project has many partners. Cornell Cooperative Extension's assistance through their Master Gardeners Program has proved to be vital. The EMC pursued this project because reducing the use of lawn care chemicals and increasing native plantings is something that can be done by all homeowners. Moreover, these actions directly protect water quality, pollinators and human health. For example, preventing excess lawn fertilizer from entering storm sewers can reduce the likelihood of a harmful algal bloom occurring in Lake Erie.

The EMC looks forward to working with County staff and leadership to support and implement the following 2020 recommendations.



- by John Whitney

⁹ <https://www2.erie.gov/environment/index.php?q=environmental-management-council#Awards>

¹⁰ www.erie.gov/healthylawns

¹¹ <http://erie.cce.cornell.edu/gardening/-erie-county-healthy-lawns-campaign>

2020 EMC Award Winners

Cornell Cooperative Extension of Erie County – Master Gardener Volunteer Program:

The CCE Master Gardeners provided technical assistance to Erie County for the Safe Home for the Gnomes pesticide reduction program. They developed healthy lawn outreach materials, made healthy lawn presentations, held in-person outreach, registered pesticide free lawn pledges, distributed signs and mapped lawn sign locations. The pledge can be taken online at: <http://erie.cce.cornell.edu/gardening/-erie-county-healthy-lawns-campaign>.

New York Partnership for Regional Invasive Species Management (WNY PRISM) - Watercraft Inspection Stewardship program:

One of eight regional partnerships, WNY PRISM is protecting our aquatic resources by fighting the spread of invasive species. Boat stewards are teaching boat owners to identify and remove invasive species from their boats at seven public boat launches in WNY. This program resulted in 5,672 inspections, removal of 491 invasive species, and conversation with nearly 14,000 individuals. For more information about this program visit: <https://www.wnyprism.org/watercraft-inspection-program>.

Green Springville - Solarize Southtowns:

Green Springville is a volunteer based not-for-profit organization whose mission is to promote sustainable living in Springville and surrounding communities. Green Springville hosts regular speaker events and local clean-up efforts. In 2019 Green Springville began a large-scale community campaign to expand knowledge, dispel myths, promote the benefits and assist in the adoption of solar electric power across Southern Erie County called Solarize Southtowns.

Working with 5 municipalities (Concord, Colden, Eden, Evans, and Sardinia), Solarize Southtowns held 40 events, engaged over 120 residents across 14 zip codes and helped 34 homeowners install solar systems on their property. The program installed enough solar array to reduce regional greenhouse gasses by 271 metric tons of carbon dioxide emissions (MTCO_{2e}) annually. Comparatively, 354 acres of mature forest consumes this amount from the atmosphere in a year.

In addition, Solarize Southtowns was the first to include Solar-For-All, a NYSEDA program for low income residents. This program helped older residents on a fixed income to access solar electricity and reduce their energy bills. This program continues to be available to income eligible residents throughout Erie County and across New York State.

For more information about this program visit: www.facebook.com/GreenSpringville or contact greenspringvilleinfo@gmail.com.

Erie Community College and Buffalo Niagara Waterkeeper – Water Academy:

Working together, this innovative partnership provides a field-based environmental course twice a year. The Water Academy educates students, professionals, teachers and citizens. Over 475 participants have taken the course. This program is building the environmental capacity of WNY and improving the health and well-being of our community. For more information, visit <https://bnwaterkeeper.org/programs/wateracademy/>.

Climate Change

Climate change is an urgent threat, affecting all aspects of our economy, our well-being, and the natural world. It demands swift, decisive action.

In June 2017, County Executive Mark Poloncarz issued Executive Order # 17:

Erie County can act to ensure its part in protecting the well-being and future of our planet by promulgating a plan to implement the United States target contribution plan to the Paris Agreement, as it pertains to Erie County, and to take such further action as it may by law to enforce the target contribution goals set by the United States within the bounds of the County of Erie, State of New York.

The EMC is grateful for the County's leadership on climate change, and we applaud the actions the County is taking to prioritize climate change as a guiding principle for its operations and service delivery, and its commitment to the Paris Agreement goals.

In 2019, New York State passed the Climate Leadership and Community Protection Act (NYS Climate Act), which creates an exciting synergy between the New York State and Erie County programs and makes achieving Erie County's climate goals more feasible. The Act includes a commitment to:

- 70% renewable energy use by 2030 and 100% zero-emission electricity use by 2040;
- Limiting statewide greenhouse gas emissions to 40% of 1990 levels by 2030 and 85% by 2050; and
- Groundbreaking equity provisions, including a mandate that at least 40% of climate-related funding streams prioritize directing benefits to vulnerable and disadvantaged communities.

Climate Change Mitigation

Since committing to the goals of the Paris Climate Agreement and releasing its ***Erie County Commits to Paris***¹² report, the County has continued to implement initiatives that reduce greenhouse gas emissions. For example, in 2019 the Erie County Legislature unanimously adopted the ***Climate Action & Sustainability Plan***¹³ for internal operations, thereby setting more aggressive greenhouse gas reduction goals than those contained in the County Executive's Order that outlines a series of actions to achieve those goals. The County's Green Team is implementing many of those actions, such as creating a compost facility at the Erie County Correctional Facility and developing major energy conservation projects. The New York State Department of Environmental Conservation (DEC) has recognized these achievements and designated Erie County as a **Bronze Certified Climate Smart Community**¹⁴ in the fall of 2019. The County is now pursuing Silver Certification.

In 2019, Erie County spearheaded formation of the Climate Resiliency Committee for the New York State Association of Counties, which is a forum for New York State county governments to share strategies and coordinate their response to climate change.

¹²www.erie.gov/paris

¹³www.erie.gov/casp

¹⁴www.climatesmart.ny.gov

In January 2020, the County began developing a Climate Vulnerability Assessment in order to chart a course for making the County more climate resilient. Moreover, the County continues to work with the Community Climate Change Task Force, a subcommittee of the EMC, on climate change mitigation and adaptation planning. The EMC commends the leadership of the County and is actively participating in the **Erie County Commits to Paris** working group, as well as leading the Community Climate Change Task Force.

While the County has made good progress in mitigating climate change, especially within its internal operations, the County has not made significant progress mitigating climate change at the community level. The EMC urges the County to pivot its efforts to assertively lead the community on this issue. To that end, the EMC recommends that the County pursue the following climate mitigation initiatives:

1) Continue to work with the community to develop a comprehensive County-wide climate action plan with a focus on racial equity.

To achieve the County's Paris goals, and meet the goals of the New York State Climate Act, the County needs a comprehensive, community-focused climate action plan to be developed with community input. This plan could build from the **One Region Forward**¹⁵ framework to facilitate broader connections to neighboring counties. The plan should address greening our transportation systems, protection of natural carbon sinks, and renewable energy development among other topics, and provide a realistic blueprint for achieving these important goals. Finally, as the dominant human services provider in the community, the County has a unique understanding and capacity to assure that our transition to a low carbon community is a "Just Transition," - done equitably, and in a way that lifts up disadvantaged communities and people of color, and limits harm to workers impacted by economic change (see sidebar page 11).



*Erie County Executive Mark Poloncarz says the county will adhere to the Paris Climate Agreement.
Credit WBFO News photo by Eileen Buckley*

¹⁵<http://www.oneregionforward.org>

2) Provide direct support, assistance and coordination for local governments.

The County serves a convening and leadership role for local governments. Many local governments lack the resources or expertise to address climate change, and there may be opportunities for the County to efficiently address these capacity gaps.

For example, the County could support local government with the implementation and enforcement of **New York State’s Energy Code**¹⁶ and **Climate Smart Communities**¹⁷ model. Using its Erie County Low Income Program for Sustainable Energy (ECLIPSE) grant, the County can leverage its buying power for the benefit of local governments, including the purchase of green energy. The County can also provide template legislation for municipalities looking to develop local laws, helping to align County and local planning efforts. Finally, the **University at Buffalo Regional Institute**,¹⁸ through their role providing technical assistance for **NYSERDA’s Clean Energy Communities Program**,¹⁹ is currently developing a ratings framework to assess the sustainability of government projects, which is likely to be something the County should adopt.

3) Provide pathways and programs for residents to increase energy efficiency and reduce their climate footprint.

The County, across many of its operational areas, has deep interactions with the community – especially vulnerable populations. The County should ensure equitable distribution of resources when implementing the **New York State Climate Act**²⁰ for vulnerable populations in coordination with the **Live Well Erie**²¹ framework, and social determinants of health. We recommend that the County create and uplift programs to assist residents to address sustainable housing, energy efficiency, renewable energy, electrification of transportation and building heating, food access, public transportation access, and agricultural programs, by building on existing work by **PUSH Buffalo**²² and other community-based organizations. It is anticipated that the ECLIPSE, discussed in the Energy chapter, will be important for this effort.



People United for Sustainable Housing (PUSH Buffalo), is a membership-based community organization dedicated to affordable housing, equitable jobs and ecological sustainability for the West Side of Buffalo.

