AUSABLE RIVER Association

Strategic Plan

2023 – 2027

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I: Introduction

In 2024, after 25 years of innovative work in and with our communities to restore and protect the Ausable River and its fresh water, the Ausable River Association will become the Ausable Freshwater Center. This change recognizes our growing capacity to provide communities within and outside the Ausable watershed with solutions that restore streams, protect riparian habitat, sustain water quality, and build climate resilience.

Our programs and projects will continue to focus on the Ausable watershed—our home and our laboratory for innovation, where we can monitor our success. Moving forward, we will bring our expertise in stream restoration, habitat management, watershed assessment, and science-based problem solving to other river systems in the Adirondack Park: the Boquet, Saranac, Schroon, Raquette, Upper Hudson, and more. We'll partner with local communities, watershed groups, government agencies, funders, other regional nonprofits, and landowners for the benefit of streams, lakes, wetlands, and people.

1.1 Strategic Planning

The Board of Directors initiated the conceptual work for this strategic plan in the spring of 2021 over a series of three meetings. These were followed by staff brainstorming sessions in late 2021. This work largely reconfirmed the structure and direction of the organization but suggested shifts to accommodate the growth of programs, their geographic reach, and staffing.

Early in 2022, the board decided to delay the strategic plan a year to allow for the merger of the Adirondack Lake Survey Corporation's work into our Clean Water program and the shift in staffing and facilities is entailed. As a result of this merger, the board amended the Ausable River Association's articles of incorporation, expanding the geographic scope of the organization from "the Ausable watershed" to "the Ausable River watershed and in other Adirondack watersheds." Here we begin to address the implications of this change.

The staff returned to drafting the plan in 2023. After thorough review and discussion, at its December 7th, 2023, fourth quarter meeting, the board of directors approved this plan.

1.2 The Challenge

Fresh water is essential. Together, fresh surface and groundwater make up less than one percent of all water on earth, yet it supports all life.

On every continent, in every time, humans have cherished and used streams, lakes, and wetlands—harnessing their power, relying on their sustenance, and finding inspiration in their beauty. But in living alongside and using these freshwater resources to support our needs, we have compromised their health and viability. Their apparent resilience—water continues to flow—is deceptive. Healthy, self-sustaining streams are essential to life, and people are essential to protecting and restoring them.

Communities large and small can change their relationships to streams, lakes, and wetlands. Careful, scientific study of these systems can help us document and understand their current condition, identify threats to their health, and pinpoint the root causes of these problems. Guided by science and working in partnership with communities, together we can repair, restore, protect, and live sustainably with the freshwater systems on which we all rely.

This is the work of the Ausable Freshwater Center.

1.3 Our Vision

Adirondack streams, lakes, rivers, and wetlands—and the biodiversity they support—are healthy and self-sustaining. Historic damage is repaired using the innovative science and stewardship programs of the Ausable

Freshwater Center. Adirondack communities benefit from and value these freshwater systems and work in partnership with the Ausable Freshwater Center to keep them healthy.

1.4 Our Mission

Advancing science and stewardship of Adirondack waters.

1.5 Our Goals

Restore self-sustaining streams: Healthy Streams
Repair damaged streams to support water quality, connectivity, and biodiversity and to provide climate resilience for our communities.

Safeguard water quality: Clean Water
Monitor streams and lakes to understand trends in water quality. Provide accurate science to manage the impacts of climate change, sediment pollution, emerging contaminants, and nutrient loading.

Protect native habitats: Biodiverse Habitats
Understand native species ranges and requirements and invasive species distributions. Use this knowledge to protect, manage, and restore resilient freshwater habitats.

Inspire action through outreach and recreation: Empowered Stewardship
Create and encourage sustainable opportunities for people to enjoy streams, lakes, and wetlands and form personal connections to them. Provide knowledge and tools so anyone can actively steward the freshwater systems they have come to love.

Advocate science-based management: Informed Action
Provide technical assistance to municipalities, partners, agencies, and others. Promote action and facilitate conversations that advance science-based management and policies for protecting freshwater systems.

Sustain the Organization
Maintain an efficient and sustainable organization that effectively communicates our mission, goals, and values, enhances the vitality of the communities where we work, and supports our staff and volunteers.

1.6 Our Values

A healthy, diverse planet
We value the Earth, its fresh water, and the living things that depend on it.

Science-based, solution-oriented action
We value scientifically informed action. We are compelled to study, protect, and restore the health of our freshwater ecosystems, to sustain their biodiversity, and to share our knowledge freely.

Transparency
We value transparent and collaborative problem-solving approaches that embrace the needs of human society and natural ecosystems in ways that are equitable and just.

Community engagement
We value and support the individuals, communities, and organizations that strive in responsible ways to protect the Earth, its freshwater, wildlands, and native wildlife.

Equity, inclusion, and diversity
We value diversity, equity, accessibility and the inclusion of all viewpoints, from people of all backgrounds, ages, cultures, national origins, gender identities, sexual orientations, religions, and abilities.

II: Context for the 2023-2027 Plan

2.1 Broadening scope, retaining focus.

In 2024, after 25 years of innovative work in and with our communities to restore and protect the Ausable River and its freshwater systems, the Ausable River Association will become the Ausable Freshwater Center (Center). The change recognizes our growing capacity to provide communities in and outside of the Ausable watershed with solutions that restore streams, protect riparian habitat, sustain water quality, and build community climate resilience.

Over the next four years, core program activities and projects will remain focused in the Ausable watershed. Several major projects are underway that will require dedicated funding and resource commitments over this period (e.g., the East Branch Restoration Plan, Ausable Conservation Nursery). Nevertheless, during the period of this plan, Center staff will expand field research, technical advice, and outreach to other watersheds, specifically:

- neighboring Adirondack systems within New York's Lake Champlain basin (Saranac, Salmon, Boquet, Little Ausable, South Basin, and lake direct systems), and
- systems where Adirondack communities and/or key stakeholders outside of the basin request project-focused technical assistance in areas of our expertise and in line with our programs, their goals and mission.

Fundraising—e.g., competitive grants, private donors, fee for service agreements—will follow current practices. Center staff will pursue opportunities that support projects and programs, working with partners when possible.

Currently, approximately 10% of staff activities support projects outside of the Ausable watershed. Stream restoration projects and water quality testing in the Boquet watershed and eDNA research in much of the basin began in the past two to three years and is ongoing. Staff supported a South Basin/Lake George watershed climate-ready culvert replacement in 2019. And we provide ongoing technical support to culvert replacement projects in the Boquet watershed. Field work with the consortium-based Survey of Climate Change in Adirondack Lake Ecosystems, SCALE, includes work over the next 2-3 years in lakes throughout the Park. By 2027, the percentage of time working in watersheds outside the Ausable will likely rise to as much as 40 percent but may ebb and flow as we accept and advance short and long-term projects.

As noted above, the Ausable watershed remains our home base, our laboratory, and training ground. Its lessons, the knowledge we've gathered documenting its streams and lakes, and from listening to our communities and their history, are essential to how we get good work done.

2.2 The Ausable watershed and beyond, an overview

A sense of place
The Ausable is one of 14 major rivers that descend from the Adirondack dome, but only it and the south-flowing Hudson have their headwaters on Marcy and Algonquin, the highest of the Adirondack High Peaks. Its watershed encompasses 512 square miles, 27 high peaks, and includes 94 miles of river channel fed by more than 70 streams. Lake Placid, Mirror and Fern Lakes, the Ausable and Cascade Lakes, Chapel, Connery, and Taylor Ponds, and dozens more bodies of water are part of the watershed. Seven towns, eight hamlets, and

one incorporated village are in the watershed, which covers portions of two counties and includes over 20,000 residents, living primarily in settlements downstream of its protected headwaters.

The East and West Branch Ausable Rivers meet in the hamlet of Au Sable Forks. From there, the Ausable River meanders through gently sloping lowlands before tumbling through the spectacular sandstone gorge of Ausable Chasm, finally entering Lake Champlain just 100 feet above sea level. This rapid descent from its 5,000-foot headwaters to the lake makes the Ausable the second steepest river in New York State, after its shorter neighbor, the Boquet. At its mouth, the Ausable forms a sandy delta that led early French explorers to call it the "sandy river," or "river of sand." From Lake Champlain, its waters drain into the Richelieu River, joining the Saint Lawrence as it flows northeast into the Atlantic Ocean.

Shaded by lush forest, these waters have created extensive wildlife habitat for a range of native species: fisher, black bear, bobcat, snowshoe hare, marten; palm warblers, Bicknell's thrush, rusty blackbirds, black-backed woodpecker, spruce grouse, and saw-whet owls; spotted salamanders, American toads, mink frogs, 90 native fish species, freshwater mussels and snails, crayfishes, dragonflies, damselflies, and more. Balsam, quaking aspen, spruce, alpine sweetgrass, diapensia, and other trees and plants of the northern boreal forest are found along the higher elevations of the Ausable's two branches, and a diverse forest composed of hardwoods, pine, hemlock, and spruce flourishes in its valleys. It is a northern forest paradise, a rural home, a recreational destination—defined by water and shared by people.

Natural history, human industry

For most of the time since the glaciers receded 12,000 years ago, the Ausable was the dominant land-shaping force in the region, determining, by the sheer force of water, the nature of its watershed. With white European settlement of the region in the late 1700s, the river's power was put to work fueling industries that cleared its banks of trees, deforested large swaths of its headwaters, built dams to control water flow, straightened channels and removed boulders to facilitate spring log drives—annual events until the early 1920s. For another half century, the river continued to serve as a highway, disposing of the waste from pulping wood and making paper. Today, with the protections afforded by the State of New York, the watershed has rebounded—forests have regenerated, wildlife flourishes, and the waters of the Ausable are, for the most part, clean and clear. The watershed is a hub for world-class trout fishing, back country hiking, rock climbing, skiing, and recreational paddling.

Nevertheless, the effects of this early industry scarred the Ausable, destabilizing the natural structures and forms that allow the river to manage sediment, recover from flooding, and provide habitat for wildlife, especially aquatic animals. Recent decades have brought new challenges: continued floodplain development, sediment released from large-scale bank collapses and compromised dams, nutrient runoff, chloride contamination, aging road infrastructure, and invasive species, making active conservation a priority. Innovative solutions developed by Ausable Freshwater Center can serve as a model for other Adirondack watersheds.

