2021 Annual Report

Presented at the May Member Meeting
May 12, 2022

"Water links us to our neighbor in a way more profound and complex than any other."
-John Thorson

2022 May Member Meeting Agenda

May 12, 2022 at 4:30 P.M.

*The Lawson Center, 73 Lakeside Drive, Bemus Point, NY 14712 & via Zoom**

**Due to COVID-19 pandemic*

a. Call to Order

b. Approval of May 2021 Annual Member Meeting Minutes

c. Secretary's Report on Notification and Quorum

d. Election of Directors – Ballot Canvass and Report

e. Presentation of 2021 Annual Report

f. Member Open Discussion

g. Adjourn

Origin of an Alliance

The Chautauqua Lake & Watershed Management Alliance (Alliance) evolved from the Chautauqua Lake Management Commission (CLMC) in late 2014. Since its inception in 2005 and pursuant to its core mission, the CLMC was a major contributor to the development of the *Chautauqua Lake Watershed Management Plan* and initiated work on the *Chautauqua Lake Macrophyte Management Strategy (MMS),* which sets forth specific recommendations for the proper management of our precious natural resources. The CLMC was an advisory committee to the Chautauqua County Legislature and having accomplished its core mission, it was determined that the CLMC would sunset in 2014 in order to evolve into a new Alliance.

The Alliance framework was developed through a series of stakeholder meetings, significant research, and forward-thinking innovation. The Alliance is a non-profit 501(c)3 charitable organization and was established in order to secure funding to implement the recommendations contained within Chautauqua Lake and watershed guidance documents. The Alliance also aims to strengthen existing relationships among Member organizations already engaged in important lake and watershed activities, and to promote a comprehensive and coordinated effort to ensure the sustained health, ecology, and uses of Chautauqua Lake and its watershed.

Our Mission is as follows: The Chautauqua Lake & Watershed Management Alliance, working in collaboration with lake and watershed-related organizations, municipalities and other stakeholders, will promote and facilitate implementation of recommendations from the *Chautauqua Lake Watershed Management Plan* and the *Chautauqua Lake Macrophyte Management Strategy* by prioritizing projects, securing funding and allocating resources.

Summary of 2021 Achievements

The year 2021 marked the Alliance's seventh full year of operation. In those seven years, the Alliance has partnered on lake and watershed projects valued at approximately $7.4 Million. Past, current, and future successes of this Alliance, working collaboratively toward an economically and environmentally healthy Chautauqua Lake, are made possible through the dedicated work of our Members and generosity of our funders. We thank all those involved. Through the generosity and leadership of our local Foundations and the County of Chautauqua, the Alliance was proud to once again increase the level of local funding made available to our Members to implement a slate of 2021 projects and programs to benefit the lake and watershed. Coupled with ongoing

projects funded by New York State grants, Alliance-partnered projects continued to apply a balanced approach blending lake maintenance, watershed projects, and research. An even larger local allocation to Member projects is planned for 2022, and with the recent opening of the 2022 New York State Consolidated Funding Application program, we look forward to pursuing additional outside funding to complement these critical local investments.

The year 2021 was highlighted by increased collaboration between Members, expansion of existing programs, and new endeavors. The Alliance, through its many programs and partnerships, actively supported the County of Chautauqua's Memorandum of Understanding framework for community cooperation and coordinated lake management. The Chautauqua Lake maintenance program included a balanced approach utilizing both chemical and mechanical macrophyte management techniques. The near-shore clean-up program continued to feature collaboration between the Chautauqua Lake Association (CLA) and Town of Chautauqua (TOC), and was expanded thanks to the purchase and deployment of new equipment. These joint operations resulted in increased efficiency and responsiveness and will remain a crucial part of the work plan in 2022. Mechanical management capabilities expanded in 2021 through the deployment of a new TOC Mobitrac and two new aquatic skimmer vessels. The skimmers were purchased by the County through a state grant, first deployed by CLA in July, have a two-ton carrying capacity, and are able to funnel floating weeds and debris onto their storage decks while working in coordination with other equipment. The utility of these vessels, and the value of working together, was demonstrated during debris cleanup in response to a brief period of harsh summer weather. Mechanical harvesting operations and shoreline cleanup were also expanded at both the beginning and end of the season, thanks to a three-week pre-season Curly-Leaf pondweed harvesting program by CLA and an additional four weeks of post season management by CLA and TOC.

The Chautauqua Lake Partnership (CLP), the Towns of Ellery, Ellicott, and Busti, and the Villages of Bemus Point, Celoron, and Lakewood worked together to secure New York State Department of Environmental Conservation permits for the targeted chemical treatment of Eurasian Watermilfoil and Curly-Leaf pondweed at certain locations within the lake's littoral zone. CLP in collaboration with researchers from Bowling Green State University (BGSU) took significant steps to expand in-lake nutrient monitoring, through the deployment of four new sensors and continued tributary sampling led by BGSU. Data collection was also expanded via the completion of spring and fall surveys performed by researchers from North Carolina State University in partnership with CLP, which were used to inform management decisions in 2021.