¹⁶<https://www.dos.ny.gov/dcea/energy-code.html>

¹⁷www.climatesmart.ny.gov

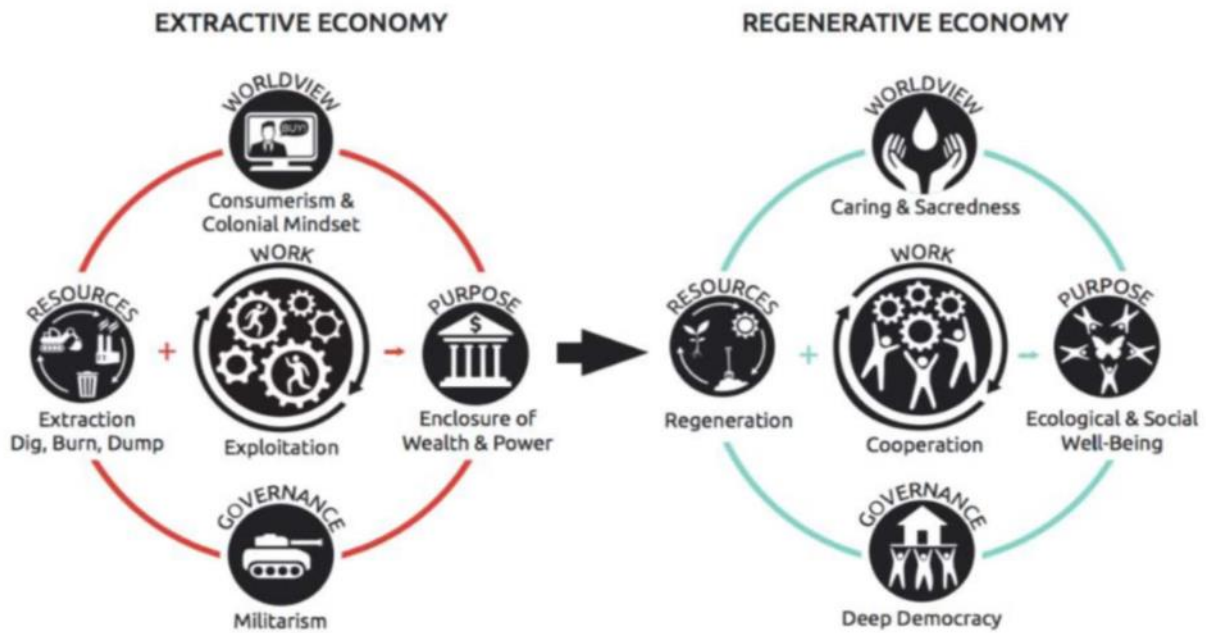
¹⁸<http://regional-institute.buffalo.edu/>

¹⁹<https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Communities>

²⁰<https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Communities>

²¹www.erie.gov/livewellerie

²²<https://www.pushbuffalo.org/>



Source: Climate Justice Alliance – Just Transition Principles

Just Transition

Just Transition is a principle, a process and a practice. The principle of just transition is that a healthy economy and a clean environment can and should co-exist. The process for achieving this vision should be a fair one that should not cost workers or community residents their health, environment, jobs, or economic assets. Any losses should be fairly compensated. And the practice of just transition means that the people who are most affected by pollution – the frontline workers and the fenceline communities – should be in the leadership of crafting policy solutions.

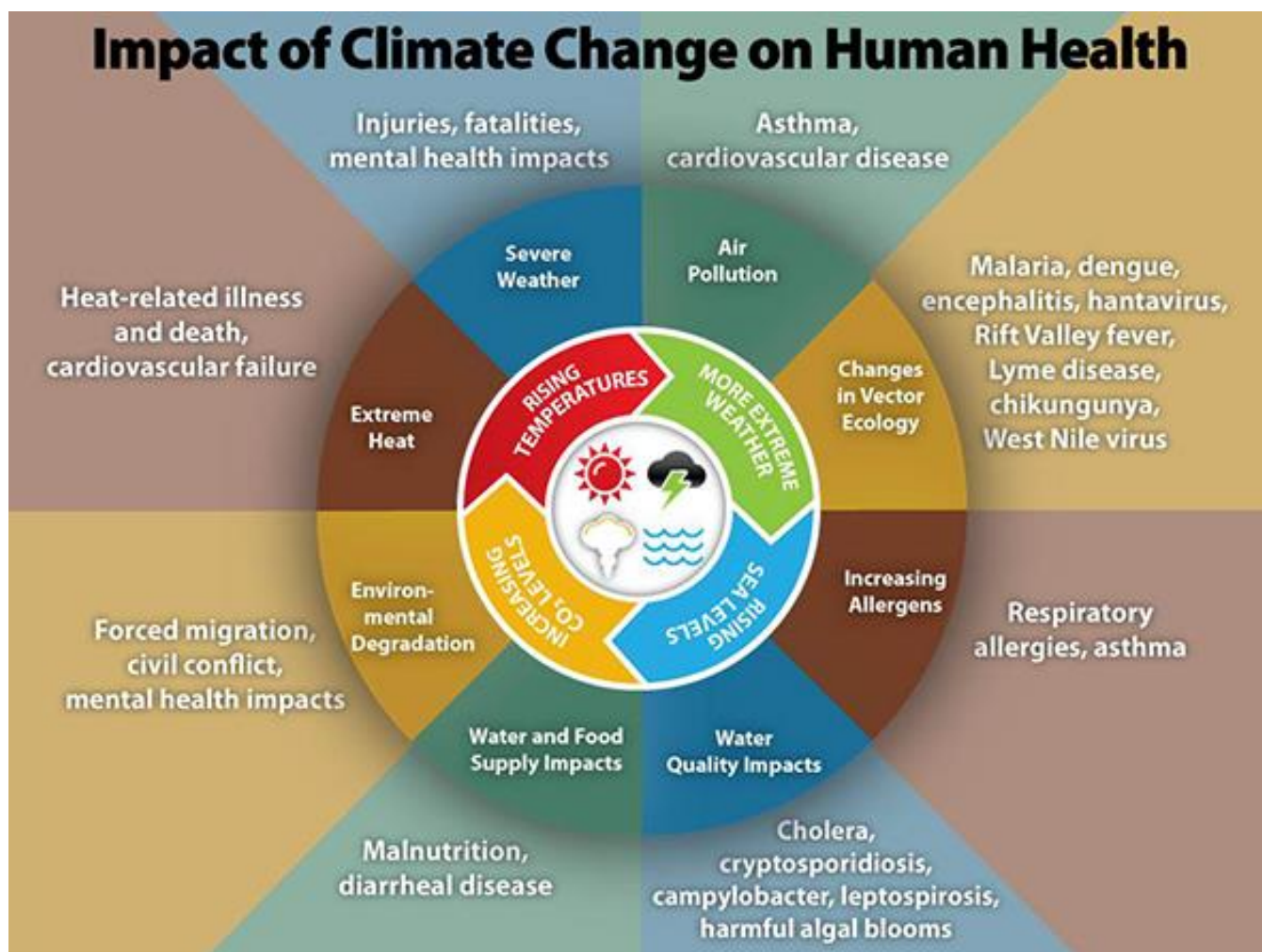
Climate Change Adaptation

While the County should continue to work to mitigate the impacts of climate change, it should also now plan and respond to the inevitable impacts of climate change. Our recent experiences with COVID-19 demonstrate how threats can have large and unintended consequences, and how planning and preparation, informed by the best science available, are key to protecting the community. Some things we have recommended in the past to mitigate climate change, like bicycle infrastructure and localizing our supply chain, have also made us more resilient to the impacts from the COVID-19 pandemic, and will make us more resilient to climate change.

The County is already experiencing impacts from climate change, including high temperature events, increased incidence of tick-borne disease, and intrusion of invasive species. As extreme weather events increase the occurrences of flooding across all communities of Erie County, severe erosion, sedimentation and debris accumulation in stream corridors also increase. This results in escalating costs for repair, remediation and replacement of public and private infrastructure and the loss of riparian habitat. The need to adapt to climate change and build a resilient Erie County is urgent.

This year, using funds from the New York State Climate Smart Communities program, the County began preparation of the Erie County Climate Vulnerability Assessment. The Assessment, which should be completed in 2021, will help the County better understand climate threats to our community, and its capacity to respond. The EMC serves in an advisory role through its Community Climate Change Task Force, and we commend the County for this important effort.

As the County has done with the *Erie County Commits to Paris*²³ report, the County climate adaptation efforts must have a community focus and leverage the County’s primary role and significant expertise serving vulnerable populations. Many of the anticipated climate impacts, including extreme temperature events, disproportionately impact low income people and people of color. The County’s efforts should explicitly support racially equitable climate adaptation. The effort should also address concerns that, due to our ample supply of fresh water, the region may deal with an influx of “climate refugees” from other areas.



Source: <https://www.cdc.gov/climateandhealth/effects/default.htm>

²³ www.erie.gov/paris

Regarding climate change adaptation, the EMC recommends that the County:

1) Conduct comprehensive adaptation planning for the community, with a focus on protecting vulnerable communities.