Moving beyond the Ausable

The Ausable River watershed is part of the Lake Champlain Basin. On basin-wide maps the Salmon and Little Ausable rivers are included in the delineation of the Ausable sub-basin. Other rivers in the basin include the Great Chazy and Little Chazy to the north (largely outside of the Adirondack Park), the Saranac (bordering the Ausable to the north), the Boquet (to the south), and the South Basin which includes Lake George. Numerous small systems hugging Lake Champlain are categorized as lake direct systems.

Our search to understand, protect, and restore freshwater health has always been embedded in historical context, local knowledge, and rigorous field science. Together, they help us understand current conditions. In neighboring river systems, there are many similarities to the Ausable, its history and communities, but also notable differences. The Saranac and Boquet Rivers are critical systems for landlocked Atlantic salmon, a federally threatened species not present in either the East or West Branch Ausable Rivers. The Saranac River,

wild in its upper reaches, is nevertheless a heavily managed river with numerous hydropower dams in its lower 40 miles. The dominant land use in much of the Boquet and Great Chazy is agriculture. Taking on work in each of these systems will require gaining an intimacy with their communities and histories as much as their geomorphic, physicochemical, and biologic realities. Expansion will be a gradual process and we will proceed strategically, bringing our expertise to the places it is needed and where community-based stakeholder support, partnerships, and funding are available.

2.3 The Ausable watershed and beyond: the issues

Climate Change may be the defining issue for watershed-based work in the coming decade. Its implications for freshwater and ecosystems reverberate throughout each of our programs. Climate change patterns in the northeastern US indicate a future that is decidedly warmer, especially in the winter months. Predictions about future precipitation in the region are less certain, but generally indicate an increase in winter precipitation, with a greater proportion occurring as rain rather than snow, and increased variability in precipitation patterns overall. The primary climate-driven effects that concern us are water temperature increases and altered precipitation patterns. Climate records for northern New York show a mean annual temperature increase of more than 1.5°F and the number of high intensity storms nearly doubling in the past 40 years. One-to-three-month droughts could occur annually in the Adirondacks by late century.

Stager and Thill (2010) downscaled 16 climate models and analyzed how historic and projected climate changes were likely to affect physical and biological attributes in the Lake Champlain Basin, including tributaries, wetlands, shorelines, and native fish. The results, which are consistent with observed and predicted trends for the larger region, project temperature increases ranging from 6–11°F, precipitation increases from 10–15%, mean lake level rise by up to 2 feet, and seasonal reduced flow and/or warmer stream conditions by the end of the century. More frequent and intense rain events are expected to increase rates of erosion, runoff, and soil losses. This more intense and variable seasonal precipitation is expected to increase the volume and rate of water entering streams, increasing risks associated with erosion, scour, and adjustment of channel dimensions, in particular bankfull width and depth.

The Adirondack Park and, specifically the cold tributaries of the East Branch Ausable River, are considered the most likely climate refuge for brook trout throughout its native range. Shifting water temperatures and precipitation patterns threaten this and other essential species and the intricate diversity of riparian systems. Both shifts exacerbate pre-existing challenges in the Ausable and Adirondacks—those resulting from past industrial practices, i.e., the proliferation of dams, log drives from the 1820s through the early 1920s and, later, gravel mining. The legacy of these historic practices has impaired the river's function and stability, in particular, its ability to manage sediment, with consequent impacts to habitat, biodiversity, and fishery health.

Stream Health. The Ausable River watershed boasts forested streams with abundant scenic views and recreational opportunities, but as in many Adirondack streams such measures are deceptive as indicators of wild nature or stream health. Historic land clearing, industrial operations, alterations to stream channels and flow, and development in the floodplains of the Ausable valley altered the physical characteristics of the river, leaving it in a state of disequilibrium.

In a stable, self-regulating stream or river, the gradual erosion of channels is a natural process that benefits the stream and its riparian ecosystem. Erosion, in this case, is a dynamic process that is critical to the creation of diverse habitats in one stream. To river scientists, this is known as a graded stream in equilibrium. Erosion in a stable stream is evenly distributed and therefore minimized; the stream transports the flows and sediment coming from its watershed while maintaining channel dimension, pattern, and profile. When channel shaping variables change—whether it is an increase in water velocity, channel slope, width, depth, discharge, the size or amount of sediment—a stable river will adjust its form and structure. Stable streams in equilibrium minimize flood damage, maintain water quality, and provide habitat critical for diverse healthy ecosystems. It is easiest

to find such conditions on rivers that flow wild, with minimal human intervention, but streams flowing through populated landscapes can be managed, and if necessary, restored in ways that keep them stable and in equilibrium.

Two of the most cited causes for stream instability are land use changes (land clearing or urbanization of the riparian corridor and floodplain) or human alterations to the channel (bridges, riprap, dredging, dams, etc.). Multiple alterations of a channel over time, combined with significant fragmentation of a stream's valley—reducing access to floodplains, for example—can destabilize a stream, resulting in disequilibrium. When streams are in disequilibrium, excessive erosion occurs in some channel locations, while excessive sediment deposition occurs at others. Some reaches are scoured of beneficial woody debris and sediment, while others may become smothered in sediment, destroying habitat and degrading water quality. Subsequent changes in slope or water depth can lead to damaging erosion of banks and beds. Where stream disequilibrium is prevalent in a watershed, dissolved minerals and nutrients (e.g., sodium, phosphorus) found in eroding sediments are released in large amounts, leading to increased pollution of surface waters.

The challenge of maintaining roadways in floodplains highlights the problems caused by disequilibrium. The historic pattern of settlement in the Ausable, Boquet and other Adirondack watersheds often led to the adoption of a road system that parallels the river for most of its length and occupies a significant portion of the riparian and flood zones. This contributes to several disequilibrium conditions. Out of necessity, many riverside roadways are protected from erosion with riprap. This hard armoring passes energy and erosion problems downstream. Further manipulation often attempts to widen or straighten a channel in a mistaken attempt to move water more efficiently. When meandering rivers are straightened, stream length becomes shorter and slope increases, thus increasing stream power, erosion, and flood potential. Roadways elevated above a nearby river for protection or ease of construction prevent floodwaters from spreading out onto the floodplain, where energy and erosive power are reduced. Confined floodwaters pass downstream more quickly, increasing flood levels downstream and interrupting the river's relationship with its floodplain.

Bridges and culverts can also impede full access to floodplains and straighten channels. Bridge spans that are not wide enough limit sediment transport, causing cobble and debris to build up in the stream, and can be undermined or blocked and bypassed in a major storm. Undersized, collapsed, or improperly engineered culverts fragment natural stream pattern and ecosystems, contribute to erosion, and exacerbate flooding. They block native fish and other aquatic organisms from moving upstream to the cooler waters and habitat they need to reproduce. High flows forced through undersized pipes scour away soil at the downstream ends of culverts, creating large drop-offs to the streams below. Debris builds up at the upstream ends of such culverts, flooding roads, challenging public safety in storm emergencies, threatening adjacent property, and requiring costly ongoing maintenance by local road crews. Streambanks at either end are often eroded. Stripped of plants and the root systems that stabilize them, banks collapse, increasing sediment pollution and compromising the habitat of fish and other wildlife essential to a healthy stream.

Seemingly small, practical management decisions—building homes or businesses in a floodplain, armoring a bank with rip rap to protect a nearby road, clearing a stream buffer of vegetation to promote a view, allowing winter road sand to flush directly into an adjacent stream, digging out a channel to try to contain flood flows, or damming an existing pool to enhance recreation—each create a chain reaction of adjustments downstream. In an undeveloped system, a stream has enough room (hundreds or thousands of feet on either side) and time (centuries) to bring itself into equilibrium. But in systems such as the Ausable, upstream shifts in stream flow to alleviate one problem can create new sets of problems and management challenges for downstream landowners, municipalities, and stakeholders.

Most residents agree that the Ausable and our Adirondack streams are stunning resources that should be protected. The challenge lies in finding agreement about how best to achieve healthy, self-sustaining streams in a way that also protects homes, businesses, roads, and livelihoods. By working side by side with landowners,

local governments and road crews, business owners, students, and others, the Ausable Freshwater Center provides the capacity and knowledge to advance adoption of practical management structures, methods, and standards that make sense to residents and benefit the river. Where we can work side by side with people, we have had great success in transferring a working respect of our rivers to managers, decision makers, and landowners.

Water Quality. Water is essential to life, and clean, clear water for drinking, swimming, fishing, and for the health and abundance of native wildlife, is at the heart of every community in the Ausable River watershed. NYSDEC data and water monitoring projects conducted by the Ausable Freshwater Center indicate that water quality remains good to excellent overall for the three branches of the river and their tributaries. However, our ongoing monitoring identifies emerging threats and trends that must be understood to ensure community and ecosystem health.

Climate Change. As noted above, a changing climate makes the preservation of water quality challenging because of the many variables it affects, its wide-ranging nature, and the chain reactions of ecological change that may result. Data derived from carefully conducted scientific studies are essential to the creation of accurate and reliable models that will help us predict and mitigate these changes as they occur.

Road salt. Road salt continues to be one of the most immediate threats to water quality in the Ausable watershed. Road salt loading in lakes can prevent biannual turnover, reduce oxygen availability, and threaten aquatic life. Beyond its impacts on aquatic organisms, road salt contamination has been identified in groundwater wells in the Ausable watershed and throughout the Adirondacks, challenging public health. Although efforts have begun to reduce road salt usage in some areas, continuing and past usage will continue to affect lakes and rivers for some time. Water quality monitoring in the Ausable River and surrounding lakes shows that elevated chloride concentrations persist throughout the summer months, indicating that there may be groundwater infiltration in some areas.

Emerging contaminants. New research is revealing the pervasive nature of byproducts from the use of plastics and other organic contaminants. These particulates and compounds not only have environmental and human health effects but can act as carriers for heavy metals and increase the transport of contaminants in freshwater systems. The scope and extent of these types of contaminants in the Ausable River is unknown. Ongoing studies in other locations reveal that they are widespread in many remote locations, spurring interest in their status in the Ausable and neighboring systems.