Partnerships among Chautauqua Lake researchers continued to grow. The Alliance was proud to help convene the second annual Chautauqua Lake Water Quality Research Panel, where a panel of distinguished scientists and engineers shared findings and future plans with the public via Chautauqua Institution's Virtual Porch. The Alliance supports an overarching objective to increase the collective understanding of lake, watershed, and HAB dynamics, to better predict, prevent, or mitigate HABs. The comprehensive, science-based approach includes leading-class research teams, like The Jefferson Project, Bowling Green State University, State University of New York at Fredonia, SUNY Oneonta, and others, working collaboratively to increase their effectiveness, limit redundancy, and employ a "science toward solutions" approach to provide decision makers with actionable data and information to help inform sound and sustainable lake management actions.

Watershed management remained a key pillar of the longer-term work plan to help address the root causes of lake impairments with the Town of North Harmony completing its Phase I Stabilization Project on Ball Creek, successfully stabilizing ~120 feet of streambank and securing an additional ~$176,000 via a NYSCFA grant for Phase II. Elsewhere in the watershed, construction was completed at the final location targeted for stream stabilization through the County's Round 12 Water Quality Improvement Project program grants. Work on the Dutch Hollow Creek Phase 2 location was finalized in the fall of 2021, completing ~5,000 linear feet of total streambank stabilization across five major tributaries and six WQIP grants that began in 2015 as a partnership among the County, the Chautauqua Watershed Conservancy, the Chautauqua County Soil & Water Conservation District, and the Alliance. A feasibility study was completed for the Lakewood Fairmount Stormwater Project, and the Village of Lakewood continued to make stormwater management a priority through the completion of the Chautauqua Avenue Green Street Retrofit Project. The Busti Precision Swale Storm Water Retrofit Project was also completed in the fall of 2021, with ~4,885 linear feet of swales improved with features such as stone check dams and deep-rooted vegetation. Both the Avenue Retrofit and Swale Retrofit were made possible thanks to the 2018 Stormwater Management Engineering Study, which identified potential project areas and was crucial to leveraging additional funding. The Chautauqua Watershed Conservancy continued to implement initiatives in the watershed through its Chautauqua Lake Watershed Forest, Wetland, and Tributary Conservation and Enhancement Program, and conducted vital public outreach via its "Our Water, Our Lakes…One Community" Program, which includes its popular LakeScapes program. Invasive species detection and management remained a priority for Members with the Roger Tory Peterson Institute as well as the Audubon Community Nature Center

implementing programs focused on identifying and removing new invasive species in the lake and watershed.

Alliance Staff resumed and expanded several data and information collection initiatives on the lake. The Chautauqua Lake Aquatic Data (CLAD) Mapping Program grew by incorporating an expanded GPS Weed Management Program, which is implemented in partnership with the CLA and TOC and was initiated with a 2020 grant from the Chautauqua Region Community Foundation. New equipment on the lake in 2021, including a pair of aquatic skimmers and a Mobitrac, were equipped with GPS units furthering the ability to track, map, archive, and assess the mechanical plant management programs. The CLAD program also employs consumer-grade underwater video and sonar technology to collect information and data on Chautauqua Lake conditions throughout the year. The program allows for the rapid deployment of staff and technology depending on lake conditions and priorities and helps augment other lake surveys completed by professional or academic entities. Data collected by staff, data shared by researchers or members, and data included in past reports and studies, are managed and archived in a Geographical Information System (GIS) platform. Unifying these often-disparate datasets under a single GIS umbrella unlocks the power of comparison and facilitates the multiple lines of evidence approach needed to increase our collective understanding of the complex natural system of Chautauqua Lake. The Alliance plans to continue and expand the CLAD program in 2022 to evaluate lake conditions and create a record of management actions throughout the year. This will help support an integrated lake management program by prioritizing the sharing of data and value of having readily accessible longer-term datasets on lake conditions and management actions.

In the fall, the Alliance submitted its fourth annual Consolidated Foundation Funding Grant Request, which prioritized funding for 10 Alliance Member-led lake and watershed projects. By early 2022, the Alliance secured $695,000 from The Lenna Foundation, the Chautauqua Region Community Foundation, and the Ralph C. Sheldon Foundation, to support these projects for implementation in 2022. Additional funding generously provided by the Hultquist Foundation, Holmberg Foundation, and County Occupancy Tax Program was allocated to bolster the work planned for 2022. This level of funding and local investment in the lake and watershed is made possible by the growing partnerships and unity of effort between Alliance Members, as collectively, we work to employ a balanced approach aimed at a well-maintained lake and watershed that supports our residents, our businesses, and our environment. The full listing of these projects is included later in the report. While outside grant opportunities were largely suspended in 2020 and part of 2021 due to the COVID-19 pandemic, which was

very challenging especially for longer-term watershed-based management actions, the Alliance was able to quickly rebound with the submission of six New York State Funding Application (NYSCFA) grants this past year. Throughout the winter and spring, staff worked with Members and stakeholders to identify projects well-suited to the application process, and drafted those applications for submission. Four of these applications were successful, providing a total of $670,000 in funding for efforts including the North Chautauqua Lake Inflow and Infiltration Study, Chautauqua Roadside Swales Stabilization Project, Grandview Stormwater Management Project, and Ball Creek Stabilization Project. As these projects are advanced, they will provide lasting water quality improvements to the lake, help address root causes of excess plant and algae growth, and benefit sewer district users. Staff continued to expand content on the Alliance website throughout the year through the addition of new reference materials and a new projects page that will serve as an online archive of Alliance-partnered projects in the future.