The ongoing Climate Vulnerability Assessment (CVA) project will help identify climate threats and the County's capacity to address these threats. The EMC recommends that the County build on the recommendations of the CVA by creating climate-threat-specific plans to address the identified threats. These plans need to include a focus on health and other impacts to vulnerable populations, especially people of color who will be disproportionately impacted by climate change, and should be informed by the County's experience responding to the COVID-19 pandemic. There should also be a focus on localizing supply chains, to make the County more economically resilient. Adaptation planning should be conducted in close coordination with the County's public health and human services efforts, especially around the areas of thermal vulnerability and vector-borne disease.

2) Assure climate resilience of Erie County-owned infrastructure.

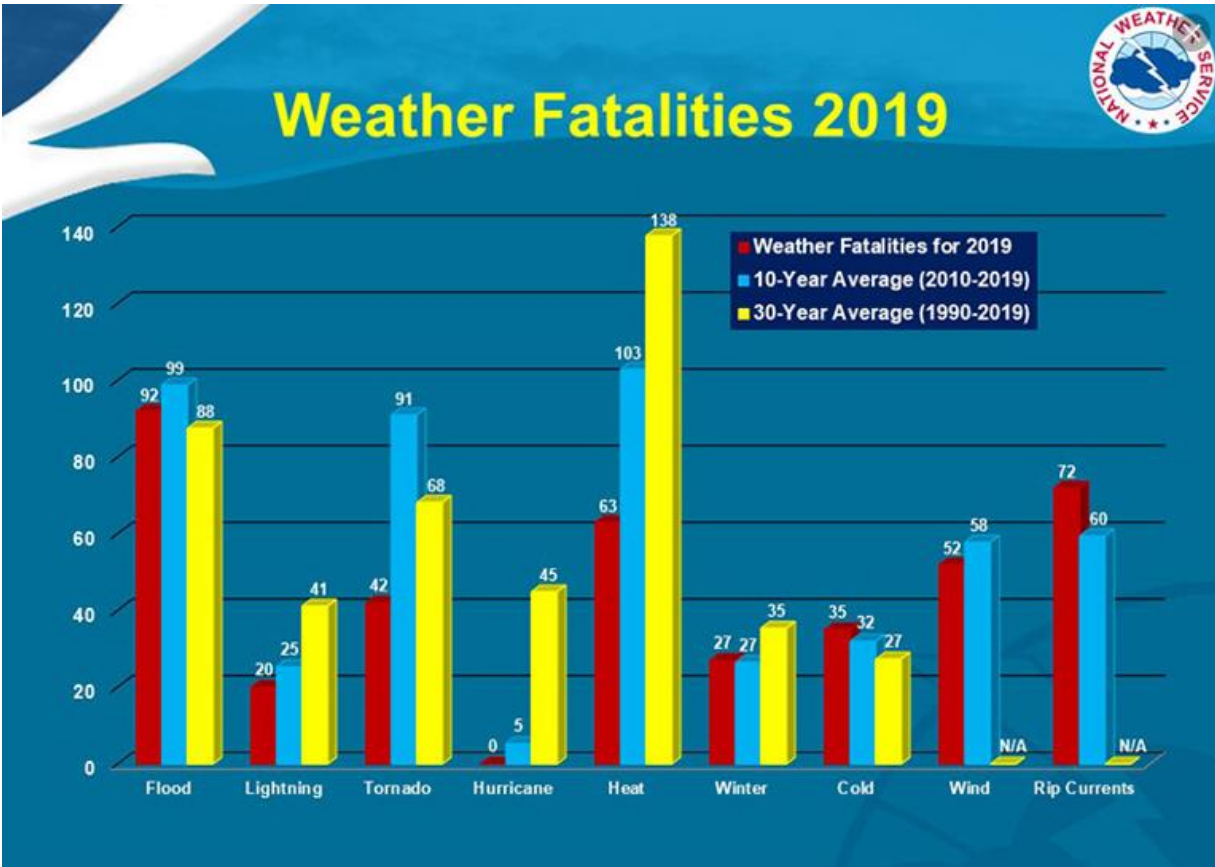
The County maintains significant critical infrastructure, including roadways, wastewater collection and treatment, a correctional facility, and buildings housing the County's staff. The County self-enforces building code for its infrastructure. For new building projects, anticipating climate change and building infrastructure that is resilient will be much less expensive than rebuilding existing infrastructure later. It is recommended that the County update its planning guidelines and procedures to reflect anticipated or potential impacts from climate change, in order to lower future risks and costs. This might include adoption of the "stretch" **energy code**,²⁴ which would improve building performance, making buildings more resilient to thermal events and utility disruptions.

²⁴ <https://www.nyserda.ny.gov/All-Programs/Programs/Energy-Code-Training/NYStretch-Energy-Code-2020>

²⁵ <https://www.cdc.gov/climateandhealth/pubs/climatechangeandextremeheatevents.pdf>

Thermal Vulnerability

Heat and cold waves claim more lives than any other weather-related event, and despite living in a relatively cool-climate region, residents of Erie County experience vulnerability to both extreme cold and heat. Research has shown that cool-climate communities like ours are even more vulnerable to high heat events than **warm-climate communities**.²⁵ Many homes in our community lack air conditioning. In low income neighborhoods, there is an abundance of older, less insulated housing, and there are many residents who have health problems that make them sensitive to heat. Urban residents in 'heat islands' are especially affected, along with rural residents in low quality manufactured housing. Through its roles in emergency response and health, the County currently has some programs in place to address extreme temperature events, including coordinating availability and outreach for cooling centers. The Climate Vulnerability Assessment will evaluate the increasing threat of high temperature events, map areas that are especially vulnerable, and assess the County's ability to respond. To make our community more climate resilient, the County will need to plan and build out programs and interventions to address thermal vulnerability. The County can use its information about temperature-vulnerable households developed through its health and human services roles, and work with existing federal and state weatherization programs to target vulnerable households for insulation and weather sealing projects. Other programs might include guidelines to incorporate shading into the design of public spaces like bus stops and sidewalks, and incorporating more trees and other green infrastructure into urban spaces.



3) Support climate resilience for the community.

Climate change is disproportionately impacting vulnerable populations, and especially people of color. Those impacts will continue to increase. As the dominant public health, emergency services, and human services provider for the community, the County has unique capacity and expertise working with vulnerable communities. We recommend that the County use its capacity to develop and expand programs that improve climate resilience for residents, businesses and especially vulnerable communities. Although the Community Vulnerability Assessment and follow up planning will begin to point the way forward, Erie County should prioritize inclusion of community climate adaptation broadly into how it serves and protects the community.



Oaktree by John Whitney

Ecosystem Health

Erie County has been actively involved in efforts to protect living infrastructure and enhance ecosystem health. These efforts include developing management tools such as the county-wide Natural Resource Inventory (NRI) which provides land use managers with tools for early warning and detection of biological stressors so corrective measures can be achieved in a time and cost-efficient manner. The County works with the Lake Erie Watershed Protection Alliance (LEWPA) (www.erie.gov/lewpa) and other partners to identify opportunities for enhancing natural habitats including floodplains and wetlands along Lake Erie. The County has also helped the EMC to promote its updated Healthy Lawns Campaign called **A Safe Home for the Gnomes**.²⁶ Additional County initiatives include habitat restoration projects along the Buffalo River, pollinator habitat preservation at Times Beach Nature Preserve, stormwater pollution prevention education, and invasive nuisance species outreach and education.

The development of nature-based climate change solutions will strengthen our living infrastructure (see side bar for an explanation of living infrastructure, page 16) and build resilience into the Western New York region. Erie County has already been incorporating these strategies in some of its projects. For example, by repurposing mature tree root wads, and incorporating live native plant stakes, the shorelines at Erie County Natural Habitat Parks (Seneca Bluffs, Thomas F. Higgins, and Red Jacket) were restored, thereby improving habitat for fish, waterfowl, amphibians and wading birds. Converting deeply eroded shorelines into gently sloping, vegetated areas also helped filter and retain stormwater onsite, to recharge the water table and protect downstream habitats.

Regarding Ecosystem Health, the EMC recommends that the County:

1) Manage and boost plantings county-wide to increase our trees and native plants

- a. Increase tree canopy within the County by partnering with municipalities to inventory trees in community and County parks, applying for grant funding for trees as well as planting and maintaining street trees by amending our existing inter-municipal agreements (e.g. snow plowing).
- b. Partner with The Nature Conservancy's Working Woodlands program to update the drafted 2003 County Forest Management Plan. This will guide proper forest management practices through sound ecological, economic, recreational, educational, and public safety considerations.

2) Improve natural habitat for native species and pollinators

- a. Work with community partners available green space and greenhouses to grow native plant species for transplant throughout the region.
- b. Work with partners to develop a pollinator corridor to increase pollinator densities and educate the public on the importance of pollinators for our food production.
- c. Educate the public on both native plants and invasive species and encourage them to use iMapInvasives (www.nyimainvasives.org) to map invasive species.