Stormwater runoff and nutrients. Samples taken at the mouth of the river show that the Ausable has one of the lowest phosphorus discharges of any river draining into Lake Champlain (Vermont DEC, 2011). Clearly, the river is not overloaded with phosphorus, but phosphorus levels decline downstream from the point of introduction, suggesting that it is rapidly consumed within the Ausable's aquatic environment and making it difficult to detect. Past testing by the Ausable Freshwater Center suggests that urban areas and spring runoff appear to be the two largest sources of phosphorus in the Ausable watershed. As precipitation events increase in frequency and intensity, as has been the trend in the northeast with a warming climate, loading of nutrients may begin to occur at higher rates.

Habitat Diversity. The Ausable and surrounding watersheds abound with life. Diverse aquatic and nearshore habitats are created by rivers and streams as they tumble down steep slopes from their mountain headwaters and meander through bogs, wetlands, and floodplain forests of the lower valleys. These flowing waters and the numerous lake and pond habitats, in turn, host a broad array of complex ecosystems and plentiful aquatic and terrestrial species.

At the Ausable Freshwater Center we recognize that, in addition to protecting and restoring the river, it is necessary to protect vulnerable species that are dependent on near and in-stream habitats. The primary threats

to the species that live in these rich habitats are similar to those that affect our streams and lakes: a changing climate, land use changes, and invasive species. From a biological perspective, the biggest climate concerns are altered flows, increased storms, and warming water temperatures. Warming air and waters threaten the survival of many native Adirondack species, especially brook trout. Many species rely on long and stable winter snow and ice conditions and cool water temperatures to support growth and reproduction. Though the land and waters have started to recover from historic land uses such as logging and mining, the modern-day transformation of vacant land for increased housing can lead to forest loss and watershed-wide impacts. The management of private lands often results in the clearing of vegetated buffer zones, decreasing their capacity for filtering pollutants out of stormwater and capturing excess sediment. Small scale behaviors, good or bad, have a cumulative effect on whole streams and rivers. Finally, the colonization of non-native, invasive species into these ecosystems causes cascading effects on food web dynamics and may impact the ability for species to adapt to climate change.

To protect trout and salmon along with other vulnerable aquatic life in these habitats, we must document existing conditions, conduct research to understand the threats to these species, and work to mitigate and prevent these threats from adversely impacting wildlife populations. Our research on these habitats can inform future restoration projects and has the potential to contribute to statewide or range-wide management of vulnerable and protected species. If we identify small changes regionally that will help conserve and connect populations of wild trout or amphibians, we will use our science to recommend and implement such projects.

Active Stewardship and Informed Management are essential to our work and to achieving healthy watershed ecosystems. Throughout the United States and on every continent, rivers struggle to remain healthy in the face of intensified human development and increasingly extreme weather events. A river's health is the net result of historical and current resource policy and management, decision-making, and individual actions along its path and throughout its watershed. While the responsibility for protecting and managing Adirondack freshwater benefits from the work of many government agencies and private organizations, local communities and individual action play a critical role in defining, implementing, and monitoring day-to-day and long-term management efforts. Without broad-based community understanding and agreement on the issues and the methods for addressing them, efforts to protect the river and improve its infrastructure can be piecemeal, ineffective, or redundant. Increasingly, planning and revitalization efforts work hard to engage citizens and their elected municipal leaders in all phases of river restoration, giving them access to the many new tools and processes available, and helping them aim for long-term resiliency over short-term fixes.

Ongoing outreach through programs that engage a broad variety of audiences—visitors, river users, residents, landowners, and school children—and that provide tools for making a difference, remain essential. Encouraging a passion for and enjoyment of streams, lakes, and riparian systems is also critical. Engaging people through smart, sustainable recreation, aesthetic and sensory enjoyment, ensuring public access, and promoting low-impact recreational opportunities and uses of the river are essential to building support for river protection. At the same time, uses must be sustainable and not harm water quality, riparian health, wildlife habitat, or water quality, and must not require changes to the river's hydrology or structure. People must be able to enjoy the river. Equally, they must be invested in protecting it and have tools and knowledge at hand so they can do so sustainably.

2.4 Ausable River Association/Ausable Freshwater Center, a brief history

Few communities care for a river so much that they come together to create a non-profit organization dedicated to protecting and restoring it. That's what happened over 20 years ago in the Adirondack Mountains of upstate New York. A group of Ausable River valley residents, aided by municipal leaders and the National Park Service, led by the Essex County planning office, conducted a planning study so that local stakeholders would be better able to conserve and manage the natural and cultural values of the river. The Ausable River Association (AsRA) was born.

Since its incorporation in 1999, AsRA has been working cooperatively with landowners, municipalities, and government agencies to conserve the valued resources of the Ausable watershed. In its first ten years, the AsRA board included representatives from each of the seven watershed townships. Its work was implemented via a mix of board effort, volunteer and partner contributions, and a diverse array of small grants funding projects coordinated by a single, often part-time staffer. Staff, board members, and volunteers spent a lot of time on the river and developed an intimacy with the changes slowly taking place. Work focused on improving community perceptions and uses of the river, responding to landowner concerns, identifying some baseline parameters of water quality, laying the groundwork for stream restoration efforts, and engaging the community in caring for the watershed through cleanups, tire-pulls, and streamside plantings—efforts that continue today.

Starting in 2009, AsRA used funds from the NYS Department of State (NYS DOS) to begin preparing a watershed management plan with the intent of quantifying the trends and formalizing needed actions noted in prior years. A permanent, full time executive director position was created that led and organized partner projects, community outreach and education, volunteer efforts, and pursued data collection in the field to inform the watershed management plan. That same year marked increased engagement with the U.S. Fish and Wildlife Service's (FWS) Cortland NY Field Office—a relationship that would greatly influence AsRA's work. Subsequent NYS DOS grants supported AsRA's first demonstration stream restoration project (designed by FWS), culvert restoration efforts, AsRA's response to Tropical Storm Irene, the creation of a professional water quality science position, and the development and release of the Ausable River Watershed Management Plan.

In 2011, recognizing an opportunity for strategic growth, AsRA's board of directors revised the organization's bylaws and committed to a conservation mission and to professional staffing. That same year, Tropical Storm Irene changed the face of the watershed. 2012 and 2013 served as a transition period, identifying financial resources, reaffirming partnerships, and preparing AsRA to play a larger organizational role in forthcoming projects to advance protection of the river. The subsequent "reboot" began in 2014 with expanded staffing, solution-oriented field science, communications, information sharing, and community engagement both through program work and updated branding and communications across media and materials. As staff composition gained in professional, scientific, and technical capacity, AsRA's board shifted to a policy and guidance focus.

From 2014 onward, AsRA's funding sources grew in diversity and strength. Federal funding from the U.S. Fish and Wildlife Services, Essex Junction VT office assisted with fish passage/culvert projects. Lake Champlain Basin Program (LCBP) funds through the U.S. Environmental Protection Agency began supporting AsRA's river steward program in 2010 but have grown significantly over the years to become a primary support of scientific, technical, and educational projects. A growing number of private foundations began to support AsRA's field science and growing technical expertise. And private contributions have grown in terms of number of supporters and the size of donations, bringing public and private donations to rough parity in recent years. Most recently, in 2022, AsRA received a $2 million federal earmark to pursue its comprehensive East Branch Restoration Plan and $500,000 from the NY State Legislature to support a pilot of the landmark Survey of Climate Change and Adirondack Lake Ecosystems (SCALE).

As noted above, in 2022 the Adirondack Lake Survey Corporation (ALSC) was merged into AsRA. For over 40 years, ALSC's staff monitored changes to the freshwater ecosystems of the Adirondack Mountain ecological zone with a focus on water quality, atmospheric deposition, fish surveys, and other biological and chemical studies for the benefit of regulatory agencies and the public. Their work identified a pattern of chemical acidification that informed the federal Clean Air Act Amendments of 1990 curbing acid rain. The merger strengthened AsRA's capacity to pursue its mission—providing physical resources, experienced staff, and financial resources to augment and redirect AsRA's water quality efforts. In addition, as part of the merger, the board took the opportunity to expand AsRA's geographic reach by amending AsRA's Certificate of Incorporation to embrace the potential for work in the Ausable watershed and other Adirondack watersheds.

The Ausable Freshwater Center is a professionally staffed, science-based nonprofit organization that makes a difference for streams, lakes, and wetlands and for the communities—human and wild—that rely on them.

2.5 Guiding documents

Several documents inform our mission in the Ausable watershed and provide direction for our programs. The Ausable River Watershed Management Plan (WMP) approved by NYS DOS in 2016 was the result of many years work by AsRA/Center staff, local officials, state and county agencies, volunteers, scientists, and community members. Their common goal was to protect and restore the health and resiliency of the Ausable River as a vital resource to the region by creating a framework for action and good management. These conversations created a snapshot of ecological and community challenges in the Ausable River watershed and presented specific recommendations for addressing them, while keeping in mind the diversity of community interests and needs. These include:

- Monitoring water quality with special emphasis on sediment, chloride, phosphorus, and water temperature. (Center staff have led and participated in scientific and outreach efforts that have significantly informed each of these issues.)
- Understanding the effects of winter road maintenance, curbing the use of chloride, and encouraging systematic cleanup of road sand, town by town. (The Center, in partnership with the Adirondack Watershed Institute, produced a significant study informing this work. We currently work with ADK Action and a consortium of groups to continue pressing for reduced salt use.)
- Identifying methods for reducing wastewater impacts throughout the watershed including septic pump-out programs and use of portable toilets in high seasons. (Essex County, the Development Authority of the North Country, and others lead on broader wastewater efforts. The Center has maintained a portable toilet program for many years though this will slowly transition to DEC in 2024-2025.)
- Identifying, inventorying, and eradicating invasive species and supporting state, regional, and local programs that pursue these goals. Protecting wild brook trout populations from incursions of stocked, non-native fish. (Center staff have been at the forefront of efforts to eradicate invasive species and protect native species such as brook trout.)
- Encouraging proactive floodplain management programs, strong local floodplain development regulations, and enforcement of regulations to protect floodplains. (Center stream restoration efforts include floodplain management and will increase in coming years.)
- Assessing stormwater controls in hamlets with an eye toward reducing sediment and pollutant runoff and managing flood flows in low-lying areas. (Regional partners have pursued comprehensive efforts to reduce stormwater pollution. Center programs extend these efforts through native planting and restoration efforts.)
- Identifying and replacing culverts that interrupt connectivity and reduce flood resilience; developing an inventory of existing intact floodplains and areas where roads cut off floodplains from the river. (The Center's climate-ready culvert model has been recognized state-wide and internationally. Center staff are considered regional technical experts on this topic.)
- Restoring natural channel form and function by identifying stream restoration needs that improve flood resilience and public safety, protect infrastructure, enhance the functional integrity of large and small streams, and expand riparian habitat. (The Center's Healthy Streams program has been recognized for setting a standard for natural stream restoration projects in New York State and beyond.)

