

History of the Clean Water Act

BY ANTHONY N.L. IARRAPINO, ESQ

nce upon a time, it was not uncommon for a river flowing through a great American city to catch on fire. That happened at least fourteen times to the pollution-choked Cuyahoga River in Cleveland where flames fueled by industrial waste climbed many stories into the sky, most famously in 1969. Along with other well-publicized instances of environmental abuse, scenes of a major American waterway set ablaze stoked a budding revolution in clean water regulation that culminated in bi-partisan passage of the federal Clean Water Act in 1972.

The laudable purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." To do this, the Act establishes ambitious and as-yet unattained interim goals to achieve "fishable and swimmable" waters all across the country by 1983, and to "eliminate all discharges of pollutants into navigable waters by 1985."

The goals quoted above remain written into our laws even though a lack of political will and uneven funding have hobbled efforts to fully attain them over time. Nonetheless, we have made meaningful progress in cleaning up and protecting our waters thanks to this landmark law. In an overheated and increasingly populated world, the Clean Water Act remains an important bulwark for human health, safety, and happiness.

The law provides the Environmental Protection Agency (EPA) and its partners in state environmental agencies, including Vermont's Agency of Natural Resources (ANR), with a wide range of sticks (permits and penalties) and carrots (grant funding and educational programs) to restore the nation's degraded waters to health and to keep them healthy for humans and the aquatic creatures we share them with. What follows is a high-level summary of the law's key elements, many of which may be familiar to

readers who have closely followed the Green River Dam relicensing program.

Water Quality Standards. These are the mechanisms for translating the "fishable and swimmable" goal into enforceable, verifiable standards for chemical, physical, and biological integrity. States assign designated uses to all their waters and then establish numeric or narrative criteria to ensure that those designated uses are attained and maintained. EPA periodically reviews these state-authored standards to ensure that they are consistent with the regulatory floor set by federal regulations.

For example, a river like Green River may be designated for protection and propagation of fish, shellfish, and other aquatic lifeforms. Based on that designation, ANR biologists then consider the types of fish and other wildlife that would normally be found in the river. From there, they would determine the level of water quality (amount of pollution, clarity, dissolved oxygen, etc.) and water quantity (i.e., flow rates) necessary to sustain healthy populations of those fish. These measures then become enforceable criteria in the state's Water Quality Standards. The criteria inform the types of conditions placed on discharge permits and other facility licenses that affect the Green River, and in some cases the criteria control whether certain permits may even be issued at all.

Antidegradation policy is a third element of the Water Quality Standards. The idea behind this policy is that we must not allow ourselves to degrade the quality of the healthy waters we have while we work simultaneously to rehabilitate those we have already degraded. In essence, if water in a river, stream, or lake is clean enough to provide public water supplies, to boat on, to swim in, and to support healthy populations of fish and other creatures that we can catch or just simply enjoy for their contributions to a balanced and miraculous ecosystem,



then this enforceable policy is meant to keep it that way for those of us now living and for generations yet to come.

Pollutant Discharge Elimination

Permits: Before the Clean Water Act passed, factories and sewage treatment plants piped all manner of wastes directly into the nation's waters. Through passage of the Act, these and other "point sources" were required to obtain permits for their pollutant discharges. The permits are supposed to be issued every five years, although in practice some remain in place for much longer. Clean Water Act discharge permits are also supposed to become stricter as time goes on. The idea being that pollutant treatment and removal technology improves with time thus achieving

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stricter pollution limits should become more cost-effective. Regulators are forbidden from including less lenient pollution limits in the 5-year permits upon renewal. Regulated sources that discharge without a permit or in excess of permitted limits face monetary penalties and in extreme cases can be shut down altogether.

These permitting requirements have led to some of the most dramatic outcomes under the Clean Water Act such as the cleanup of Boston Harbor which was once teeming with raw sewage. The permitting program has proven effective with centralized pollution sources like factories and sewage treatment plants. Lack of resources and political will has unfortunately led to uneven enforcement that often fails to ensure the limits in a permit reflect what's in the water at the end of the pipe.

In cases where EPA and state regulators fail to act against polluters who violate permit limits or discharge without a permit, the Act empowers affected citizens to file enforcement actions directly in federal court.

The Clean Water Act permitting requirements also apply to larger agricultural operations that concentrate animals on feedlots generating massive amounts of manure that can harm waters like Lake Champlain when discharged directly.