²⁶ www.erie.gov/healthylawns

Living Infrastructure

Living infrastructure refers to the network of natural systems and engineered systems, such as storm and wastewater practices, that affect ecological processes including the hydrological and nutrient cycles. Creating a robust living infrastructure strengthens a region's resilience to climate change. Robust living infrastructure fulfills the following conditions:

1. Harbors and supports indigenous flora, fauna, migratory species and pollinators
2. Conserves and replenishes fresh water and protects and restores fertile soils
3. Connects people to nature
4. Employs strategies to eliminate or regulate impacts to climate, hydrologic cycles, nutrient flows, natural hazards, and pests.

(<https://ecodistricts.org/wp-content/uploads/2013/05/Living-Infrastructure-Guide.pdf>)



The Brooklyn Bridge as a Living Infrastructure



Working Woodlands Program

The Nature Conservancy's Working Woodlands Program works with landowners to analyze their property's potential as wildlife habitat and for fighting climate change. In return, participating landowners receive:

A detailed assessment of the forests, wildlife and carbon on their property;

A customized 10-year forest management plan;

Certification by the **Forest Stewardship Council® FSC C008922** which allows the sale of forest products under the FSC-certified label.

In addition, Landowners who enroll their property in Working Woodlands can take advantage of The Nature Conservancy's capacity to quantify the carbon-capturing power of their forests, which will allow them to sell carbon offset credits to businesses.

nature.org/workingwoodlands

Energy

The EMC commends the County’s leadership on energy conservation and renewable energy. In particular, the County’s commitment to consume 100% renewable energy for its operations by 2030 stands out as an ambitious and important goal, demonstrating the County’s willingness to lead by example. Erie County’s designation as a Clean Energy Community in 2019, its embarking on a large energy performance contract for County buildings in 2020, and the development of renewable projects on County properties planned for 2020, are additional examples of the County’s leadership in energy conservation.

Renewable Energy Goals

Goal	Scope	Source
100% renewable energy in County buildings by 2030	Internal Operations	Erie County
70% renewable energy by 2030	Community-wide	NYS Climate Act
100% clean energy by 2040	Community-wide	NYS Climate Act

Even with this good progress, for the County to meet its **Paris Climate Summit goals**²⁷ and the renewable energy requirements of the **New York State Climate Act**²⁸, there will need to be an increased focus on energy efficiency and supply for the community. Poor quality housing, high utility bills and energy burden afflict many low-income residents. Moreover, addressing low-income community energy needs supports the County’s anti-poverty and health goals. Currently, the County has programs that address community energy for some populations, including those administered by the Home Energy Assistance Program and the Community Development Block Grant program, but the County’s Paris goals require a broader approach. For this reason, the EMC is very excited to see the County embark on the Erie County Low Income Program for Sustainable Energy project (ECLIPSE, see sidebar next page), and we encourage the County to push forward with strong community energy programs.

Regarding Energy, the EMC recommends that the County:

1. Advocate for local renewable energy projects while managing development pressures and implications of the accelerated New York State renewable siting law.

It is important that the County assertively advocate for the broad community interest of renewable energy, including for the interest of low-income and minority County residents, whose voices are almost never heard in discussions about siting of renewable energy projects, and who are most impacted by climate change. The County should engage these communities in siting discussions, and work to make sure the community is not misinformed about renewable energy.

²⁷ www.erie.gov/paris

²⁸ <https://climate.ny.gov/>

Erie County Low Income Program for Sustainable Energy (ECLIPSE)

In 2020, Erie County's Departments of Environment and Planning, Social Services and Public Works kicked off a NYSERDA funded project to create a community scale energy program to spur local energy-related economic development, increase use of green energy in the community, and reduce the high energy cost burden that afflicts low income households. ECLIPSE will extend the benefits of Erie County's bulk energy purchasing efforts to municipal, residential and small commercial customers. It will also drive collaboration between departments that provide energy and environmental services to reduce disparities across populations facing high energy burdens.

This needs to be balanced with the recently enacted **Accelerated Renewable Energy Growth and Community Benefit Act**,²⁹ which will create a new, accelerated siting process by the summer of 2021. The law creates an urgent need for towns and villages to enact local renewable energy laws or otherwise risk unfettered development that could damage important forests, headwaters, wetlands and farm lands. It is important that the County support a community education campaign aimed at local governments to support local renewable energy laws that balance the need for renewable energy development with important land use protections, prior to this recent New York State law taking effect. See Lesson 1 of the **One Region Forward 2020 Training Series**³⁰ for a presentation regarding the new siting process.

2. Leverage contracting capacity and first-hand experience/expertise to support municipal energy efforts.

The County has gained significant energy related experience through their work with energy performance contracts, electric vehicle infrastructure, LED lighting,

green procurement, and renewable energy development. It is recommended that the County provide direct technical support and education to local governments to share its expertise and experience about green energy and energy efficiency. Additionally, we recommend that the County uplift and support organizations already doing work in this arena such as the **University at Buffalo Regional Institute (UBRI)**,³¹ **People United for Sustainable Housing (PUSH) Buffalo**³² and others.

3. Develop community programs to address energy efficiency, renewable energy, and energy burden

Historically, the County has had a limited but important role in addressing community energy use. To address community-wide Paris Climate goals, it is critical the County have a focused effort on community energy at a broad level, coordinated with existing New York State programs. The EMC strongly supports the ECLIPSE program's focus on developing a community energy program (see sidebar). The EMC also recommends the County support education for residents about existing programming, including NYSERDA's Clean Heating and Cooling Program (heat pump), Solarize and Solar for All (solar), Home Performance with Energy Star, and EmPower New York (energy efficiency). Public education should leverage existing contact with the community through the County's human services work, and should also work with community groups to facilitate information dissemination. Where needed, the County should create informational materials to help residents and business owners navigate this complicated landscape.

²⁹<https://www.nyserda.ny.gov/About/Newsroom/2020-Announcements/2020-04-03-NEW-YORK-STATE-ANNOUNCES-PASSAGE-OF-ACCELERATED-RENEWABLE-ENERGY-GROWTH-AND-COMMUNITY-BENEFIT-ACT-AS-PART-OF-2020-2021-ENACTED-STATE-BUDGET>

³⁰<http://www.oneregionforward.org/learning2020/>

³¹<http://regional-institute.buffalo.edu/>

³²<https://www.pushbuffalo.org/>

Human Health and Environmental Justice

Toxic hazards in Erie County pose threats to the quality of our environment and the health of our residents. While some hazards originate from industrial toxic releases, others are embedded in older housing stock and abandoned sites near residential communities. As an area with a long industrial history, Erie County must work hard to better ensure the health of its citizenry and a toxic-free future.

The New York State Department of Environmental Conservation lists 86 “Active” County sites in its **Environmental Site Remediation Database**³³ as of July 8, 2020. These are sites deemed to be posing a threat to the public where remediation activities are planned or taking place, but are not complete. Additionally, another 394 sites are classified as either under investigation or considered to no longer pose a threat to public health.

Ongoing toxic releases from industry are another threat to the County’s public health and the environment. Recent data from the US Environmental Protection Agency shows that Erie County is home to 61 facilities that reported over one million pounds (1,017,552 lbs.) of toxic releases either into the local environment or transferred off-site in 2018 alone. Nearly 70% of these releases (710,301 lbs.) were released directly into local environments. The two largest polluters among these facilities, 3M and Dupont, are located near one another and account for 506,029 lbs. (71%) of the **local on-site releases**.³⁴

Remediation sites and industrial emissions are not distributed evenly across the County. Some communities are home to many more hazardous sites and industrial emissions than others. Most active sites and industrial emissions are in Buffalo, Lackawanna, and Tonawanda - communities with a long history of industrial activity and lower income populations. Within these communities, hazards are often clustered. Consequently, the people who live in communities that are adjacent to, nearby and downwind from these hazards face an increased risk of adverse health impacts. Research on toxic hazards outside of Erie County shows that people living nearby are more likely to experience low birth rates, birth defects, immune system disorders (such as Lupus), cancers of various types, respiratory illnesses and many other threats to their health.

Hazards are also not distributed equally across the socio-economic landscape. People with lower incomes and people of color face much greater risks of **health complications imposed by these hazards**.³⁵ Erie County residents living in older housing stock are more likely to be exposed to the dangers of lead from **lead-based paints and from lead plumbing**.³⁶ Lead has been shown to affect the development of fetuses and have behavioral and health impacts on both adults and children. Children are at particular risk of suffering long-term cognitive development effects. People living in densely populated neighborhoods with older housing are at particular risk from lead. Racially biased income disparities in Erie County put people of color at particular risk of health threats **related to lead**.³⁷

³³<https://www.dec.ny.gov/chemical/8437.html>

³⁴https://enviro.epa.gov/triexplorer/tri_release.geography

³⁵**Poverty in Buffalo: Causes, Impacts, Solutions, Partnership for the Public Good 2018, p. 16**

https://ppgbuffalo.org/files/documents/poverty_low_wage_work_income_inequality/truth_commission_report__poverty_in_buffalo_causes__impacts__solutions.pdf

³⁶**Erie County New York Community Health Assessment 2014 – 2017, page 32 and 33**

<http://www2.erie.gov/health/sites/www2.erie.gov.health/files/uploads/pdfs/CHA.pdf>

³⁷**Erie County New York Community Health Assessment 2014 – 2017, page 32 and 33**

The outcomes of this inequality are magnified by social determinants of health. According to the Buffalo Center for Health Equity 2019 Report ***Building a Culture of Health & Ending African American Health Disparities***:

The health inequities affecting African Americans in Buffalo, like in many American cities, are the downstream effect of failing schools, high unemployment, low property values, poor access to public transportation, absence of grocery stores, lead contamination in homes, highway pollution, brownfields and poor access to healthcare. These social and economic conditions are known to be the primary drivers of health.