The WMP has been refined through a series of reports and subsequent plans that have refined recommended actions. The 2022 Lake Placid Lake Management Plan produced recommendations for wise lake management. Multiple Mirror Lake reports have identified salt pollution sources in Mirror Lake, quantified their effects, and identified actions for reducing salt loads in the lake. The 2019 East Branch Restoration Plan in Jay and the forthcoming plan for Keene provide science-based solutions for rebuilding stream health, habitat, and flood resilience in damaged sections of the river. A plan tailored for the West Branch will be pursued in this strategic plan period. Culvert inventories for the Ausable and beyond exist in multiple formats and prioritize work for partners. And the forthcoming Survey of Climate Change in Adirondack Lake Ecosystems will identify future stewardship needs to protect Adirondack lakes.

III. Current Program Overview

Current programs summarized here and in Table 3.1, achieved goals set out in the 2017 strategic planning. Each program has seen growth and shifts in emphasis, as past objectives are achieved and new opportunities arise. Most notably, each program is now led by a skilled program manager with expertise in their field of research and action. Given the linked, interdependent nature of our core program areas, program staff cooperate frequently, pursuing research, building projects, and identifying solutions to problems together.

3.1 Healthy Streams

The Healthy Streams program has undergone rapid growth in the past several years, with a strong possibility for further growth in the immediate future. While grant funding is always uncertain, our recent track record for securing large sums to cover the high costs associated with restoration work bodes well for bringing planned projects to fruition.

The Healthy Streams program is focused on conducting sound research into the best practices for restoring self-sustaining hydraulic, geomorphic, and biological function to the rivers and streams in this region, and then implementing these goals. To that end, we have secured funding to study the geomorphic characteristics of stable sections of the rivers and tributaries in our watershed to better understand why these areas function well under a variety of hydrologic conditions. We also have funding through the U.S. Environmental Protection Agency to study our restoration sites to identify and quantify the improvements in geomorphic and biologic function after projects are fully implemented.

The East Branch Restoration Program (EBRP), developed in 2019 under the guidance of Ecosystem Planning and Restoration's Senior Water Resource Scientist, Rich Starr, in partnership with the USFWS Field Office in Cortland, NY, is a major focus of the Healthy Streams program. The first phase of the EBRP identified and prioritized 13 restoration projects located on the lower half of the East Branch, within the Town of Jay. As of 2023, Ausable Freshwater Center's staff have implemented two of the 13 projects, one is shovel-ready, and another in the process of engineering design. This work is funded by a variety of sources, including the Lake Champlain Basin Program, the USFWS Wildlife Conservation Office in Essex Junction, VT, and a generous federal earmark included in the 2022 Omnibus Bill, administered through the Natural Resource Conservation Service's New York office. Planning for the second phase of the EBRP is underway. With funds from the earmark, the Center's staff and partners will extend this study upstream throughout the Town of Keene's portion of the East Branch, identifying and prioritizing a series of new projects. Funding is being sought for intensive study of the West Branch Ausable River to understand ongoing sedimentation in its upper reaches that is affecting its renowned fishery.

In addition to our ongoing restoration work, we have continued to develop partnerships that advance our goals of restoring aquatic organism passage (AOP) through the replacement of undersized and degraded culverts in both the Ausable and Boquet watersheds. We continue to work closely with The Nature Conservancy, serving

as technical advisors on culvert replacements. A grant awarded late in 2023 from the Lake Champlain Basin Program will fund a joint project between the Center and the Essex County Department of Public Works in the Boquet watershed, replacing a culvert with a bridge on one of the highest priority road-stream crossings in the Lake Champlain basin.

3.2 Clean Water

The Ausable River, its tributaries, lakes, and groundwater serve as a source of drinking water to over 20,000 full-time residents and approximately a million visitors and seasonal homeowners each year. These water resources also support one of the best riverine cold-water fisheries in the state and a diversity of aquatic and terrestrial ecosystems. The long-term health of these communities relies heavily on the health of the Ausable River.

The Ausable Freshwater Center's Clean Water program evolved rapidly in the years following the 2017 Strategic Plan. It's primary focus through 2022 was documenting and understanding the impact of road salt on the river, its tributaries, and watershed lakes, with intensive study of Mirror Lake in partnership with Paul Smith's Adirondack Watershed Institute (AWI). This resulted in a report "Quantifying the De-icing Salt Pollution Load to Mirror Lake and the Chubb River" co-produced by AWI and the Center's staff.

The Ausable Freshwater Center's staff continues its research on Mirror Lake to understand the ongoing implications of road salt for this waterbody and the effects of reduction and management activities by local and state government, residents, businesses, and property owners. This includes routine long-term monitoring of Mirror Lake through both field work and the deployment of a monitoring buoy, maintained in cooperation with AWI and Rensselaer Polytechnic Institute. The Center's staff also continues to maintain a weather station and webcam on Mirror Lake in Lake Placid, which continuously track conditions and are tools to maintain longstanding ice-cover records.
Outreach to encourage salt reduction and to provide technical assistance to Mirror Lake stakeholders will continue through 2025. That work is augmented by a new partnership with AdkAction, which recently launched a park-wide Clean Water Safe Roads program that supersedes our Salt Use Reduction Initiative for Mirror Lake. Clean water science staff are exploring opportunities to study potential reductions of salt loading in lakes and streams throughout the eastern Adirondacks, as AdkAction expands its training network for town road crews.

We continue long-term monitoring of water chemistry in the Ausable River and its tributaries (bi-weekly, year-round) and lakes (monthly, during summer) throughout the watershed. Lake monitoring analyses are processed through the Adirondack Lake Assessment Program at AWI.

A notable change for the program occurred in January of 2023, following the planned merger of the Adirondack Lakes Survey Corporation (ALSC) into the Ausable Freshwater Center. With the merger came funding and resources for the Center's staff to serve as a major collaborator in a pilot program of SCALE, the Survey of Climate Change and Adirondack Lake Ecosystems. In 2022, the Center received $500,000 through the State Aid to Localities program of the New York State Legislature to pursue the pilot of SCALE. The Center's staff coordinate the SCALE pilot project along with researchers from Cornell University, Rensselaer Polytechnic Institute (RPI), City University of New York Graduate Center (CUNY), and Syracuse University, which will lay the groundwork for this multi-year study. The pilot's goals are to (1) identify target lakes for SCALE through mining of historic data sets (RPI), (2) develop and field test cutting-edge tools and methods for gathering field data, including novel environmental DNA quantification tools and the analysis of stable isotopes in food webs (Cornell), (3) examine changing dissolved organic matter trends (Syracuse), and (4) use satellite remote sensing to map and model physical and chemical lake attributes (CUNY). The pilot will be completed in 2024. Funds are already in place for the first year of the SCALE study, anticipated to last three to five years, with the Center as a key partner.

SCALE is the first project that directs long-term organizational research by the Center's staff outside of the Ausable watershed. Field work will examine the baseline data of lakes around the Adirondacks as they respond to a changing climate.

While the ALSC merger expanded the geographic scope of the water quality work performed by the Center's staff, there remains a strong focus on the Ausable River and its issues. Knowledge gained from SCALE and other former ALSC projects will benefit and strengthen the Clean Water program closer to home in the Ausable watershed and in neighboring watersheds.

3.3 Biodiverse Habitats

Diversity builds resilience, in both natural and human communities. Understanding and, where possible, maintaining habitat and species diversity within the Ausable River watershed helps to maintain ecological integrity and reduce the risk of threats such as climate change. Fundamental to this goal is understanding the desired outcome. In many cases, it is to preserve the species and ecological communities native to the watershed. This goal relies on the belief there is intrinsic value in these ecological communities. In some ways, this value is realized through ecosystem services provided to human communities. These include clean water, raw materials such as wood and wood fiber, and food such as deer and fish.

Since the last strategic plan, we have successfully built a freestanding program that identifies and protects vulnerable species dependent on near/in-stream habitats. Work combines research on invasive species and riparian buffer restoration and has grown to include research on the occurrences of vulnerable and non-native fish species (primarily native wild brook trout but also salmon, lake trout, brown trout, and rainbow trout).

Currently, Biodiverse Habitats staff members pursue seven areas of work to preserve habitat through the following monitoring and research efforts, within the Ausable River watershed and beyond:
Documenting Climate Change Impacts on Fish Distribution. Warming air and waters threaten the survival of many native Adirondack species, especially brook trout. In addition to monitoring water temperatures and adding riparian tree cover, staff uses new technologies, such as environmental DNA (eDNA), to better understand the impact of climate change on brook trout habitat suitability. The Center has produced detailed maps of brook trout distributions in the headwaters of the East and West Branch Ausable Rivers, and throughout the Chubb.

Using New Technology to Monitor Atlantic Salmon Restoration Efforts. Our science staff is also using environmental DNA to research Atlantic salmon, in partnership with the U.S. Fish and Wildlife Service (USFWS). One objective is to determine whether eDNA is an effective tool for tracking salmon spawning success. Another is to assist USFWS in assessing spawning success of Atlantic salmon since the removal of the Willsboro pulp mill dam in 2015. This grant-funded work has led to a new partnership between the Center, the U.S. Forest Service, and the USFWS.

Temperature Monitoring. Biodiverse habitats staff maintain a network of temperature data loggers throughout the Ausable River watershed to provide a continuous measure of water temperature. Warmer waters threaten the survival of many native Adirondack species, most notably brook trout. Given the challenges posed by global climate change, our goal is to understand where waters are warming in the watershed, whether our habitat restoration efforts have a cooling effect, and the long-term suitability of the Ausable and its tributaries as habitat.

Riparian Restoration and Monitoring. Biodiverse Habitats staff members restore native grasses, plants, and trees to once lush streamside, or riparian, habitats along stream corridors and monitor projects to build on success. Projects increase riparian shading at priority sites and establish plants on newly restored streambanks, with a goal of restoring the diverse native plant structure that is essential to stream health and wildlife diversity.