Similarly, the polluted runoff coming from our streets and developed

areas through storm sewers is also subject to permitting, although it has taken EPA and states like Vermont a long time to design and implement effective programs to address this challenging form of weather-influenced pollution.

Notably, no permit can be issued to any point source that would result in the discharge contributing to a violation of one of the Water Quality Standards' criteria mentioned above.

Water Quality Certification: Traditional point sources of pollution like factories and sewage treatment plants are not the only facilities that must comply with Water Quality Standards. Under Section 401 of the Clean Water Act, all federally-licensed facilities that may result in a discharge to regulated waters must apply to the state in which the water is located for a certification that the discharge will not violate Water Quality Standards in the affected state. This certification requirement arises most frequently in the relicensing of power dams regulated by the Federal Energy Regulatory Commission.

In the case of the Green River Dam relicensing, ANR and the courts have imposed numerous conditions on operation of the dam that are necessary to ensure that wildlife habitat and whitewater rafting designated uses under the Water Quality Standards will be protected as the dam continues to operate.

Wetland Regulations: Framers of the Clean Water Act understood the inextricable connection between clean water in rivers and lakes and the wetlands that populate the upstream watersheds. Wetlands filter pollution, provide important habitat, and help reduce flooding risks. For these reason, Section 404 of the Clean Water Act regulates the dredging and filling of wetlands through a permitting program administered by the Army Corps of Engineers.



A recent, disastrous decision of the U.S. Supreme Court has limited the number and type of wetlands protected by the Clean Water Act. Fortunately, Vermont and other states have their own authority to ensure that no wetlands are left unprotected.

State Revolving Funds and Other

Grants: Many sources of pollution—like sewage treatment plants and municipal storm sewers—are publicly owned assets. While for-profit polluters are on their own when it comes to paying for pollution control, Congress realized that federal taxpayers have a role to play in ensuring that states, cities, and towns have capital to invest in clean water infrastructure. Each year, the EPA grants tens of millions of dollars to states which in turn extend grants and loans to municipalities to build, maintain, and improve sewage and stormwater treatment infrastructure.

Over time, the federal spending on clean water infrastructure has not kept pace with the challenges posed by a growing population and an increasingly wet world. Recent flooding in Vermont has exposed just how vulnerable our public pollution control infrastructure can be and how costly it can be for small communities to repair damage from climate chaos. Congress must renew our national commitment to funding clean water improvements in communities big and small.

Conclusion. Thanks to the Clean Water Act, major American rivers no longer catch on fire. Sadly, however, our rampant burning of fossil fuels has literally and figuratively set our planet on fire. Ensuring an adequate supply of clean water to sustain ourselves and the wildlife we share the planet with has never been more important or more challenging. Now is the time to recommit ourselves to attaining the goals of the Clean Water Act before it is too late.

Update on Japanese Knotweed Control Along Dam Road

BY TERRI GREGORY

his summer was the first working season for the Friends of Green River Reservoir campaign aimed at stopping the spread of Japanese Knotweed along Dam Road in Hyde Park. January 2023, Mary Walz, founder of the volunteer organization **Knot in Hyde Park**, attended our board meeting and kindly brought the knotweed to our attention. In May, Mary took me on a tour of several of her sites under management and I began to learn what it would take to begin the effort. Our plan was to cut the areas three times a season and stack the cut stalks in drying racks made from pallets and wooden stakes. Our teams cut on June 10th, July 8th and September 15th. Our commitment is to be persistent in cutting and to eventually encourage the regeneration of native plants. Please reach out to me if you would like to join in the FGRR effort on Dam Rd.

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This Past Summer at the Park

BY GRRSP MANAGER ROSS BRYANT AND THE 2023 STAFF

The 2023 season was another fun and busy season for park staff. It was a wet season, but we still saw approximately 12,000 campers and 6,000-day users. This was my 8th year as Park manager and my 11th year in the park. The staff and I consider it an honor to be able to work in this amazing park. We are proud of the work we do to ensure our visitors along with the staff have an exceptional experience.

We checked and cleaned around 14,000 sites after visitors checkout and before new campers check in, which involved approximately 1,400 miles of paddling by the park staff. We also check the five sites at Zack Woods daily as well as the day use areas there. Our guests leave very little trash behind and for this we say *Thank you*.