The Alliance is honored to be comprised of Member organizations that understand the incredible asset Chautauqua Lake and its watershed are to the County and the entire region, and we are proud to have partnered with each of the nine Lake municipalities, the County, and numerous other Members to develop impactful projects, secure funding, manage implementation, and ensure project completion. By working in collaboration with as many stakeholders as possible, we deepen our collective focus, strength, and leveraging capabilities, for the benefit of Chautauqua Lake, its watershed, and ultimately our community. The Alliance would like to thank everyone – our Members, local Foundations, and other lake and watershed stakeholders – for their support and passion over the past 7 years, as we look forward to another great year in 2022.

2021-2022 Members

- Audubon Community Nature Center
- Chautauqua – Cattaraugus Board of Realtors
- Chautauqua County Visitors Bureau
- Chautauqua Institution
- Chautauqua Lake Association
- Chautauqua Lake Fishing Association
- Chautauqua Lake Partnership
- Chautauqua Watershed Conservancy
- County of Chautauqua
- Holmberg Foundation
- Jamestown Board of Public Utilities
- North Chautauqua Lake Sewer District
- Roger Tory Peterson Institute
- South & Center Chautauqua Lake Sewer Districts
- The Lenna Foundation
- Town of Busti
- Town of Chautauqua
- Town of Ellery
- Town of Ellicott
- Town of North Harmony
- Village of Bemus Point
- Village of Celoron
- Village of Lakewood
- Village of Mayville

2021 Alliance-Partnered Project Summaries

This report includes information on projects active during 2021. For information on past projects, please review our prior Annual Reports on the Alliance website.

Town of North Harmony, NYSDEC Water Quality Improvement Project (WQIP), Ball Creek Stabilization Project

Description: This project is intended to improve stream stability (grade control), stabilize two severely eroding streambanks, reduce sediment and nutrient loading, and protect highway infrastructure along approximately 440 linear feet of Ball Creek. This construction will provide for ~2,100 feet of stream corridor improvements. Best management practices (BMPs) will be incorporated to reduce ongoing channel and bank erosion, reduce water velocities, promote infiltration and bio-filtration, enhance biodiversity and habitat for birds and pollinators, and improve aesthetics. Such BMPs are expected to include rock bank protection, willow/dogwood live stakes and native plantings, hydro seeding, and the construction of a ~12-foot wide riparian buffer. A local grant from the Alliance's Consolidated Foundation Grant program was used to complete the first phase of the project and leverage this State grant. The grant was awarded in late 2021. Final engineering design followed by construction is expected to be initiated in 2022.

Projected budget: Total: $219,390 | State: $175,512 | Local: $43,878

Grantee: Town of North Harmony

Alliance Role: Grant writing and administration; project management/coordination; local match via Alliance/Foundation Match Fund

Other Involved Member Partners: Chautauqua Watershed Conservancy

Funding Overview: The majority of the project cost is funded by the Environmental Protection Fund administered by the New York State Department of Environmental Conservation through the Water Quality Improvement Project program. The local match is expected to come from the Alliance/Foundation Match Fund and a portion of a 2021 Alliance Consolidated Foundation Grant with funding provided by The Lenna Foundation, the Ralph C. Sheldon Foundation, and the Chautauqua Region Community Foundation.

Town of Chautauqua, NYSDEC Water Quality Improvement Project (WQIP), Chautauqua Roadside Swales Stabilization Project

Description: This project plans to implement swale improvements at approximately 11 sites within the Town of Chautauqua, stabilizing ~16,600 linear feet of roadside ditches. Through the construction of check dams, introduction of deep rooted vegetation, and channel stabilization these priority swales sites will help to reduce stormwater velocity, promote infiltration and biofiltration, and improve water quality in Chautauqua Lake. The grant was awarded in late 2021. Next steps commencing in 2022 include state contract execution, a request for engineering proposals, and final design. The Town's Highway Department will perform construction on the project as the local match.

Projected budget: Total: $342,985 | State: $213,057 | Local: $129,928

Grantee: Town of Chautauqua

Alliance Role: Grant writing and administration; project management/coordination

Funding Overview: The majority of the project cost is funded by the Environmental Protection Fund administered by the New York State Department of Environmental Conservation through the Water Quality Improvement Project program. The remaining share is expected to be provided by the Town via in-kind local match from construction costs, labor, and equipment provided by Town Highway Department personnel.