Over the past 11 years, this work has helped to identify the most appropriate native species and methods that maximize revegetation success while minimizing the time, energy, and money needed to maintain revegetated areas.

Monitoring native planting success will continue to be part of the Biodiverse Habitats program, but, during the next year, the restoration and planting efforts described above will be transferred to the new Ausable Conservation Nursery.

Likewise, the following areas of work will be pursued by staff members in the Empowered Stewardship program, though each will continue to be informed by the research that defined them.

River Stewardship. For thirteen years, the river steward program has provided outreach and education to anglers and recreationists. This summer hire, usually a young advanced undergraduate or graduate student, focuses on preventing the spread of invasive species. S/he/they brings on-river education and outreach to anglers and river users at our most popular fishing access points from May to October. The steward attends public events throughout the region, sharing the Center's work with hundreds more watershed visitors and residents. We envision an expansion of this program to continue the core work and expand to more angler education and engagement, while also providing technical outreach to landowners.

Invasive Species Monitoring and Management. Several invasive plant and animal species threaten native habitats. Center science staff and our seasonal river steward have worked to identify, inventory, and remove invasive species that threaten the vulnerable native species that rely on Ausable streams, lakes, floodplains, and wetlands. For example, we monitor current and past infestations of knotweed, purple loosestrife, and phragmites across the watershed, and survey for new invaders, such as Japanese
tree lilac.

Youth Educational Programs. Each summer, the Ausable Freshwater Center's staff scientists provide a week of interactive science education at our Teen Aquatic Stewardship Program, in partnership with the Adirondack Mountain Club. Students get opportunities to learn hands-on science investigation, using macroinvertebrate sampling, where comparison of pollution-tolerant versus pollution-intolerant species helps them understand biotic integrity and the importance of clean water.

Landowner Outreach. While much of the focus of our riparian restoration is on newly created banks following in-stream restoration projects, we also work with landowners to improve their riparian buffers. In 2022, the Lake Champlain Basin Program launched Stream Wise to educate and incentivize landowners and communities across the Lake Champlain Basin to engage in riparian stewardship activities. We led the New York pilot of the program and continued the program in 2023. Working with interested streamside landowners, Center staff assess the streamside buffers on their property and recommend improvements to their management. Landowners who meet the necessary criteria are awarded a Stream Wise Award. We plan to continue working with landowners to conserve and restore riparian buffers, across the Ausable River watershed and beyond.

3.4 Engaged Communities, Enjoying the Watershed

The 2017 plan articulated two categories of outreach. One focused on public enjoyment by promoting public access and low-impact recreational opportunities. A second identified the need to encourage active stewardship among residents and visitors, young and old, by sharing information—specifically, the data from our work, in an accessible format. In both cases, we quickly found that we were showing people the threats and challenges a healthy freshwater ecosystem faces and engaging them in ways they could steward, protect, and enjoy it. The two programs quickly merged into one.

The Center's staff offers a wide range of in-person and digital education, action, and recreation opportunities that are popular among our supporters, including both residents and visitors. Since 2023, the work in this program has been guided by an annual communications plan, mapping the coordination needed among staff members across programs. Current program activities include:

Guided Watershed Tours. Since 2019, Ausable Freshwater Center's staff has been offering free opportunities for people to connect with the Ausable watershed through guided tours. The goal is to educate and inspire responsible stewardship in residents and visitors alike. The Center's staff offers tours that are accessible to a spectrum of ability levels. Whenever possible, gear such as kayaks, canoes, binoculars, hiking poles, and snowshoes are provided at no cost to those attending. This allows us to include people who might not otherwise be able to participate in the associated activities. The program averages ten tours per year. Over the five years we've run tours, hundreds of residents and visitors of all ages have attended and learned about a diverse range of topics throughout the watershed and beyond. This program has been supported by grants from United States Environmental Protection Agency, NEIWPCC, and the Lake Champlain Basin Program.

Youth Education. Connecting young people to the watershed is crucial to developing in them a lifelong love for the area, and for protecting it. Although they live near the river, many young people in the area have had little to no interaction with it. The Center's staff works to connect them to the watershed through partnerships with schools, offering in-class opportunities, and by offering educational programming for young people outside of school.

Notable in-class educational programs since 2017 include:

> Partnering with local schools, the Adirondack Watershed Institute, the Lake Champlain Maritime Museum, and Lake Champlain Sea Grant, the Center brought an expanded version of the Museum's Giant Map curriculum to students in the Ausable watershed. This watershed education program is designed in two parts, one session taking place in the school and the other taking place outside, at a convenient location along the Ausable River. After successfully running the program at the Keene Central School in 2022, we brought it to the Au Sable Forks Elementary School in 2023. Over time, we hope to share this program with schools throughout the Ausable and Boquet watersheds, and beyond.
>
> In 2022, we were awarded a grant from Lake Champlain Sea Grant to bring stormwater education to a local school. For this program, we partnered with Northwood School to bring a stormwater lesson into a biology class and connect the science of stormwater to conditions in and around the Village of Lake Placid.

Ausable Freshwater Center Events. We offer annual events open to the public that engage members of the public in work or play, while providing ways to learn about challenges to the Ausable system and ways they can improve its health. Annual events include Ride for the River, Friendraiser, Shindig, river cleanups, invasive species removals, and tree plantings.

Participation in Community Events. The Ausable Freshwater Center participates in and shares information and literature at events organized by peer organizations. These provide opportunities to advance the Center's stewardship and outreach message and promote awareness of the watershed and our work. Notable annual events that we have had a presence at include: the Two-Fly, the Great Adirondack Trail Run, LCBP's World Water Day Celebration, and regional farmers' markets.

Digital Communications. Our digital communications serve as a voice for the organization and the freshwater systems we work to protect and restore. Our digital resources are robust and up-to-date and include: our website, e-newsletter, Mirror Lake live camera, StoryMaps, and social media.

Print Publications. We develop and publish print publications to share the Ausable Freshwater Center's work and information about the watershed. Research from the Lake Champlain Basin Program suggests that print publications are still highly valued as a source of information locally. Publications include the annual report, annual Voice of the River newsletter, brochures, and technical reports/briefs.

Table 3.1

AUSABLE FRESHWATER CENTER— Program Overview

Program Goal	Program Areas	Program Activities
1 Healthy Streams		
documenting existing conditions	river/stream monitoring	• reference reach assessments • stream condition assessments • species diversity and access assessments • species shifts • discharge flow modeling
understanding threats	river/stream hydrology research	• culvert impact assessments/ replacement priorities • river channel restoration needs • riparian restoration pilot
mitigating threats	reconnecting stream corridors	• culvert replacement projects • natural stream restoration projects
	recreating natural channels	• river segment stabilization projects • boulder donation program
	reestablishing riparian buffers	• tree planting projects • volunteer tree planting program • trees for free program
	mitigating impacts of flooding	• rapid response actions
2 Clean Water		
documenting existing conditions	water quality investigations	• SCALE Pilot Program • lake and stream monitoring • emerging contaminant monitoring • nutrient monitoring
understanding threats	water quality research	• SCALE • road salt monitoring • microplastic monitoring • identified nutrient sources
mitigating threats	lab services	• establish lab capacity • provide external lab services
	climate	• leverage data from SCALE
	microplastics	• outreach with stakeholders
	nutrients	• develop management plans
3 Biodiverse Habitats		
documenting existing conditions	monitoring	• aquatic invasives monitoring • terrestrial invasives monitoring • stream connectivity assessments • brook trout habitat monitoring (temperature)
understanding threats	research	• invasive species identification/mapping • biological inventories at select restoration project sites • brook trout presence/absence, abundance
mitigating threats	terrestrial invasive species management	• treatment and removal
	reconnecting stream corridors	• culvert replacement projects
	recreating natural channels	• natural stream restoration projects
	reestablishing riparian buffers	• planting native trees and plants/monitoring results
	aquatic invasive species prevention	• wader wash stations
River Steward Program	technical assistance to partners	• assistance to towns • assistance to landowners
	river related recreation experiences	• Lake Everest Paddling Trail • Rock Cut Park

Table 3.1

AUSABLE FRESHWATER CENTER— Program Overview

Program Goal	Program Areas	Program Activities
4 Empowered Stewardship		
place based learning	guided watershed tours	• tours
	AsRA events	• Friendraiser • Ride for the River • September shindig
	non-AsRA events	• Two-Fly • Great Adirondack Trail Run
	youth education	• giant map • stormwater education • culvert lab
communications	digital	• website • e-newsletter • social media • Mirror Lake live camera • StoryMaps
	print	• annual report • annual newsletter • brochures • technical reports/briefs
5 Informed Action		
technical management assistance	technical advising	• engage and support municipalities with needs related to water resources and management
	cooperation state and federal partners	• encourage state and federal partners to embrace and utilize our resources and expertise
partner engagement	actively manage partner relationships	• engagement at program and organizational level • continue outreach and participation in regional working groups
	advance methods for shared efforts and services	• expand fee for service and partner relationships • partner relationships and levels of merged services
facilitate conversations	staff participation in conferences	• move center data and methods into wider conversations with like professionals
	staff participation in committees	• pursue opportunities to contribute to local and regional conversations

IV. Program Goals and Strategic Actions, 2023–2027

The staff and board of the Ausable Freshwater Center developed a strategic framework to guide program activity (actions) over the next five years. Actions will be implemented in collaboration with partners and the community and will pursue the organization's mission and vision for the Ausable watershed, and beyond.

Significant growth in the Biodiverse Habitats program has allowed a reorganization of our outreach and stewardship work. Science-based outreach efforts such as the river steward program and the Streamwise landowner incentive project are being shifted into an expanded Empowered Stewardship program. Science staff members will continue to inform and support outreach and stewardship efforts, but day-to-day responsibilities will shift to stewardship and communications staff. After successfully completing an intensive study of road salt impacts on Mirror Lake, the Clean Water program will begin shifting focus to climate change, emerging pollutants such as microplastics, and nutrient loading. The Healthy Streams program continues on the course laid out in the last strategic plan, pursuing long-term restoration plans and funding for in-channel restoration work.

Strategic actions are detailed through the five program areas that align with organizational goals. One freestanding project, the Ausable Conservation Nursery, cuts across multiple organizational goals but falls under healthy streams.

4.1 Healthy Streams

Goal: Restore self-sustaining streams
Repair damaged streams to support water quality, connectivity, and biodiversity and to provide climate resilience for our communities.