As this suggests, environmental hazards in Erie County threaten not only public health and environmental quality, they are issues of environmental and racial justice that impose disproportionate impacts across the social and geographic landscape of our communities. Erie County must strive to ensure safe places to live, work, and play for all residents regardless of income or color.

Another source of human health hazards in our environment is household products. Electronic waste, commonly known as E-Waste, consists of computers, phones, televisions and other electronics containing materials that are harmful to both environmental and human health. These consumer products are often disposed of in unsafe manners, including the trash or along roadsides. Household Hazardous Waste (HHW) includes products that have warning labels such as “flammable”, “toxic”, or “corrosive.” These include pesticides, solvents and fuel. Improper disposal of HHW can include pouring them down the drain, on the ground, into storm sewers, or in some cases putting them out with the

regular trash. The dangers of such disposal methods might not be immediately obvious, but improper disposal of these wastes can pollute the environment and pose a threat to human health. Certain types of HHW have the potential to cause physical injury to sanitation workers, contaminate septic tanks or wastewater treatment systems if poured down drains or toilets. They can also present hazards to children and pets if left around the house.

Erie County has worked to address many of these issues in the past and the EMC recognizes the County’s good work on:

- Erie County Departments of Health and Environment & Planning working on lead (Pb) in partnership with the Community Foundation for Greater Buffalo.
- Erie County’s Brownfield Program, such as the current project at Bethlehem Steel, have reclaimed former industrial land, which also prevents suburban sprawl and discourages green space development



The flyer features a yellow background with a red header and footer. The header contains four icons: a person at a desk, a person with a briefcase, a person at a car, and a person with a house. Below the icons, the text reads "GOT HHW?" in large white letters, followed by "Household Hazardous Waste (HHW)" in smaller white letters. The main body of the flyer is yellow and contains the text: "Erie County's no cost HHW Drop-off Program is here when you need it. Reserve your drop-off time (Mon-Fri & Sat)." Below this, a red banner contains the text: "MAKE AN APPOINTMENT TODAY AT WWW.ERIE.GOV/RECYCLING OR CALL 716-998-8073". The bottom section is yellow and contains the text: "Erie County has partnered with Hazman in Tonawanda to provide a flexible HHW drop-off program for you to dispose of up to 50 pounds of hazardous household chemicals. Electronic & appliance disposal available for an additional fee." The footer is red and contains five icons: a bottle of liquid, a spray can, the Erie County seal, a trash bin, and a jug.

- Erie County Health Department enforcement of the Neighbor Notification Law. This law requires lawn care companies to notify neighbors prior to pesticide application. This allows neighbors to close their windows or bring in items which may be contaminated by drift.
- Erie County's Household Hazardous Waste Program provides for safe disposal of hazardous chemicals and materials. In 2020 this program has expanded and now includes both single-day events and a voucher program that allows residents to dispose of these materials at a facility in Tonawanda.

Regarding Human Health and Environmental Justice, the EMC recommends that the County:

1. Create a citizen friendly website regarding hazardous sites and industrial emissions. The people of Erie County are entitled to know the types and amounts of toxics hazards in their communities as well as the risks they bring. The page should provide an interactive map of known hazards and be updated annually, providing links to the health risks of each reported substance. The page should report updates on the status of New York State Department of Environmental Conservation designated remedial sites. The page should provide citizens with information on lead safety, remediation resources, legal rights, and actions they can take to create a safer home environment. This map could be added to or modeled after the County's current **Natural Resources Inventory interactive map**.³⁸
2. Direct resources toward those areas that carry the greatest need for public health intervention. In the case of lead hazards, the County could use housing data and field observations to identify neighborhoods most at risk from lead paint and lead plumbing. Additionally, the county could incorporate social and demographic data to assess how lead risks are distributed socially and geographically.
3. Create a chemical disposal/reduction education program for existing County programs. Use existing County methods of communication, such as County electronic newsletter, website, social media, emails, and press releases to educate the public on how to reduce their chemical use. Topics could include proper storage and disposal, reducing pesticide use, label reading, and safe alternatives.

Environmental Justice

Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies³⁹. This goal will be achieved when everyone enjoys:

- the same degree of protection from environmental and health hazards, and
- equal access to the decision-making process to have a healthy environment in which to live, learn, and work.



³⁸ www.erie.gov/sustainability#NRI

³⁹ <https://www.epa.gov/environmentaljustice>

Nature Based Climate Solutions

Nature Based Climate Solutions are the sustainable management and use of nature for solving climate change issues such as water security, water pollution, food security, human health and disaster risk management. Decisions around land use are pivotal to addressing climate change. Conservation, restoration and improved land management can increase carbon storage and avoid greenhouse gas emissions in landscapes and wetlands across the globe. Moreover, nature-based solutions will help reduce financial consequences of climate change, and contribute to the creation of new jobs, livelihood resilience and poverty-reduction. Nature-based solutions also support vital ecosystem services, biodiversity, and access to fresh water, improved livelihoods, healthy diets and food security from sustainable food systems. For example, trees not only take in carbon dioxide, they also help reduce the impact of urban heat islands and mitigate stormwater issues.



Natural climate solutions are vital to ensuring we achieve our ultimate objective of full decarbonization and can simultaneously boost jobs and protect communities in developed and developing countries.



CHRISTIANA FIGUERES

Convener of Mission 2020 and former head of the UNFCCC

Land Use and Erie County Land

Land use decisions have both an immediate and long-term impact on the quality of the air we breathe, the water we drink, and the way in which we live, work, commute and recreate. As a home rule state, local municipalities in New York have control and authority in their jurisdictions to make rules and decisions concerning a wide range of land use issues. These decisions affect the total health of the entire Western New York bioregion. Despite this, there are opportunities for Erie County to advance land use practices that will lead to greater stability and resiliency for our communities.

Erie County manages approximately 11,000 acres of land that are in the cities, towns, and villages throughout Erie County. With its far-reaching land portfolio, the County not only has the duty to administer responsible land use decisions that support and enhance good stewardship practices, it also has a powerful opportunity to demonstrate how land use practices can further enhance ecosystem health which will lead to greater resiliency for the Western New York region from both the effects of climate change and crisis level events.

The EMC commends Erie County for creating a Deputy Commissioner of Recreation position in the Department of Parks, Recreation & Forestry, which serves as the point of contact for community groups to partner with the Department. Leveraging partnerships has resulted in excellent Parks projects in the past and is even more important now with the economic impact of the pandemic. Moreover, Erie County is implementing its updated Parks Master Plan, which includes best practices like low-mow, no-mow and natural regeneration areas in the Parks.

Regarding Land Use and Erie County Land, the EMC recommends that the County:

1. Invest in and use Erie County’s land portfolio for developing and implementing natural solutions and sustainable land use decisions to address crisis-level events such as the growing impact of climate change, the COVID-19 pandemic and the extinction crisis.

Erie County maintains a large portfolio of properties across diverse landscapes, including agricultural, forest, beach, waterfront, high elevation, suburban and urban settings. This biodiversity places Erie County in a prime position to demonstrate best land use practices such as nature buffers, no or low mow areas, greenspace set asides, and forestry management; introduce nature-based solutions to climate change, such as tree, native plant, and pollinator plantings.

2. Use Erie County’s land portfolio to develop and implement a regional approach to sustainability.

The COVID-19 pandemic has revealed how our socio-economic system, can be severely disrupted by a crisis-level event. These types of disruptions can be especially devastating for the poor and underserved communities throughout the Western New York region.

However, with its land portfolio, Erie County has an excellent opportunity to lead the sustainability movement in Western New York. The County is encouraged to explore and develop a regional approach to sustainability. For example, by using its newly secured land in the Town of Evans for the creation of an agri-business park, Erie County can demonstrate sustainable approaches to growing, manufacturing and production; and use this land to demonstrate how to secure and protect agricultural, natural, and sensitive lands from development; work with municipalities to ensure the proper location of large-scale utility grade energy generating systems; and improve and protect water quality by working with municipalities to ensure the entirety of our waterways are monitored and protected.

Important Partners and Resources

There are many excellent area organizations, entities and plans that support sustainable land use. The County already works with them on a regular basis and they play an important role in land use projects.