Village of Lakewood, NYSDEC Water Quality Improvement Project (WQIP), Grandview Stormwater Management Project

Description: This project is intended to improve water quality in the lake and watershed through nutrient and sediment reduction, enhance the aesthetics of the area, and reduce flooding impacts along Route 394 through the construction of engineered wetlands. Approximately 100,000 cubic feet of stormwater detention will be added to the eastern portion of the Grandview Subdivision via the installation of five shallow wetlands and an open channel with stone check dams. Best management practices from the New York State Stormwater Management Design Manual will be utilized, including native plantings, in addition to the addition of a natural trail, public access points and educational signage. The grant was awarded in late 2021. Final engineering design followed by construction is expected to be initiated in 2022.

Projected budget: Total: $312,580 | State: $250,064 | Local: $ 62,516

Grantee: Village of Lakewood

Alliance Role: Grant writing and administration; project management/coordination; local match via Alliance/Foundation Match Fund

Other Involved Member Partners: Chautauqua Watershed Conservancy

Funding Overview: The majority of the project cost is funded by the Environmental Protection Fund administered by the New York State Department of Environmental Conservation through the Water Quality Improvement Project program. The local match is expected to come from the Alliance/Foundation Match Fund, a County Occupancy Tax 2% Lakes and Waterways Grant to the Village of Lakewood, and a portion of a 2020 Alliance Consolidated Foundation Grant with funding provided by The Lenna Foundation, the Ralph C. Sheldon Foundation, and the Chautauqua Region Community Foundation.

County of Chautauqua & North Chautauqua Lake Sewer District, NYSEFC & NYSDEC Engineering Planning Grant (EPG), North Chautauqua Lake Inflow and Infiltration Study (I&I) Study

The project plans to develop an engineering report assessing a portion of the sanitary sewer collection system within the North Chautauqua Lake Sewer District (NCLSD), including the Village of Mayville and portions of the Town of Chautauqua. The project seeks to identify areas of excessive inflow and infiltration (I&I), recommend improvements to the collection system aimed at reducing I&I, and complete an engineering report describing the findings. This project will benefit both the lake and watershed as well as NCLSD District users as future improvements are implemented to improve water quality in the lake and watershed an improve the efficiency of the collection system. The grant was awarded in late 2021, and the project is expected to be completed in 2022.

Grant budget: Total: $36,000 | State: $30,000 | Local: $6,000

Grantee: County of Chautauqua & North Chautauqua Lake Sewer District

Alliance Role: Grant writing

Funding Overview: The State share of funding for the project is provided by a New York State (NYS) Department of Environmental Conservation (DEC) / Environmental

Facilities Corporation (EFC) Wastewater Infrastructure Engineering Planning Grant (EPG), funded through the New York Clean Water State Revolving Fund (CWSRF) program. Local matching funds will be provided by the NCLSD/County.

County of Chautauqua, NYSDEC Water Quality Improvement Projects (WQIP), Streambank Stabilization

Description: Work involved six (6) separate grant awards to address streambank and channel instability at eight (8) priority sites along Prendergast Creek, Bemus Creek (two sites), Goose Creek, Ball Creek, Dutch Hollow Creek (two sites), and West Dutch Hollow Creek. The purpose of the work was to improve water quality in Chautauqua Lake and its tributaries by reducing erosion and associated sediment and nutrient loading caused by streambank and channel instability. Sediment transport to the lake, from unstable banks like those being addressed by this work, is a source of nutrients, including nitrogen and phosphorus, which can impair water quality when present at excess concentrations (e.g., contributing to algae blooms and/or excessive nuisance aquatic vegetation growth). Work also helped address ongoing property loss, including imminent threats to infrastructure, caused primarily by bank erosion. Construction has been completed at all eight of the priority sites, and grant closeout has been completed for four (4) of the six (6) grants. The NYS DEC approved a time extension request to utilize surplus funding to address erosion issues at an additional nearby section of Dutch Hollow Creek (Phase II). Construction on this Phase II stretch of Dutch Hollow Creek was completed in late 2021. Closeout for the remaining two grants, Dutch Hollow Creek and West Dutch Hollow Creek, is expected to be completed in the spring of 2022.

Projected budget (six projects): Total: ~$1.43M | NYS: ~$1.07M | Local: ~$358,000

Grantee: County of Chautauqua

Alliance Role: Grant writing and administration; project management/coordination

Other Involved Member Partners: Chautauqua County Soil & Water Conservation District (technical services); Chautauqua Watershed Conservancy (education & outreach)

Funding Overview: The majority of the project cost is funded by the Environmental Protection Fund administered by the New York State Department of Environmental Conservation (NYSDEC). The remaining share is provided by the County of

Chautauqua as local matching funds from the Occupancy Tax Program and reallocated Chautauqua Lake Management Commission (CLMC) capital funds. The State-funded share of nearly $1.1 million would not have been possible without the commitment of these matching funds. Local matching fund contribution percentage requirements vary depending on the source of funding. These particular WQIPs require a 25% local match. That is, for every $1,000 of a total project amount, a local match contribution of $250, in either cash or in-kind services such as equipment, labor, or service from local employees or volunteers, results in an additional $750 from the State in the form of the WQIP grant award. Local match requirements are a critical tool used by funding agencies to ensure local "buy-in" and encourage high-quality projects with clear value to the local populace. When projects are properly vetted, designed, and executed, both sides benefit because the grant recipient or beneficiary has successfully leveraged a significant return on its investment (in this case, $4 worth of work for every $1 spent from local funds), and the grant provider assures itself a well thought-out, effective project.