Stable streams in equilibrium minimize flood damage, maintain water quality, and provide habitat critical for diverse, healthy ecosystems. Their ability to self-regulate and remain in equilibrium means that their channel and floodplain structure amply manage the full range of water and sediment flowing through them over time. Fortunately, this potential is not limited to natural streams with no human disturbance. Working with the USFWS, Ausable Freshwater Center staff plan and implement restoration techniques that work with the natural hydrology to restore a self-regulating river. Such work requires a multiple year commitment from dedicated partners, a secure stream of funding, and a careful assessment and prioritization of projects that garner maximum stream health with minimum physical disturbance and redundancy and are cost-effective.

Objective 1.1 Documenting Existing Conditions – Gather Data on Current Conditions

Gather, analyze, and make available for stakeholders information on the geomorphology, hydrology, and ecosystems currently present in Ausable and other priority streams and stream corridors.

Action 1.1.1 – Finish preliminary reference reach and hydraulic geometry study
Continue to identify existing stable reaches. Gather morphological data (e.g., slope, bankfull width, mean depth) using Level II geomorphic analysis. Correlate bankfull discharge channel dimensions to drainage area at gaged and ungaged reference sites to create a watershed-specific regional curve dataset. Use these data to track changes over time and for extrapolation to disturbed or unstable reaches in similar valley types for the purposes of restoration, stream enhancement, and stabilization efforts. Preliminary study will be built upon as more sites are identified.

Action 1.1.2 – Conduct sediment source study on West Branch Ausable River
Identify funding source and implement plans to conduct a study on the source of fine-grained sediment currently moving through the West Branch Ausable River watershed.

Action 1.1.3 – Inventory unmapped dams
Develop a comprehensive list of unmapped dams using a combination of community-sourced reporting and remotely sensed data. Resultant datasets may serve as the foundation for dam removal prioritization to open tributary streams to native trout populations.

Objective 1.2 Understanding Threats – Prioritize Challenges to Stream Health

Using established assessment methods and sharing data and analyses with partners and the public, analyze current threats with an eye toward restoring stream health and geomorphic potential. Identify priority steams and/or reaches and projects within them.

Action 1.2.1 – Prioritize culverts for aquatic passage and flood resilience
Work with our public, private, and nonprofit partners to prioritize culverts for replacement with new federal funding from the Bipartisan Infrastructure Law. Identify subwatersheds with the greatest potential to open cold water refuge to fish passage.

Action 1.2.2 – Expand the East Branch Restoration Program to the Town of Keene
Using methods comparable to the Town of Jay effort, identify and prioritize sites in the Town of Keene section of the East Branch Ausable River.

Action 1.2.3 – Implement a stream health assessment process in the Boquet watershed
Expand efforts to protect and restore healthy Adirondack streams into the neighboring Boquet River watershed.

Objective 1.3 Mitigating Threats – Restoring Stream Channel Function

Working in partnership with the USFWS, pursue natural channel restoration of priority projects in the watershed as defined by Ausable Freshwater Center long-term planning, current needs and resources, and public/private interest.

Action 1.3.1 – Develop engineered design plans for priority stream restoration projects
Use existing funding sources to complete the design process on two priority projects (Project Areas 7 and 11B) to improve floodplain connectivity in the lower section of the East Branch Ausable River. Continue development of restoration project at Ladies Mile on upper East Branch. Explore funding sources to further design development on other EBRP projects in the towns of Jay and Keene.

Action 1.3.2 – Expand the Center's capacity to survey, design, and model restoration projects through acquisition of equipment and training
Make restoration design more cost effective by using salaried staff to deliver more tasks related to the development design plans. Acquire surveying equipment and training for hydrologic and hydraulic modeling. Continue working closely with our public and private partners to learn the process used by professional design firms.

Action 1.3.3 – Design plans for restoration projects
Implement existing engineered designs for project area 13 (Au Sable Forks). Continue implementation as new designs are developed (See Action 1.3.1).

Objective 1.4 Mitigating Threats – Reconnecting Stream Corridors

Pursue culvert replacements and, where feasible, retrofits to reconnect impaired road-stream crossings that exacerbate flooding and prevent fish passage. Work with USFWS oversight and utilize, when possible, local labor and expertise to encourage training in and adoption of fish passage and natural channel restoration standards to expand the Climate-Ready Culvert network.

Action 1.4.1 – Priority culverts and subwatershed plans to replace culverts that interfere with aquatic organism passage
Continue development of Climate Ready Culvert program to replace culverts identified in Action 1.2.1. Work with partners at TNC and USFWS to expand the program to regional watersheds.

Action 1.4.2 – Technical assistance to Towns/County DPW and contractors
Continue building relationships with DPWs and contractors in the watershed to provide knowledge in and reasons behind natural channel design goals. Encourage broad adoption of natural channel design methods when working on or alongside streams.

Action 1.4.3 – Certification opportunities to add value to Ausable Freshwater Center assistance to partners
Explore benefit of obtaining floodplain manager certification to help local governments and landowners.

Project: Ausable Conservation Nursery

Project Goal: produce quality, hyperlocal plant stock at an equitable, competitive price for use in riparian restoration and plantings throughout the Lake Champlain Basin in New York State by establishing the Ausable Conservation Nursery in partnership with The Uihlein Foundation.

Objective 1.5 Increase Native Plant Supply for Restoration

Action 1.5.1 – Oversee startup of nursery operations and staffing
Create, develop, and expand native plant nursery at Heaven Hill Farm in Lake Placid including staff hires (full-time nursery curator), purchase of materials, expansion, and development of site. Use as hyper-local source of trees and shrubs for riparian plantings within the watershed.

Action 1.5.2 – Work plan goals
Pursue the goals and workplan of the 2-year Lake Champlain Basin grant and the guidance of the existing business plan. Refine the business plan for executive approval by early 2025.

Action 1.5.3 – Advisory committee
Create and maintain an advisory group (including key Healthy Streams and Biodiverse Habitats staff) to provide expertise for nursery work and planning.

Action 1.5.4 – Volunteers
Create a volunteer group to assist in seed/plant collection, propagation, planting, etc., under guidance of the nursery curator.

Objective 1.6 Riparian restoration support and services

Action 1.6.1 – Identify plant material sources
Identify sources and build reliable relationships to ensure ability to source hardy tree and shrub species native to the watershed.

Action 1.6.2 – Continue riparian planting and oversight of stream restoration projects
Assist with planting and seeding of newly constructed streambanks with native grass mix and native shrubs and trees. Expand the nursery volunteer network as needed to assist contractors.

Monitor and maintain as needed restoration riparian buffers through additional planting or invasive species removal as needed for at least 5 years.

4.2 Clean Water

Goal 2: Safeguard water quality
Monitor streams and lakes to understand trends in water quality. Provide accurate science to manage the impacts of climate change, sediment pollution, and nutrient loading.

We will continue the Ausable Freshwater Center's commitment to conducting long-term monitoring of water quality in lakes and streams; to pursuing research to identify and understand water quality threats throughout the watershed; and to finding solutions by working with communities and diverse partners.

Objective 2.1 Documenting Existing Conditions – Water Quality Investigations

The key to restoring and maintaining clean water is understanding the current conditions, and to identify those conditions which may present future threats. Documenting the existing conditions and comparisons with historical data are imperative to creating effective solutions and management plans.

Action 2.1.1 – Climate
Changing climate is impacting the water quality and biota of the Ausable watershed and beyond. A detailed knowledge of baseline conditions is crucial to developing future managements plans. The Survey of Climate in Adirondack Lakes Ecosystems Pilot Study is underway to compile comprehensive historical data sets and identify candidate waters for a larger study. Pilot field research methods are being examined in lakes in the Ausable Watershed and around the Adirondack Park for the collection of eDNA, isotopic food webs, and water quality. We will work with partners to synthesize this data into reports on initial findings to guide a larger study.

Action 2.1.2 – Road salt
Road salt use and its effects on the Ausable watershed are now well documented. As efforts are made to reduce and mitigate its use, we must continue to study the lakes and streams in the Ausable watershed to monitor road salt use and possible reductions to continue to guide remediation efforts.

Action 2.1.3 – Emerging contaminants
Even as existing water quality issues are identified and mitigated, new threats to ecosystem health are emerging. The detection of microplastics in aquatic environments is becoming more common, but the extent and source of these inputs in the Ausable watershed is largely unknown. Funding sources are being investigated to develop a baseline study of microplastic presence and abundance in the Mirror Lake watershed and its outflows that will inform future research.

Action 2.1.4 – Nutrients
Anthropogenic nutrient loading into the Ausable watershed has generally been shown to be low based on inputs observed entering Lake Champlain. More regionalized loading and uptake remains less studied, however. With changing climate and increased stormwater runoff from precipitation events, documenting sources and sinks of nutrients, especially phosphorus, will be increasingly important.

Objective 2.2 Understanding Threats

If threats are identified through our baseline monitoring, it is essential that these threats be studied to determine the scope of the issue and to gain a full scientific assessment of the situation.

Action 2.2.1 – Survey of Climate in Adirondack Lakes and Ecosystems
The Ausable Freshwater Center will partner with SCALE collaborators to perform a large scale, multiyear survey of approximately 400 lakes around the Adirondacks to determine the status and trends in water chemistry, biota, and other metrics that may result from climate change. These partners include Cornell CALS, RPI, Syracuse University, and CUNY Polytech, with funding provided through New York State and federal sources.

Action 2.2.2 – Salt use
We will continue to partner with AWI to perform water quality monitoring of Mirror Lake. Our work will also include continuing maintenance of the monitoring buoy, weather station, webcam, and ice cover records. We will continue our long-term monitoring program on the Ausable River and its tributaries around the watershed and make this data available to the public and our partners as needed. Limited seasonal lake monitoring will also continue in the Cascade lakes and sponsored lakes for the ALAP program to track changes in road salt use and impacts. This funding is being provided by a grant through the North Elba Local Enhancement and Advancement Fund.

Action 2.2.3 – Microplastics
Develop a multiyear study built on a baseline survey to determine pelagic, tributary, and shoreline sources, pathways, and sinks for microplastics.

Action 2.2.3. – Nutrients
Funding will be sought in coming years to examine nutrient concentrations, sources, and gradients throughout portions of the Ausable watershed to determine if localized inputs are posing a threat to water quality.