- **Erie County Soil and Water Conservation District:** <https://www.ecswcd.org/>
- **Lake Erie Watershed Protection Alliance:** www.erie.gov/lewpa
- **Agricultural and Farmland Protection Plan:** www.erie.gov/agriculture
- **Cornell Cooperative Extension of Erie County:** <http://erie.cce.cornell.edu/>
- **Erie County Climate Action and Sustainability Plan:** www.erie.gov/casp
- **Erie County Parks and Forestry Management Plans:**
<https://www2.erie.gov/environment/2018-parks-master-plan-update-0>
- **WNY Regional Sustainability Plan:**
<http://www.regionalcouncils.ny.gov/sites/default/files/2018-04/Western-NY-CGC-Plan-Report.pdf>
- **One Region Forward:** <http://www.oneregionforward.org/>

Solid Waste

Erie County is actively working to reduce waste and increase recycling and food composting in its internal operations. For example, the County recently received a New York State Department of Environmental Conservation (DEC) grant to expand the compost program at the Alden Correctional Facility so that it can receive food waste from other County buildings. The County is also working with municipalities through the Erie County Solid Waste Management Board to promote waste reduction, reuse, recycling and composting to residents. For example, the County is educating the public about reducing single-use plastic consumption, specifically plastic packaging, straws, clam shells, film and polystyrene. One element of that education is the **Plastic Pollution Prevention through Art Program**,⁴⁰ which works with students to create art about single-use plastic pollution that are then displayed at the Buffalo Museum of Science. In addition, the EMC is working with the County and other partners to reduce waste by promoting the use of reusable shopping bags. Outreach includes giving reusable bags to low income residents and working with the BYO Coalition to promote **How to Make Your Own Bag from a T-shirt** at: www.erie.gov/byobag. The EMC commends the County for all these efforts.

Despite this outreach and education, collection and disposal of solid waste is a growing challenge for local municipalities. Following the many measures taken to stop exposure to COVID-19, it is expected that there will be an increase in solid waste with a corresponding increase in disposal costs. For example, one impact from social distancing is the expansion of take-out meals by restaurants that are closed to inside dining. Takeout food is packaged in plastic containers and often includes single-use disposable plastic tableware. All this plastic packaging and tableware will ultimately end up in a landfill. In addition, changing markets have interrupted the recycling system resulting in more materials going into landfills. This has led to public confusion on what is recyclable and why certain items are no longer accepted.



www.solution2plasticpollution.com/

Grades 9-12

I Am the Solution to Plastic Pollution

A WNY Student Art Project and Gallery

Students across Western New York are submitting art work promoting plastic pollution prevention.

Listen to the collective voices of youth, encouraging you to be part of the Solution to Plastic Pollution.

It is our hope that students find solutions in their own behavior and their own choices. Hence the title of our gallery: ***"I Am the Solution to Plastic Pollution."***

⁴⁰ <https://www2.erie.gov/recycling/index.php?q=teaching>

Regarding Solid Waste, the EMC recommends that the County:

1. Develop regional partners and practices. For example, the County could:

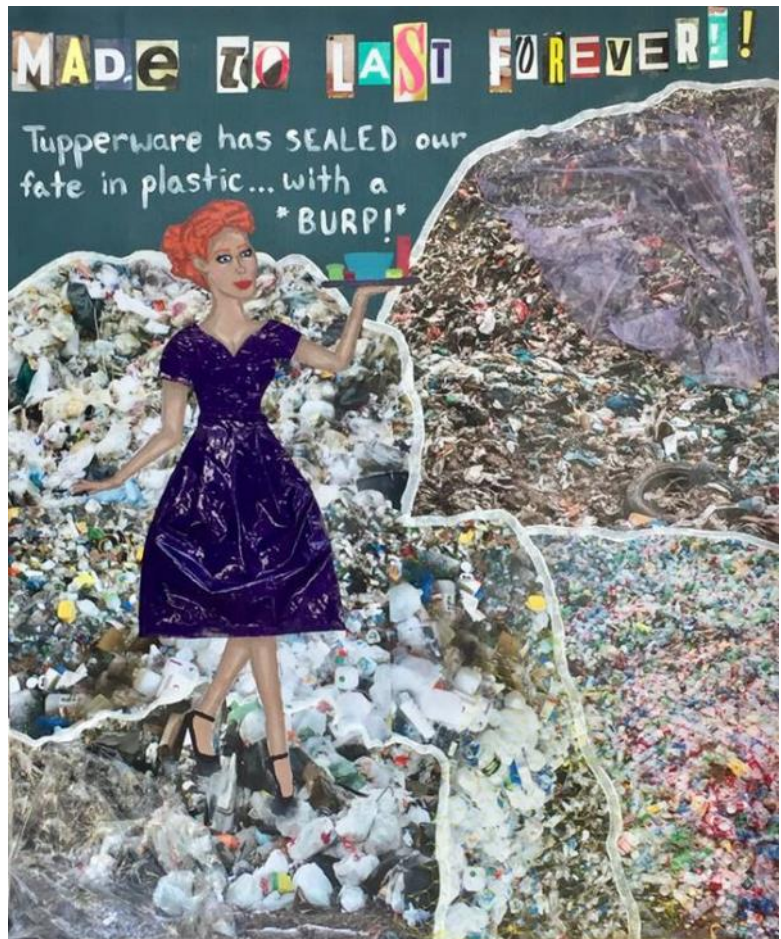
- Create a standardized list of recyclables for all municipalities across the County. The County can take a leadership role by convening a regional task force including municipalities and regional governments as well as waste industry leaders from Modern and Waste Management. A standardized menu of recyclables will enable the County to put out clear and correct information that will help residents recycle properly. This will reduce the amount of material taken to landfills, keep the cost of solid waste management down, and build a more sustainable Erie County.
- Call for a regional comprehensive plan for composting food and yard waste with state and regional involvement, including the development of local solutions, template regulations and partnerships with local farmers with anaerobic digesters to process food waste. According to the EPA, food and yard waste make up more than twenty-seven percent of municipal solid waste. Additionally, starting in 2021 DEC will not allow producers of two tons or more of food waste per week to dispose of it as garbage. Alternative waste disposal methods like composting are needed and the County has a leadership role to play.

2. Support laws and policies that reduce single-use waste and promote materials recovery.

For example:

- Protect the single-use plastic bag ban, which is being challenged by the COVID-19 crisis. New York State residents use **23 billion plastic bags annually**.⁴¹ Used for only a few minutes, these bags become waste destined for landfills. They do not biodegrade and they last for years.

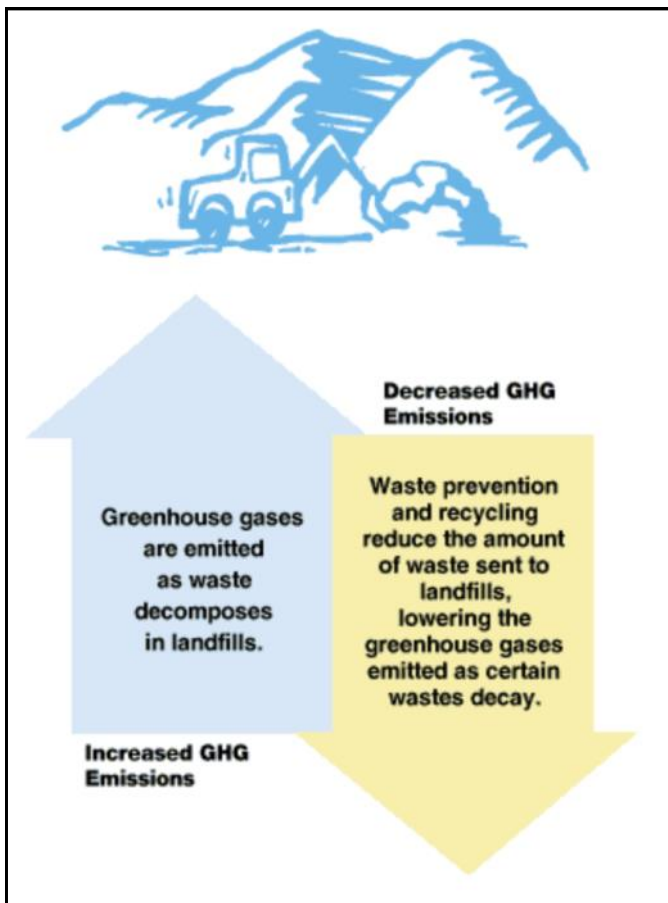
The New York State Plastic Bag Task Force thoughtfully developed a comprehensive solution resulting in the single-use plastic bag ban. Concerns during the pandemic opened the door for the plastic industry to fight implementation of the ban by claiming single-use plastic bags are safer to use. Plastic bags are no safer than any material touched by many people. Single-use plastic bags do not guarantee reduced exposure. Using your own bag and packing your own purchases does reduce your exposure when shopping.