Project Descriptions:

1. **Dutch Hollow Creek** Stabilization Project, Ellery, NY
   a. Status: Phase I construction completed in Fall 2018; Phase II planning design was completed in Spring of 2021, and Phase II construction was completed in Fall 2021.
   b. Outcomes & Achievements: Streambank and grade stabilization and stream corridor restoration in Phase I of the project addressed an approximately 1,100-foot-long reach of Dutch Hollow Creek, just north of Interstate I-86, which is negatively impacted by excessive sediment loading and frequent debris jams that obstruct the channel, causing head cutting, erosion of banks and new side channels, and results in the formation of oversized depositional features. Work aimed to protect nearby infrastructure and banks, and to reduce the amount of sediment and nutrient loading to downstream areas, including Chautauqua Lake, caused by the ongoing bank and channel instability. Using remaining funding from this WQIP and from a second WQIP grant (West Dutch Hollow Creek), the project team was able to positively impact approximately 800 linear feet of additional stream corridor in Phase II construction through a blend of hard (rock) and soft (live stakes) restorative techniques.

Above: Photographs of the Phase I work area that was completed in 2018.

Above: Photographs of the Phase II work area that was completed in 2021.

2. **West Dutch Hollow Creek** Stabilization Project, Ellery, NY
   a. Status: Construction substantially completed in Fall 2018 and reached final completion in Fall 2019. Remainder of grant covered a portion of Dutch Hollow Phase II construction completed Fall 2021.
   b. Outcomes & Achievements: Streambank and grade stabilization and stream corridor restoration addressed an approximately 850-foot-long reach of West Dutch Hollow Creek, where abrupt localized channel erosion was resulting in larger-scale negative impacts further downstream in areas where the stream flows in close proximity to residential properties and roadways. The work aimed to significantly reduce the amount of sediment and nutrient loading to downstream areas, including Chautauqua Lake, caused by the stream instability. A portion of this funding was used to support Phase II construction of the Dutch Hollow Stabilization Project.

County of Chautauqua, NYSDEC Water Quality Improvement Project (WQIP), Chautauqua Lake Mechanized Floating Vegetation Collection Project

Description: Chautauqua County received a grant to purchase two (2) aquatic skimmer vessels to collect and remove floating vegetation and/or surface scum from Chautauqua Lake, which will help reduce the amount of floating vegetation, improve conditions in the lake, and potentially reduce the growth of Harmful Algal Blooms (HABs). The grant was awarded in late 2018, and in 2019, the County secured the services of Alpha Boats Unlimited to build two (2) MC-202 Aquatic Skimmer Vessels, which have a payload capacity of two (2) tons. Due to significant COVID-19 related manufacturing delays, delivery of these skimmer vessels took place in June of 2021. The skimmer vessels are operated and maintained by the Chautauqua Lake Association. Grant closeout is expected to occur in 2022.

Projected budget: Total: $500,000 | State: $375,000 | Local: $125,000

Grantee: County of Chautauqua

Alliance Role: Grant writing and administration; project management/coordination; local match via a grant from the Ralph C. Sheldon Foundation

Other Involved Member Partners: Chautauqua Lake Association

Funding Overview: The majority of the project cost is funded by the Environmental Protection Fund administered by the New York State Department of Environmental Conservation (NYSDEC). The remaining share is provided as local matching funds by the County of Chautauqua as operational support to CLA and by the Alliance via a grant from the Ralph C. Sheldon Foundation.

Photo 1. A skimmer is deployed from CLA headquarters for the first time in early July 2021.

Photo 2. A skimmer is pictured working in coordination with a Town of Chautauqua Mobitrac during a public demonstration.

Village of Lakewood, NYSEFC Green Innovation Grant Program (GIGP), Chautauqua Avenue Green Street Retrofit Project

Description: Sourced from the Village of Lakewood and Town of Busti Stormwater Management Engineering Study, this project is a comprehensive green infrastructure retrofit of Chautauqua Avenue in the Village of Lakewood to transform the existing impervious, over-widened Village Center roadway in an effort to improve water quality and quantity conditions by reducing sediment and nutrient loading to lake. The project will result in increased infiltration and biofiltration of urban stormwater, reduced burden on existing drainage infrastructure, and co-benefits of improved aesthetics, increased public awareness of urban stormwater management and lake stewardship, and reinvigoration of traditional "Main Street" character. The preliminary design was prepared as part of the recently completed Lakewood-Busti Stormwater Management Engineering Study, which was a collaborative project among the Town, Village, County of Chautauqua, Alliance, and the NYS Environmental Facilities Corporation (EFC) and Department of Environmental Conservation (DEC). The grant was awarded in late 2018 with implementation beginning in 2019 when the Village secured the engineering services of Barton and Loguidice. In late 2020, the Village retained the services of Kingsview Enterprises to perform construction, which was completed by the fall of 2021. The NYS grant was closed out in early 2022.