Objective 2.3 Mitigating Threats

Having taken a thorough and rigorous scientific approach to the understanding of potential water quality threats, we will then work with a wide and diverse group of partners using a best practices approach to establish targeted goals for mitigating and eliminating threats when possible.

Action 2.3.1 – Establish laboratory services
Thanks to a temporary partnership with the Uihlein Foundation, we will establish a streamlined laboratory facility at Uihlein Farm that will serve not only the clean water program, but all other Ausable Freshwater Center programs as well. This will allow for a more rapid and cost-effective response to threats as they are identified. A permanent laboratory is included in the planning for the new Preserve building in the Town of Jay (see 6.4).

Action 2.3.2 – Provide external laboratory services
Once a laboratory is established to serve the internal research needs of the Ausable Freshwater Center's programs, laboratory service will be expanded to fulfill the niche role that the ALSC laboratory once served. This may include reestablishing the former ALSC relationship with the NYSDEC Fisheries program to provide analytical services that drive their management decisions, including those in the Ausable watershed. This may also include reestablishing a partnership with SUNY Albany Atmospheric Science Research Center to provide analytical services for the atmospheric monitoring at Whiteface Mountain Observatory.

Objective 2.4 Mitigating Threats – Climate

Action 2.4.1 – Leverage data and sampling protocol from SCALE
Novel field collection techniques along with an extensive database of limnologic and hydrologic metrics will be a major result of SCALE. These methods and data sets will benefit the whole of the Ausable Freshwater Center's programs in a combined effort to better understand ecosystem response to climate change in the Ausable watershed and beyond.

Objective 2.5 Mitigating Threats – Salt Use

Action 2.5.1 – Public outreach
We will continue to partner with ADK Action, AWI, local governments, and others to communicate findings and develop action plans for salt use reduction.

Objective 2.6 Mitigating Threats – Microplastics

Action 2.6.1 – Public outreach
We will partner with landowners and businesses to identify local microplastic sources and provide data to municipalities to develop mitigation and treatment strategies.

Objective 2.7 Mitigating Threats – Nutrients

Action 2.7.1 – Public outreach
If localized sources of nutrient loading are identified, we will work with the appropriate private or public entities to mitigate the source and help to create a management plan to prevent future stormwater runoff issues.

4.3 Biodiverse Habitats

Goal 3: Protect native habitats.
Understand native species ranges and requirements and invasive species distributions. Use this knowledge to focus partnership efforts to protect, manage, and restore freshwater habitats.

Cataloging existing conditions in the Ausable River watershed and study areas in other watersheds is the first step in protecting habitats. Built on that baseline information is a need to research and understand the distribution of species across the landscape. As threats are identified and understood, they should be addressed to protect biological integrity and increase resilience in the face of changing conditions.

Objective 3.1 Documenting Existing Conditions and Threats

Monitor biological communities to assess overall health and resilience. This work will be used to inform management recommendations to stakeholders, partners, and state agencies.

Action 3.1.1 – Document key wildlife species occurrence
Identify key species that live in and around Ausable streams (fish, mammals, amphibians, birds, insects, crustaceans). Document occurrence of NY species of greatest conservation need (trout, mussels, invertebrates). Document species distribution, habitat requirements, and obstacles to utilizing full habitat using environmental DNA or other methods. Fish community surveys in streams, lakes, and ponds, including juvenile salmonid assessments. Assess new and emerging threats to wildlife species.

Action 3.1.2 – Document native plant species diversity and occurrence
Identify native river corridor/streambank plant species and their tolerance to varying conditions. Continue and expand native plant inventories on cobble/sand bars and bankfull river benches. Create voucher specimens for SUNY herbarium collections. Continue long-term monitoring of riparian planting success until sites are in a fully vegetated state.

Objective 3.2 Understanding Threats – Climate Change

Action 3.2.1 – Climate impacts on key wildlife species
Research possible and predicted impacts of climate change on key wildlife species. Consider climate adaptation strategies of wildlife and identify conservation strategies to aid in climate adaptation.

Action 3.2.2 – Climate refuge for aquatic species
Research and identify areas of thermal and habitat refuge for key aquatic wildlife species. Interpret long-term stream temperature dataset with climate lens. Understand habitat heterogeneity and access to refugia on a riverscape scale. Identify areas for possible habitat or riparian restoration projects that would directly improve thermal and habitat refuge areas for aquatic species.

Action 3.2.3 – Trout and salmon in a changing climate
Consider and assess climate change impacts to brook trout, lake trout, and Atlantic salmon in NY. Use existing or develop spatial tools to model future trout populations. Evaluate ecosystem impacts of species loss from climate change. Expand stream temperature monitoring network to better understand the impact of climate change on brook trout habitat suitability. Conduct regular benthic macroinvertebrate studies to monitor resource availability for fish populations.

Objective 3.3 Understanding Threats – Habitat Fragmentation and Land Use Change

Action 3.3.1 – Barriers to habitat connectivity
Assess habitat connectivity in headwaters and on a riverscape scale. Understand habitat use by brook trout and other wildlife around barriers to connectivity.

Research on brook trout genetic connectivity in headwater tributary-river interface.

Monitor former stream restoration sites for biological uplift (changes to the fish, invertebrate, and riparian community).

Action 3.3.2 – Land use change
Assess land use change impacts on aquatic ecosystems and forest-aquatic (stream-forest) interface.

Action 3.3.3 – Sedimentation and emerging threats
Research to understand impacts of sedimentation from erosion and roadways on wildlife and habitats. Study additional land use change threats as they emerge.

Objective 3.4 Understanding Threats – Invasive Species in Native Ecosystems

Action 3.4.1 – Forest pests research and implications
Research to understand best options for replacement of native canopy trees in riparian areas and management BMPs for invasive forest pests.

Evaluate ecosystem effects of invasive fish and insects on food webs, predator-prey interactions, and modeling for future invasions.

Objective 3.5 Mitigating Threats – Climate Change

Action 3.5.1 – Climate adaptation and rescue
Identify opportunities and strategies for assisted climate change adaptation or genetic rescue of brook trout populations. Seek funds for continued research.

Action 3.5.2 – Habitat restoration projects for climate refugia
Identify specific habitat and riparian restoration projects for wild brook trout climate refugia. Work with Healthy Streams program to fund and implement these projects.

Objective 3.6 Mitigating Threats – Habitat Connectivity and Land Use Change

Action 3.6.1 – Connectivity projects
Review existing model recommendations to prioritize restoration and reconnection sites and validate on-the-ground reality of brook trout distribution and habitat quality. Conduct biological monitoring before and after construction of connectivity projects.

Action 3.6.2 – Outreach regarding land use change
Recommend landowner and policymaker outreach to counteract land use change impacts on aquatic ecosystems and forest-aquatic (stream-forest) interface. Promote BMPs to address sedimentation from erosion and roadways and their effects on wildlife habitats. React to additional land use change threats as they emerge. Continue to collaborate with healthy streams program to maximize benefits for native species. Use research to inform stream restoration design elements to promote aquatic and riparian micro-habitats.

4.4 Empowered Stewardship

Goal 4: Inspire action through outreach and recreation.
Create and encourage sustainable opportunities for people to enjoy streams, lakes, and wetlands and form personal connections to them. Provide knowledge and tools so anyone can actively steward the freshwater systems they've come to love.

Ongoing outreach through programs that engage a broad variety of audiences – visitors, river users, residents, landowners, and school children – and that provide tools for making a difference, are essential to encouraging a passion for and enjoyment of streams, lakes, and riparian systems. Our programs seek to engage, teach, and inspire.

Objective 4.1 River Steward Program

Since 2010, the River Steward program has played a role in educating river users about responsible river recreation and preventing the spread of invasive species. Each year, a young professional is hired to work through the summer with funding from the Lake Champlain Basin Program.

Action 4.1.1 – River user education and outreach
Educate river users about the threat of aquatic and terrestrial invasive species through a River Steward program. Attend local events, visit fly shops and other retail stores, and work with visitor bureaus to disseminate information about aquatic invasive spread prevention.

Action 4.1.2 – Wader wash stations
Continue to maintain wader wash stations along the West Branch of the Ausable River. Assess the need for wash stations at other locations within the region.

Action 4.1.3 – Boot brush stations
Continue to build and maintain boot brush stations at watershed trailheads. Assess the need for brush stations at other locations within the region.

Objective 4.2 Recreation Based Outreach

A range of annual guided opportunities, volunteer events, and recreational events sponsored by Ausable Freshwater Center's staff and by other entities, combine recreation and/or volunteer opportunities with activities that protect and educate.

Action 4.2.1 – Guided watershed tours
Connect people with the watershed year-round through guided outdoor experiences.

Action 4.2.2 – Center events
Offer annual events open to the public that engage members of the public in work or play while also providing avenues for learning about challenges to the Ausable system and ways they can help, e.g., Ride for the River, tire pulls, cleanups, invasive species pulls.

Action 4.2.3 – Non-Center events
Participate in non-Center events that provide opportunities to advance the Center's stewardship and outreach message and promote awareness of the watershed and our work. E.g., Two-Fly, Trail Run, etc.

Objective 4.3 Outreach and Volunteerism

Target hands on outreach to specific audiences that can make an immediate difference and share knowledge and proven practical solutions.

Action 4.3.1 – Targeted outreach to streamside landowners
Assess privately owned riparian areas and connect landowners with resources for protecting, managing, and improving stream buffers.

Connect with landowners on key brook trout streams to steward their land to help brook trout survive through land use and climate change.

Provide information to landowners about the pests that threaten forest trees (i.e., hemlock woolly adelgid, emerald ash borer) and management options.

Action 4.3.2 – Community science and volunteerism
Collaborate with anglers and community citizen scientists to collect data that aid the Center in biological research.

Coordinate volunteers to assist with riparian planting days and invasive species hand removal events.

Coordinate river cleanups in spring and fall

Objective 4.4 Youth Education

Engage local and regional youth in understanding and protecting freshwater resources.

Action 4.4.1 – Youth education
Continue to partner with regional schools and teachers to provide in-class watershed-based education to students. Expand this programing and its geographic reach.

Continue to offer youth educational programming outside of school. E.g., the Aquatic Teen Stewardship Program.

Objective 4.5 Communications

Share science knowledge, practical models for restoring and protecting, ideas for making a difference for our resources through social media, electronic and print media remain critical to expanding the mission of the Ausable Freshwater Center.