Pollution Prevention through Art Program by Annabel Paradise, Williamsville East High School

⁴¹ <https://www.dec.ny.gov/chemical/50034.html>

- Support materials recovery by adding glass wine and liquor bottles to the New York State Bottle Bill. The Bill has successfully reduced roadside litter by 70 percent. Over five billion beverage containers were recycled in 2016 at no cost to local governments. Expanding the type of products included in the Bottle Bill will build a more sustainable New York and incentivize the reduction of solid waste going into landfills. Adding wine and liquor bottles to the Bottle Bill should have a great impact on the entire recycling industry. As glass is collected as part of the “single stream” recycling program, it mostly gets broken and contaminates the plastic and paper that can be recycled and also damages the machinery that sort the collected recyclables.
- Support legislation that reduces single-use plastic packaging such as bags, straws, and clam shells. Banning single-use plastic will prevent millions of tons of plastic from entering the waste stream each year. In addition to harming wildlife and damaging the environment, some plastics can be unsafe for people. Reducing single-use plastics can benefit the economy by stimulating the development of new products that do not harm the community and environment.
- Protect the newly enacted Expanded Polystyrene Foam Ban for Styrofoam containers and packing peanuts which takes effect in January 2022. Styrofoam, which is often used for food packaging, becomes unsafe when heated by transferring chemicals to the food heated in the container. In addition, Styrofoam pollutes waterways and easily breaks into small bits which are eaten by small land and aquatic creatures.
- Encourage the Product Stewardship Council to address plastic waste. Plastic is ubiquitous within our community. To build a more sustainable New York, the life cycle of plastic products, including end-of-life management, must be addressed. Producers should be made responsible for the products they produce by shifting the cost of plastic waste management from the consumer to the producer.



able for the products they produce by shifting the cost of plastic waste management from the consumer to the producer.

There is a Direct Connection Between Solid Waste and Climate Change

Solid waste becomes greenhouse gasses. For example, if organic waste such as food and yard waste is sent to landfills, it creates methane. Methane is an even more potent greenhouse gas than carbon dioxide. Instead, solid waste should be reduced, and food waste should be recycled through composting and biodigesters.

Transportation

Transportation is the largest source of greenhouse gas emissions in Erie County. Fortunately, with control of 1,200 miles of roadway, the County exerts more control over transportation than any other source of emissions. Over the past year, the County has made significant progress on transportation, and the EMC commends Erie County for its role in:

- Membership in the **GO Buffalo Niagara Transportation Management Association**,⁴² which encourages Erie County employees to utilize low-emission transportation options;
- Participation in the **Greater Buffalo Niagara Regional Transportation Council's Regional Bicycle Master Plan**⁴³ and other **Moving Forward 2050**⁴⁴ regional transportation plan initiatives;
- Installation of 12 public electric vehicle charging stations in County parks and at Erie Community College;
- Modernization of the County fleet, including purchase of five hybrid electric vehicles; and
- Support of NFTA's bus electrification efforts.

When COVID-19 quarantine measures took effect in Erie County, the community had a chance to witness what our cities and towns would look like with fewer cars. Air quality improved, streets were quieter, emergency rooms saw fewer accidents, and many residents took up alternative forms of transportation. Sales of bicycles climbed and neighborhoods became more walkable. For many residents, this engendered more awareness of the unintended, often negative consequences of our dependence on cars, and the need for alternative forms of transportation.

The traditional model for transportation greenhouse gas reductions is to reduce the number of vehicle miles travelled, increase fuel efficiency, and power transportation with renewable energy. Often, vehicle electrification is held up as the dominant approach. Electric vehicles fueled by green energy certainly address climate change, and electric cars, trucks and buses play an important role in the transition to a low carbon economy. But, fundamentally, the EMC believes that the County should emphasize creating Complete Streets (see side bar on page 29) that serve pedestrians, bicycles, buses and more, that we need to build out a robust system of public transportation, and that we will have missed an opportunity if we focus on electrifying our existing transportation system without creating communities that are less centered around cars. There are also opportunities to create more sustainable work arrangements, such as telework and compressed work week schedules.

We need a more effective and reliable multi-modal public transportation system that provides equitable access to jobs, housing and an improved quality of life for all of our residents, including low income residents, people of color, and the other-abled. Furthermore, valuable public space is devoted to roadways and car parking, because cars require much more space than other transportation modes. As we update our transportation systems, reducing use of cars will allow us to reclaim this public space. Development must also be oriented around all modes of transportation, including pedestrian, bicycle and public transit. To this end, we urge the County to be a leader in the community by siting or placing its operations to facilitate low impact modes of transportation.

⁴² <https://www.gobuffaloniagara.org/>

⁴³ <https://www.gbnrtc.org/bikebuffaloniagara>

⁴⁴ <https://www.gbnrtc.org/movingforward2050>

Finally, our transportation infrastructure must be green infrastructure, designed to contribute to our resilience to climate change, and designed to protect our waterways from stormwater impacts. Green roadways with trees and plantings can help absorb the impact of storm events, reduce urban heat and protect biodiversity. Roadways with permeable (porous) pavement and features like bioswales absorb stormwater, reduce impacts on waterways, and help address the County's watershed management goals.

Regarding Transportation, the EMC recommends that the County:

1. Work with regional partners to develop an equitable, zero-emission, multi-modal transportation system (including points beyond Erie County's borders).

The County should work with the Niagara Frontier Transportation Authority, the Greater Buffalo Niagara Transportation Council, electric utilities and other community partners to build out electric charging infrastructure, including stations at County facilities and public libraries, with an emphasis on rural areas where public transit options are limited. Electrification should also include expanded rail services and other enhanced transit options like bus rapid transit. The electricity should come from renewable energy sources, thus supporting our greenhouse gas reduction goals. Finally, County transportation investments should emphasize infrastructure for bicycling and walking. To this end, the County needs Complete Streets goals for County roadways including implementation of the forthcoming **Greater Buffalo Niagara Transportation Council's Regional Bicycle Master Plan**,⁴⁵ an actionable policy and dedicated funding, and transparent reporting on progress towards those goals. The County should also support sustainable work arrangements that reduce commute travel, such as telework and compressed work scheduling.

2. Support local communities as they transition to a green, low carbon transportation system

Many roadways in Erie County are controlled by local governments. The County should support local governments, share design, policy and implementation guidance for green measures, such as incorporation of Complete Streets amenities, guidelines and model legislation for LED Street lighting, Smart Cities Technology, electric vehicle infrastructure and outreach, and equitable access to transportation. The County should work with local governments to support locating jobs and services in locations that are accessible to public transit and other alternative transportation modes. The County should also continue to work with Greater Buffalo Niagara Regional Transportation Council, Niagara Frontier Transportation Authority (NFTA), New York State, local governments, and community stakeholders to assure that transportation investments are coordinated, and emphasize accessibility, equity, public transit and Complete Streets goals. The County should work with local communities to promote sustainable work arrangements for their staff that reduce commuting travel.

⁴⁵ <https://www.gbnrtc.org/bikebuffaloniagara>

3. Reduce transportation emissions from County operations.

In 2019 the County transitioned to a leased car fleet, and replaced many older vehicles. Unfortunately, only a handful of hybrid electric vehicles were leased at that time. We encourage the County to set goals and create policy to replace the County's fleet of gas-powered vehicles with electric-powered, and to lead the community on this issue. This will greatly reduce County greenhouse gas emissions, and may also reduce fuel and maintenance costs. Some existing heavy-duty vehicles might be suitable for electric retrofits, and new heavy-duty electric vehicles are becoming more available and economical. Sheriff's patrol cars may be a particularly good opportunity because of their high idling rates, and leading manufacturers are now providing purpose-made patrol cars with hybrid electric drivetrains. Finally, many County employees are reimbursed for extensive use of personal vehicles for their work, at a cost of more than \$1M per year. The EMC recommends that the County reduce emissions from reimbursed personal vehicle travel. Solutions could include providing EV chargers in staff parking areas, increased reimbursement for EV drivers, and offering EV fleet vehicles for staff use. Finally, the County should promote sustainable work arrangements for staff that reduce commuting travel, such as telework and compressed work week scheduling.

Complete Streets

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.

Adopting a Complete Streets policy, will enable communities to create safe access for all users, regardless of age, ability, or mode of transportation. The street network will be better and safer for drivers, transit users, pedestrians, and bicyclists—improving the quality of life for all.

What does a Complete Street look like?

There is no single design prescription for Complete Streets; each one is unique and responds to its community context. A Complete Street in a rural area will look quite different from a Complete Street in a highly urban area, but both are designed to balance safety and convenience for everyone using the

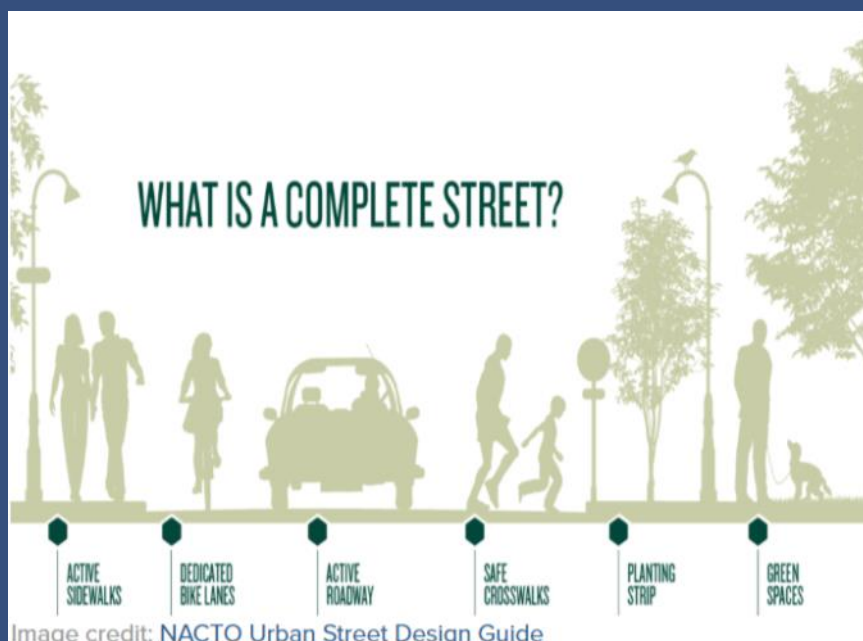


Image credit: [NACTO Urban Street Design Guide](#)

road. A Complete Street may include sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts and more.