Projected grant budget: Total: $772,724 | State: $695,000 | Local: $77,724

Grantee: Village of Lakewood

Alliance Role: Grant writing and administration; project management/coordination; local match via Alliance/Foundation Match Fund

Other Involved Member Partners: County of Chautauqua (local match & financing assistance)

Funding Overview: The State share of funding for the project is provided by a New York State (NYS) Environmental Facilities Corporation (EFC) Green Innovation Grant Program (GIGP) grant. Local matching funds are provided by the Village of Lakewood (as in-kind construction services), County of Chautauqua from reallocated Chautauqua Lake Management Commission (CLMC) capital funds, and Alliance from the Alliance/Foundation Match Fund.

Photo 1. This aerial photo provided by Barton & Loguidice offers a view of the Avenue's newly-constructed intersections and sidewalks, which feature Belgard porous pavers.

Photo 2. Pictured above are the Avenue's new storm water trees, which are planted in structural soil and protected by porous Flexi-Pave.

Town of Busti, NYSDEC Water Quality Improvement Project (WQIP), Precision Swale Stormwater Retrofits

Description: Sourced from the Village of Lakewood and Town of Busti Stormwater Management Engineering Study, this project stabilized and enhanced approximately 4,885 linear feet of steep-gradient and shallow-gradient roadside swales at select

locations throughout the Town of Busti and Village of Lakewood in order to reduce sediment and nutrient loading to Chautauqua Lake. Best management practices (BMPs) were incorporated to reduce ongoing channel and bank erosion, reduce water velocities, promote infiltration and bio-filtration, enhance biodiversity and habitat for birds and pollinators, and improve aesthetics. Such BMPs include vegetated filter strips, stone check dams, riffle-pool complexes, sorptive media for nutrient capture, native wetland plantings, and other features. The candidate locations were identified as part of preliminary design completed in the Lakewood-Busti Stormwater Management Engineering Study, which was a collaborative project among the Town, Village, County of Chautauqua, Alliance, and the NYS Environmental Facilities Corporation and Department of Environmental Conservation. The grant was awarded in late 2018 and project design and engineering by EcoStrategies was completed in 2020. Construction by Rock of WNY, Inc. began in the fall of 2020 and was completed in the fall of 2021. Grant closeout is expected to be completed in 2022.

Projected budget: Total: $253,097.50 | State: $202,478 | Local: $50,619.50

Grantee: Town of Busti

Alliance Role: Grant writing and administration; project management/coordination; local match via Alliance/Foundation Match Fund

Other Involved Member Partners: County of Chautauqua (local match)

Funding Overview: The majority of the project cost is funded by the Environmental Protection Fund administered by the New York State Department of Environmental Conservation (NYSDEC). The remaining share is provided as local matching funds by the Town of Busti (cash and in-kind construction), County of Chautauqua from reallocated Chautauqua Lake Management Commission (CLMC) capital funds, and Alliance from the Alliance/Foundation Match Fund.

Photo 1. The Southwestern Drive site is pictured before construction.

Photo 2. The site shows improved channel stability after construction, bank protection, native plantings, biofiltration features and check dams to reduce water velocity.

Village of Celoron, NYSDOS Local Waterfront Revitalization Program (LWRP), Lucille Ball Memorial Park Improvements, Phase IV, Amenities Building

Description: In 2017, the Village of Celoron received a grant from the New York State Department of State (DOS) to build a new amenities building in Lucille Ball Memorial Park. Design on the new amenities building began in 2018 by the Village's architect/engineer, LaBella Associates. Construction by the Village's contractor, G.L. Olson, began in 2019, concluded in 2020, and included ADA-compliant restrooms, a drinking fountain, a security system, and a storage area. The project continued the Village's implementation of their Local Waterfront Revitalization Program, which identified the need for park enhancements at Lucille Ball Memorial Park, the centerpiece of downtown Celoron. The new building supports increased park and lake use by providing amenities, which enhance user experience and allow visitors to stay for longer periods. This project complements recent Alliance-partnered park enhancements completed by the Village including construction of a new breakwall, waterfront boardwalk, and kayak/canoe launch funded by two previous NYS grant awards. Grant closeout was completed in 2021.

Final grant budget: Total: $510,240 | State: $382,680 | Local: $127,560

Grantee: Village of Celoron

Alliance Role: Grant writing and project management/administration

Funding Overview: Seventy-five percent (75%) of the project costs were provided by a Local Waterfront Revitalization Program (LWRP) grant from the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund, and the remaining 25% of the project costs were contributed by the Village of Celoron in the form of cash or in-kind services.