Action 4.5.1 – Communications plan
Maintain an annual, flexible communications plan for staff to pursue.

Action 4.5.2 – Digital resources
Communicate programs, research, stewardship actions, and science-based solutions through robust and up-to-date set of digital resources including our website, e-newsletter, and social media.

Action 4.5.3 – Print publications
Develop and publish print communications products to share work, e.g., Annual Report, Voice of the River, brochures, technical reports/briefs

Action 4.5.4 – GIS services
Provide GIS support and mapping skills and services to the Center's science programs. Utilize GIS tools to communicate information regularly to the public in map/image form.

Action 4.5.5 – Drone imagery
Provide drone imagery by appropriately licensed staff pilot(s) to augment science programs/projects and to communicate information to the public.

4.5 Informed Action

Goal 5: Advocate science-based management
Provide technical assistance to municipalities, partners, agencies, and others. Promote action and facilitate conversations that advance science-based management and policies for protecting freshwater systems.

Beyond communicating our work and the knowledge we gain from it to the public, we bring science-based practical solutions to elected leaders, community organizations, technical and service providers, government agencies, and partner non-profits.

Objective 5.1 Technical Assistance

Action 5.1.1 – Technical advice and problem-solving
Provide regular outreach and technical advising to municipalities.

Action 5.1.2 – Cooperation with state agency reps and partners
Periodic outreach to state agencies (DEC, DOT, APA etc.) and conservation partners to ensure staff are aware of technical services offered and to facilitate cooperation.

Objective 5.2 Partner Engagement

Action 5.2.1 – Key and prospective partners regularly
Actively manage partner relationships at the organizational level and through each program.

Action 5.2.2 – Regional working groups
Ensure regular attendance and contributions to Champlain Watershed Improvement Coalition of New York, Water Quality Coordinating Committees, NY Lake Champlain Dam Task Force, NY Climate Adaptation Practitioners, Boquet Working Group etc.

Action 5.2.3 – Shared projects
Continue existing fee for service and partnership relationships. Explore alternatives to full merger that allows AFC to support the operations of smaller, volunteer-based watershed organizations or community groups.

Objective 5.3 Facilitate Conversations Advancing Science-Based Methods Protective of Freshwater

Action 5.3.1 – Staff participation in conferences
Use data gathered by the Ausable Freshwater Center's staff and colleagues to advance knowledge of issues relevant to freshwater/stream/watershed conservation and elevate the Ausable as a data-rich resource for researchers.

Action 5.3.2 – Staff participation in committees, workshops
Engage regional managers, decision makers, and policy leaders through conferences, workshops, and regional partnerships using data and information culled from AFC's work.

V. Sustainable Organizational Management

Our sixth strategic goal identifies the systems and structures that support the Center's programs and ensure we follow best practices and standards of the nonprofit industry.

Objective 6.1 Governance and Leadership

Action 6.1.1 – Board
Recruit and support a strategic board with a (i) mix of relevant experience and/or connection to the community, (ii) passion for the organization's mission and ethic, (iii) commitment to personal giving—financial, time, and energy, and (iv) ability and willingness to problem-solve and think big picture. Ensure board members have the tools to articulate a strategic organizational vision for the future that is informed by the communities we work in and the science-based needs of our streams, lakes, and wetlands.

Maintain a board manual that provides members with clear expectations for their service, describes their legal and fiduciary responsibilities, and provides organizational policies as adopted by the board.

Establish committees of the board as required by the bylaws and as needed for successful governance.

As needed, hire an Executive Director who will serve as the chief executive officer. Oversee an annual review of the executive director's performance.

Action 6.1.2 – Executive Director
Serve as a non-voting member of the board of directors and a voting member of the executive committee. Oversee all programs, operations, finances, and development.

Work with the board to identify priorities and develop a long-range strategy to execute and achieve the organization's mission.

Provide the board with regular briefings on program, financial, legal, regulatory, policy, and public issues and trends relevant to the organization's functioning and reputation.

Build a diverse, cohesive, and effective group of professional staff, consultants, volunteers, and partners working together with a unity of purpose. Provide leadership, supervision, and coaching to staff.

Serve as the Center's primary spokesperson to agencies, organizations, and the public, inspiring support for its programs, mission, and vision.

Action 6.1.3 – Organizational policies
Maintain and regularly review all policies and governing documents to ensure compliance with applicable laws and efficient, equitable, and transparent operations within the organization and in all external relationships.

In all actions pursue opportunities for equity, diversity, and inclusiveness that advance organizational mission, vision, and goals.

Objective 6.2 Operations

Action 6.2.1 – Staffing
The executive director (ED) shall oversee the hire and supervision of full- and part-time professional staff and contractors as is appropriate to pursue programs that achieve the mission and goals of the organization. The ED will maintain job descriptions for all employees of the organization and conduct annual performance reviews.

Ensure appropriate operations staffing (operations director/manager) keeping pace with program growth providing human resources support, office management, staff coordination, executive support and other duties as assigned.

Action 6.2.2 – Human resources
Operations staff shall oversee human resources helping the ED and board to ensure all employees are listened to, appropriately valued, and supported by the organization including training and development opportunities, benefits delivery and management, labor law compliance, and safety considerations.

Action 6.2.3 – Office management
Operations staff will oversee the primary office, staffing it for visitors, ensuring regular access, managing office needs of staff, and organizing regular office maintenance to be shared by/delegated to others as needed.

Action 6.2.4 – Website management
Operations staff will work with and deploy program staff to review and update the website. We anticipate a full overhaul of the website (1) to update the platform which will be obsolete at the end of 2024 and (2) to fully integrate ALSC data.

Objective 6.3 Financial and Asset Management

Action 6.3.1 – Annual budget
Working with other staff and the board treasurer, the executive director shall prepare an annual budget to be reviewed and approved by the board at its first annual quarterly meeting.

Action 6.3.2 – Financial records, reports, and statements
Staff shall keep clear, complete, and accurate financial records with supporting documentation, including cash receipts and disbursements, accounts receivable, and payroll records.

Staff shall prepare quarterly financial reports and statements for board review on a regular basis and a final report.

The ED shall identify and retain an independent accountant to review and provide advice for enhancing account management, payment tracking, and assumed indirect, fringe, and hourly rates.

Action 6.3.3 – Audits
With approval from the board treasurer, the executive director shall engage a certified accounting firm to provide a review or audit of organizational financials on an annual basis. The resulting report shall be reviewed by the full board.

Action 6.3.4 – Internal systems for handling money
Maintain redundant procedures for managing incoming funds that protects the organization against theft, fraud, or loss due to unethical or illegal behavior and to reassure donors, government grant agencies, and members.

Action 6.3.5 – Maintain policies for asset/land management and financial assets
To ensure organizationally owned property, financial assets, and funds are managed appropriately, ED and board will review existing formal policies every three years or as needed.

Objective 6.4 Facilities

Action 6.4.1 – Complete preserve building design and permitting process
ED, a board/staff subcommittee, and staff will work with architect and landscape design team to develop a design that meets space (office, outreach) needs at reasonable cost and that is protective of the river and its floodplain.

Work with design team to receive APA and Town of Jay Planning Board approvals. Ensure transparency with neighbors and community.

Action 6.4.2 – Pursue preserve fundraising
Identify capital campaign team, develop materials, and pyramid strategy.

Launch silent phase of capital campaign with goal of 50% of designated total cost.
Launch public phase of capital campaign.

Pursue capital grant funds through NYS and private entities.

Action 6.4.3 – Execute preserve construction
Follow all bid procedures required by any restricted funds, identify contractors, stage, and execute construction.

Work closely with architect oversite and on-the-ground manager to ensure construction follows contract details and remains on budget.

Action 6.4.4 – Manage leased Uihlein Farm property
Maintain all requirements of property lease with the Uihlein Foundation to house the work of the Ausable Conservation Nursery (see 1.5/6) in the long term and the Clean Water program laboratory facility (see 2.3.1) in the short term.

Objective 6.5 Funding and Development

Action 6.5.1 – Expand and refine development capacity
Identify and utilize development expertise to assess, organize, and advance current donor tracking, moves management, and donor outreach.

Grow development capacity and consider development hire.

Action 6.5.1c – Private giving
Continue to advance private giving strategies to increase numbers and retention.

Action 6.5.1d – Restricted and government grants
Continue to pursue government and restricted funds for specific projects, especially large-scale construction or multi-year research.

Action 6.5.1e – Fee for service
Continue use of fee for service/contract model to augment partnership approaches to specific projects.

Objective 6.6 Marketing and Branding

Action 6.6.1 – Renaming and rebranding
Work with local/regional marketing advisor to time and plan roll out of new name and branding.

Action 6.6.2 – Design and release new logo and brand specifics
Identify, bid, and hire designer/firm to assist in developing logo design and brand guidelines.

Action 6.6.3 – Marketing and advertising
Identify and retain marketing consultant to work with select staff and board to assess social context, environmental impact, and capacity of our work in terms of better identifying and connecting with our markets and customers/donors. Develop a series of strategies and benchmarks to guide advertising and messaging. Assess and repeat.

Continue advertising relationships for print, radio/tv, and electronic media exposure (ties in with communication objectives); find and expand niche opportunities with new audiences.

Objective 6.7 Planning and Evaluation

Action 6.7.1 – Planning
Prepare an annual summary of work and budget for review and approval by the board at its first quarterly meeting each year. The work plan structure will be guided by the outcomes of strategic planning.
Review the status of strategic plan actions over the 4-year period (2024-2027). Hold board led conceptual planning sessions with key staff. Develop and adopt a new strategic plan by late 2028.

Action 6.7.2 – Evaluation
Prior to drafting a budget and action plan for the coming year, undertake a rapid assessment of (a) fundraising effectiveness (e.g., changes in membership, grant, annual campaign, and event success); (b) program progress (e.g., actions/projects completed, work underway/continuing); and (c) growth of organizational/program/brand recognition. Compare results with strategic objectives. Share and discuss assessment findings with the board at its fourth quarter meeting.

VI. Implementation

Implementation of the actions outlined in this document will occur over the next one to four years. Some, such as ongoing water quality monitoring, will continue indefinitely, if they are supported by organizational planning, financial resources, and appropriately experienced staff.

Table 6.1 presents timeframes for implementing the actions identified in section 5. Relevant partnerships and funding streams that sustain each action are noted.