Projects this summer included work on the ADA path, repairs to composting toilets at the camp sites, removal of hazard trees, and redoing the main launch ramp. Our staff also picks up trash and old tires on the road from the park entrance to Zack Woods. Another project is the addition of ten more Critter Proof Food Storage Lockers at GRRSP camp sites. We want to thank The Friends of Green River Reservoir for providing half the funding for the new lockers. They will be installed after the park closes for the season; we will then have 17 sites with food storage lockers.

We had many first-time users here this year and greeted many returning friends. It is a joy to see returning guests that we first met when they came with their parents and now return with their own children.

Visitors and staff saw many varieties of wildlife this season including racoon, deer, bear, beaver, otter, hawks, moose, turtles, coyotes and the favorite and most asked about—our loons and their chicks.

The staff would like to thank The Friends of Green River for their continuing support over the years. We also thank them for the annual park staff/ FGRR Board meeting we have here and for the great lunch from Thompsons Flour Shop that they provided us.

Ross Bryant, Park Manager Ethan Page, Assistant Park Manager Ryan Angevine, Park Attendant Hannah Carpenter, Park Attendant Heather Walker, Park Attendant Wendy Baker, Park Attendant Matt Ketover, Park Attendant



Membership Renewals

Memberships run for one year from the month that you join.

Volunteers send electronic reminders on the month of your renewal date, followed by a snail mail notice if you do not renew in response to the email reminder. Renewing online immediately saves time, energy, and stamps—we thank those that renew on the first notice. Please feel free to contact us if you have any questions about your membership status.

Thank you for your continued support!

Sheila Goss, Board member, Chair Membership Committee

Tom Nold Joins the FGRR Board

om Nold was elected to the FGRR Board at the Annual Meeting in July, for a three-year term. The Board welcomes him and his energies and talents.

Tom has lived in Shelburne with his wife Clara for over forty years, having built a house on land that has been in her family for over seventy years. They are very fortunate that their two adult children and their partners live nearby. Tom and Clara first paddled Green River Reservoir in the early eighties, where they were drawn in by their first experience with loons.

Tom has enjoyed a forty-five-year career focusing on finance and operations and retired from Shelburne Farms after fifteen years as their Chief Financial Officer. He has a small consulting business, focusing on assisting Vermont non-profits.

Tom loves the Vermont outdoors as well as the high peaks of the Adirondacks, spending as much time as possible in forests and on lakes, ponds, and streams. He is an avid hiker, fly-fisherman, and paddler.





Common Loon Update 2023

BY RON KELLEY

This was an average year for loon production. The Loon Island (NW) pair of loons nested on their island in late May. They hatched two chicks but only one survived the entire season. The Access Bay (AB) loons delayed nesting until a large stump that had drifted down from a northern campsite was removed from their favored nesting spot. They nested there during the second week in June and produced two chicks that both survived into the fall. The southern (SW) loons nested at the end of the southwestern bay in early June, but that nest site is low to the water and they were flooded out once again. The Merganser Inlet (MI) pair began to nest in the inlet in early June but later moved to higher ground on the north side of the island. Then that spot was flooded out due to the record high

waters associated with the statewide early July flood event. The Zack Woods pair produced two surviving chicks, bringing the total to five for the park. A possible fifth territorial pair was observed courting and nest-searching near site 13 in the far north (Bill's Reach) area of the Reservoir in late May. They were not seen on Loon Watch day.

On that July 15 statewide Vermont Center for Ecostudies sponsored Loon Watch Day, board members counted nine adult loons and the three chicks, for a total of 12 loons. This is less than the 13 adults and four chicks counted last year.

The northern (Loon Island) area of the reservoir has long been a bit risky for loon chick survival. This is probably because intruder adult loons (who sometimes kill chicks) are more likely to enter the reservoir in the north area furthest from the park entrance and this is also where the Bald Eagles tend to hang out. With total loon counts being down in recent years and eagle sightings more common, they are now the biggest threat. During the past 14 years, both the NW pair and the AB pair of loons have hatched 20 chicks. Only 12 of the NW chicks have survived the season compared to 18 of the AB chicks that are located closest to the park launch site.

Vermont Center for Ecostudies' Eric Hanson reports that overall Vermont's loons had a good year. Although productivity was down, chick survival was good. See the VCE website https://vtecostudies.org/ for a full report on their loon conservation work this past year.