Other 2021 Alliance Projects & Programs

2020-2021 Alliance Comprehensive Project Prioritization & Local Foundation Partnership Grant Program

Description: In fall of 2020, the Alliance partnered with the Ralph C. Sheldon Foundation, The Lenna Foundation, and the Chautauqua Region Community Foundation to continue the third year of a new local grant opportunity for Alliance Members for watershed and in-lake projects and programs. The grant application format and evaluation process was based on recommendations in the Alliance's *5-Year Implementation Strategy for the Management of Chautauqua Lake and Its Watershed* and associated updated Multi-criteria Analysis (MCA) Decision-Making Tool, which establishes a more objective, transparent approach for prioritizing projects and allocating resources. The Alliance published a Request for Applications in July 2020 and received 28 applications totaling approximately $2.73M. Scoring was performed using the updated MCA Tool by three independent groups – outside consultant EcoLogic LLC, Alliance staff, and a subset of members from the Alliance Data Analysis and Research Committee, Lake Management Committee, and Watershed Management Committee. The Alliance Board of Directors considered the results of the independent scoring groups as part of their decision making process. Preliminary funding recommendations were made by the Alliance Board of Directors to the partner Foundations in late 2020 with final decisions made in January 2021. Fourteen projects were allocated funding for implementation in 2021. The project list is below:

- Chautauqua Lake Association (CLA), 2021 Operational Support: ~4,860 tons of removed macrophytes and debris including joint operations with the Town of Chautauqua (TOC) Mobitracs.
- CLA, 2021 Preseason Curly-Leaf Pondweed Harvesting: ~1,210 tons of invasive macrophytes removed in May-June.
- Chautauqua Watershed Conservancy (CWC), Chautauqua Lake Watershed Forest, Wetland, and Tributary Conservation and Enhancement Program: GIS analysis used to develop a strategic conservation priority map for watershed.
- CWC, "Our Water, Our Lakes…One Community" Program: consults with 131 homeowners and 11 homeowners associations and/or condo associations, and addressed five stormwater concerns.

- Herbicide treatments by Town of Ellery & Village of Bemus Point under NYSDEC permits: all 2021 treatments combined (across 6 municipalities in coordination with the Chautauqua Lake Partnership) resulted in ~318 acres of treatment for invasive Curly-Leaf Pondweed in May and ~38 acres for invasive Eurasian Water Milfoil in June.
- Herbicide treatments by Town of Ellicott & Village of Celoron under NYSDEC permits (see above for details).
- Herbicide treatments by Town of Busti & Village of Lakewood under NYSDEC permits (see above for details).
- Town of North Harmony, Ball Creek Stabilization Project: stabilized ~120 feet of stream and secured additional $176K NYS grant for Phase II.
- Village of Lakewood, Fairmount Stormwater Basin and Watershed Improvement Project: completed feasibility study to position for pursuit of construction funding.
- TOC, Mobitrac Equipment Purchase: one Mobitrac purchase expanding lakewide nearshore cleanup.
- TOC, Mobitrac Operations: lakewide nearshore cleanup of ~1,170 tons of macrophytes and debris (as part of joint-ops program with CLA).
- Chautauqua Lake Partnership (CLP), Chautauqua Lake Weed Survey: performed by North Carolina State University, expanded multi-year dataset and supported 2021 lake maintenance program.
- CLP, Nitrogen Sensors: purchase and deployment of four (4) new nitrogen sensors, expanded Bowling Green State University-led nutrient sensor array, increasing near-continuous nutrient monitoring in lake.
- Roger Tory Peterson Institute, Aquatic Invasive Species Volunteer Taskforce: resulted in location/removal of ~200 invasive water chestnut plants from lake outlet.

Total project budget: $690,000

Alliance Role: Grantee; Grant administration

Funding Overview: Funding was provided by the Ralph C. Sheldon Foundation, The Lenna Foundation, and the Chautauqua Region Community Foundation in the form of grants to the Alliance, which subsequently were distributed for Member projects.

2021-2022 Alliance Comprehensive Project Prioritization & Local Foundation Partnership Grant Program

In 2021, the Alliance renewed for a fourth consecutive year its partnership with the Ralph C. Sheldon Foundation, The Lenna Foundation, and the Chautauqua Region Community Foundation to offer 2022 local funding assistance opportunities to its Members via our local grant application process to identify, prioritize, and fund projects and programs to protect and improve water quality in Chautauqua Lake and its watershed. Funding applications, which were available exclusively to Alliance Members, were distributed on July 16, 2021 and due on September 14, 2021. This year's grant application template was modified and streamlined for efficiency and ease-of-use. The Alliance received 15 applications from Members totaling ~$2.2M in requests. Applications were subject to technical review by staff and volunteer Alliance Committee members using our *5-Year Strategy* and Multi-Criteria Analysis (MCA) Tool. The Alliance Board prioritized the candidate projects and assigned funding recommendations summarized in the list below, which includes 10 proposed member projects. The funding recommendations were made by the Alliance Board of Directors to the partner Foundations in late 2021 with final decisions made in February 2022.