What are the benefits of Complete Streets?

Complete Streets help create livable

communities for various types of users, including children, people with disabilities, and older adults. Complete Streets improve equity, safety, and public health, while reducing transportation costs, traffic woes, and GHG emissions.

Source: Smart Growth America
<https://smartgrowthamerica.org/program/national-complete-streets-coalition/publications/what-are-complete-streets/>

Water

Water is essential and fundamental. Available clean water is necessary for all life including biological processes (metabolism and waste elimination); industrial production; home life and landscapes; navigation; and recreation. It is a driver of sustainability and economic prosperity. In Erie County we live on a great lake, water is plentiful, but it should not be taken for granted.

Impacts to water quantity and quality make it a resource that requires conservation and protection in order to sustain its availability for use. Water is connected and integral to land use, transportation and ecosystem management which makes it particularly susceptible to impacts from how we plan, operate, and manage our developed/built and natural environments. Water is polluted by human waste from biological processes through undersized water treatment facilities, combined sanitary sewer overflows, and failing septic systems; by industrial production through discharges of chemicals and heated water from manufacturing, as well as by pesticides, excess nutrients, and pathogens from agriculture. Water is also polluted by a variety of residential, recreational, commercial and industrial practices.

Climate change is compounding impacts to **water quality and quantity**.⁴⁶ More frequent intense storms are causing extreme heavy rainfall events that increase soil erosion and movement of pollutants. Weather patterns are predicted to become more variable which could include periods of drought followed by **wet weather**.⁴⁷ Heavy rainfall after a period of drought can reduce water infiltration and increase runoff, flushing accumulated pollutants and sediments, which lead to increased turbidity and **contaminant concentrations in waterbodies**.⁴⁸ These extreme pollution events coupled with warmer water temperatures may result in water fouling events such as harmful algal blooms.

Climate change is also expected to cause **periods of drought**.⁴⁹ In Erie County there are both residences and agriculture operations that depend on groundwater supplies, not Lake Erie. Drought and lack of aquifer recharge can leave rural landowners without adequate water supply. It is important that communities, particularly rural communities, adapt and plan for resiliency to ensure a clean and steady supply of water in a changing climate.

⁴⁶ Resilient Buffalo Niagara Climate Change Action Strategy Document - Strategies to Respond to Climate Change Resilient Buffalo Niagara was prepared by Dr. Himanshu Grover, University at Buffalo School of Architecture and Planning December 2014. <http://uploads.oneregionforward.org/content/uploads/2015/01/Resilient-Buffalo-Niagara.pdf>

⁴⁷ USGCRP, 2018: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018. <https://nca2018.globalchange.gov/chapter/front-matter-about/>

⁴⁸ <https://www.noaa.gov/education/resource-collections/freshwater/watersheds-flooding-and-pollution>

⁴⁹ USGCRP, 2018: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018. <https://nca2018.globalchange.gov/chapter/front-matter-about/>

Appropriate use of land and understanding upstream and downstream connections to natural ecosystems is critical to conserving and protecting water resources. Best practices should be incorporated into land use for green infrastructure, riparian buffers, and conserving forests near water sources. Improving absorption and water filtration will help to prevent devastating downstream flooding and erosion.

Promoting a cultural shift in thinking about how we manage our lives for the protection and sustaining of our water resources is paramount. Education is key to making change. Several organizations are hard at work in Erie County to educate the public, private business, and government on water issues; and they are assisting with programs and projects to implement best water protection and conservation practices to ensure clean available water. It is important that they continue their work and receive County support.

Regarding Water, the EMC recommends that the County:

1. Partner with other organizations, such as UB Regional Institute and One Region Forward, to **promote the municipal use of the concept of Living Infrastructure in comprehensive planning** and decision-making to mitigate the impacts of increased stormwater runoff through trainings and workshops. Appropriate planning for stormwater attenuation can mitigate impacts from flooding, capture stormwater pollutants, and build the resilience of water supply and availability by enhancing recharge to the hydrologic system.
2. Continue to **implement green infrastructure practices at County facilities**. Outreach field day events and/or presentations should be organized to showcase these projects to municipalities, stakeholders, and the public.
3. **Revamp the Erie County Highway Department's procedures for cleaning, reshaping and vegetating road ditches** to meet the municipal stormwater maintenance requirements for reducing soil erosion, improving visibility and safety, and reducing future maintenance. This effort should build upon **Erie County Soil and Water Conservation District's**⁵⁰ hydroseeding initiative which partners with Erie County Highway to vegetate cleaned road ditches.

⁵⁰ <https://www.ecswcd.org/>

⁵¹ <https://www.epa.gov/greeningepa/stormwater-management-practices-epa-facilities>

⁵² <https://www.dec.ny.gov/chemical/106345.html>



Green Infrastructure

Green Infrastructure - Green infrastructure is a group of stormwater management and treatment practices meant to reuse stormwater using soils and vegetation, rather than pipes and storage structures. Common green infrastructure approaches include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, vegetated median strips, reforestation, and protection and enhancement of riparian buffers and floodplains.⁵¹



Riparian Buffer

Riparian buffers are strips of vegetation (trees, shrubs or grass) located next to streams or other waterbodies. By planting vegetation along streams, space is created between the water and upland land uses, which helps protect the water quality and stream habitat.

Riparian buffers provide the benefits of:

- stabilizing streambanks,
- erosion and sediment control,
- habitat and food for wildlife and pollinators,
- shade for streams, filtration of nutrients and other pollutants in runoff, and reducing the impact from floods by **increasing water infiltration**.⁵²

List of Water Quality Organizations:

Local partner and environmental groups include:

Buffalo Niagara Waterkeeper: <https://bnwaterkeeper.org>

Buffalo Sewer Authority: <https://buffalosewer.org>

Erie County Cornell Cooperative Extension: <http://erie.cce.cornell.edu/>

Erie County Soil and Water Conservation District: <https://www.ecswcd.org>

Erie County Division of Sewerage Management: <https://www.erie.gov/dsm>

Erie County Water Quality Committee: <http://ecswcd.org/html/ecwqc.html>

Lake Erie Watershed Protection Alliance: www.erie.gov/lewpa

Tonawanda Creek Watershed Committee:

<https://www.facebook.com/pages/Tonawanda-Creek-Watershed-Committee/139510572866742>

WNY Stormwater Coalition:

<https://www2.erie.gov/environment/index.php?q=western-new-york-stormwater-coalition>



Water - BSA Rain Check - Elmwood Rain Garden Concept

Conclusion

Erie County has made great strides in its environmental efforts in recent years, many of those accomplishments are highlighted in this report. The EMC commends the County for that work and for prioritizing projects which protect the environment. It is important to build upon the foundation of those efforts to address climate change, the most pressing issue of our time, in an equitable way.

As the coronavirus pandemic has illustrated, County government is vital to protecting public health and safeguarding the County's economic well-being. Ensuring clean air and water are vital to human health, as is the mitigation of human-caused climate change and preparation for its impacts. Moreover, prioritizing equity is crucial due to the disproportionate impact of these environmental health issues on our most vulnerable residents. It is important to note that by securing the safety and health of the most vulnerable in Erie County, the safety and health of all residents is assured. Pursuing the recommendations in this report will help the County achieve those objectives.

The EMC looks forward to working with the County on recommended actions with these priorities in mind:

Meeting the Paris Climate goals while protecting those most disproportionately impacted by the changing climate by leveraging the County's expertise in serving vulnerable populations.

Creating model programs and best practices that local government can follow such as developing the County's living infrastructure and partnering on The Nature Conservancy's Working Woodlands Program; as well as increasing energy efficiency and reducing our carbon footprint through programs like Climate Smart Communities, Erie County Low Income Program for Sustainable Energy, Complete Streets and the Paris Fund.

Protecting County resources, especially our water and Great Lakes, by increasing the County's green infrastructure, reducing chemical use, managing household hazardous waste, reducing solid waste, and increasing composting.

Lastly, **engaging the public through education and outreach** is necessary to help residents understand the importance of actions that promote, protect and sustain a healthy and vibrant Erie County.



Solar Panels