FGRR 2023 Annual Meeting of the Membership

he 2023 Annual Meeting of the FGRR Membership was held on Thursday 20 July 2023 by ZOOM, with sixteen members in attendance, including FGRR Board members. Members attending were Milford Cushman, Terri Gregory, Sheila Goss, Eric Nuse, Susan Bartlett, Susan Bulmer, Sally Laughlin, Tom Nold, Lisa Dimondstein, Mike Wickenden, Elizabeth Dickson, Karl Hiller, Theresa Snow, Lynn Goldsmith, Liz Lackey, and Karen Ulendorf. Ian Sweet, videographer, attended as a guest.

The meeting was called to order by Vice President Milford Cushman, Vice President. Milford reviewed our Mission Statement: We are dedicated to protecting the wilderness-like character and wildlife habitat of Green River Reservoir State Park while preserving its heritage and historical uses for future generations.

The minutes of last year's meeting, 28 July 2022, were accepted as presented

FGRR Board Members then introduced themselves and summarized their activities this last year: Milford Cushman, Vice President; Ron Kelley, Treasurer; Lisa Dimondstein; Sheila Goss; Terri Gregory; Eric Nuse; and honorary Board members Susan Bartlett and Susan Bulmer. Members attending introduced themselves and told of their long-standing attachment to Green River Reservoir.

Liz Lackey reported on the **Forest Bird Monitoring Project**, part of a
statewide Vermont Center for Ecostudies (VCE) major research project.
Liz has been conducting GRRSP
survey for 10 years, with the logistical
assistance of Terri Gregory. This year
the point locations were shared with a
UVM PhD student who is doing her
thesis looking at sugarbush management and forest bird communities, as

well as doing surveys of arthropods and vegetation. Steve Faccio of VCE, who coordinates the Forest Bird Monitoring Project (FBMP), chose FBMP sites for her to use as control locations. GRR was included as one of the nine. Liz and Terri coordinated with her to show her the route and to avoid overlap on sampling days.

Terri then reported on the **Annual Loon watch**, which she organized on GRR last weekend.

Ian Sweet announced that he was making a video on GRR and would welcome talking with members who had stories to tell about their experiences there.

Bylaws Revision: The maximum number of members of the Board was increased to 15.

Article IV Board of Directors Section 4.1. Term! The affairs of the Corporation shall be managed by a Board of Directors, of not less than 5 or more than 15 Directors. (See the FGRR Website for the full bylaws)

Election of Board Members: Tom

Nold was elected to a three-year term (until 2026). Milford Cushman, Sheila Goss, Ron Kelley, and Emma Marvin were reelected to three-year terms (until 2026).

Continuing Trustees

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2024	Sally Laughlin
	Tom Kastner
	Lisa Dimondstein
	Tom Rogers
2025	Terri Gregory
	Eric Nuse
	Michael Wickender
Honorary	Susan Bartlett
•	Susan Bulmer

Milford explained that Officers are elected by the Board, which will happen at the August Board meeting. Proposed again for one-year terms are Sally Laughlin, President; Milford Cushman, Vice President; Emma Marvin, Secretary; and Ron Kelley, Treasurer.

Financial Report and Membership Report was given by Ron Kelley, Treasurer.

GRR Dam Relicensing Situation

Michael Wickenden, Chair, Dam Committee reported that the short story is all good news in that there is nothing on the immediate horizon that will negatively affect our 2023 Green River State Park summer paddling or camping. In addition, Morrisville Water and Light (MWL) continues the hard work to preserve this unique and special place for people to enjoy for generations to come. The decade long legal issues associated with MWL's re-licensing of the Green River Hydroelectricity facility by the Federal Energy Regulatory Commission (FERC) continues to be like a complex spider web yet to be unraveled. There are currently two main issues; (1) a dam safety study required of MWL by the Federal Energy Regulatory Commission (FERC) and, (2) a February 2022 MWL application to FERC requesting amendments to MWL's original application for re-licensing. As news develops, we will post it on our website.

Fall Nature Program

Sheila Goss announced that the FGRR fall public program will be Raptors UP Close, a live raptor presentation by the Vermont Institute of Natural Science. It will take place on Saturday 4 November at 1 pm at Peoples Academy in Morrisville.

The meeting adjourned at 8:05 pm. Afterwards, Ron Kelley presented a PowerPoint of recent photos taken at the Reservoir.