- Town of Chautauqua Mobitrac shoreline cleanup
- Combined award for 2022 herbicide treatment(s) for Eurasian Watermilfoil and/or Curly-Leaf pondweed on Chautauqua Lake by (i) Chautauqua Lake Partnership (CLP) with Town of Ellery & Village of Bemus Point; (ii) CLP with Town of Ellicott; (iii) CLP with Town of Busti; (iv) CLP with Village of

Lakewood; and (v) Village of Celoron (distribution of combined award TBD based on NYSDEC permitting results)
- Chautauqua Lake Association (CLA) 2022 Mobi-Trac Support
- CLA 2022 Operational Support
- CLA 2022 Pre-Season Curly Leaf Program
- CLA Watercraft Steward Program
- CLP Phosphorus and Nitrogen Sensor Program
- CLP Fall & Spring Weed Survey in Chautauqua Lake (2022)
- Chautauqua Watershed Conservancy (CWC) Watershed Technical Assistance and Stormwater Management Program
- CWC 2022 Chautauqua Lake Aquatic Invasive Species Early Detection Volunteer Taskforce

Total project budget: $695,000

Alliance Role: Grantee; Grant administration

Funding Overview: Funding was provided by the Ralph C. Sheldon Foundation, The Lenna Foundation, and the Chautauqua Region Community Foundation in the form of grants to the Alliance, which will subsequently be distributed for Member projects.

Chautauqua Lake Aquatic Data (CLAD) Mapping Program

The Chautauqua Lake Aquatic Data (CLAD) Mapping Program, initiated by the Alliance in 2020, continued to be expanded and improved in 2021 based on past experience, increased collaboration, new availability and sharing of datasets, and priorities of the Alliance and other lake stakeholders. The program includes the collection of field data by Alliance staff and Members using a variety of equipment throughout the year, focusing on the development of new long-term data and information sets related to lake conditions and management actions. These and other lake-related data collected and shared by researchers are organized and mapped using Geographical Information System (GIS) software to help unify, increase the accessibility and shareability of, and aid a more thorough assessment of these once-disparate datasets.

In the spring of 2020, the Alliance was awarded a grant from the Chautauqua Region Community Foundation (CRCF) to develop and implement a Global Positioning System (GPS) weed management program in coordination with the Town of Chautauqua and the Chautauqua Lake Association (CLA). The Alliance began this initiative by

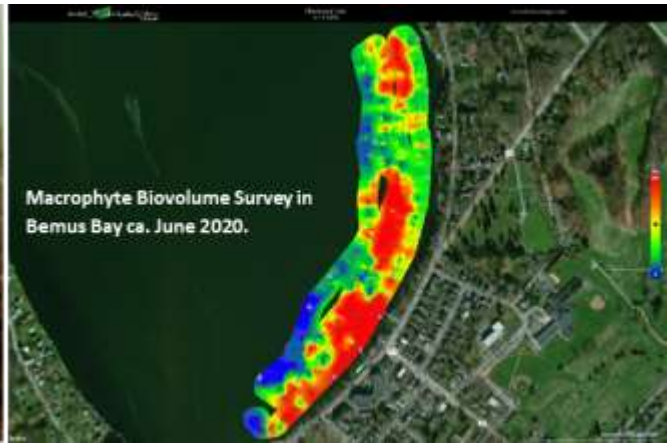
deploying seven Lowrance Elite Ti² Fishfinder/Chartplotter units on three Mobitracs and four harvesters for a portion of the 2020 lake maintenance season. In 2021, GPS tracking was expanded to include six harvesters, two Chautauqua County-owned skimmers operated by CLA, and four Mobitracs. This GPS data tracking program, which continuously records location, time and date, allows for a detailed evaluation of effort and work output over the course of the season, or other time periods of interest. The maps and other visualizations that can be generated from this program help build historical datasets and allow us to share information with stakeholders to help drive more evidence-based understanding, decision making, and adaptive lake management. After its successful initiation of the pilot GPS program in 2020, the Alliance now continues the GPS program under the umbrella of CLAD.

Also in 2020, the Alliance initiated a new CLAD program utilizing consumer-grade underwater video and sonar technology to perform surveys of select areas of the lake to complement other lake survey initiatives led by its Members, NYSDEC, or others. Staff use the same type of Lowrance sonar unit mentioned above to collect data on macrophyte biovolume, bathymetry, and bottom hardness in targeted areas of the lake. The Alliance performed repeat surveys at a ~40-acre section Bemus Bay, which is located in an area of high use and economic significance, on a monthly basis between June and November as part of the 2020 pilot program. Staff also surveyed portions of Sherman's Bay and the Village of Lakewood. These surveys continued in 2021 and were expanded to include a ~70 acre portion of the Stow narrows between Tom's Point and the I-86 bridge. All field data are processed by BioBase software, which produces user-friendly outputs for the Alliance to download and map using QGIS. Staff expect to continue these surveys in 2022.

The underwater video program involves Alliance staff using a rod-mounted GoPro Hero 7 Black waterproof camera deployed through the ice or by boat to perform visual assessments of macrophyte and other lake conditions. After the pilot-program was started in February 2020, both 2021 and 2022 saw the introduction of additional underwater video survey locations. In building a data set of underwater conditions over several years, this program can provide a historical archive of plant conditions in select areas during a time when other surveys are not possible. By monitoring and cataloguing changes in these visual conditions, we hope to glean new information about the impact of different variables on plant growth.

New to CLAD in 2021, the Alliance also performed baseline bathymetry sonar surveys of select tributary mouths in the fall to assist Members with assessing the feasibility of future dredging projects. These surveys were followed by a sediment sampling

program aided by the Alliance at these locations in January of 2022. Sediment samples were collected at tributary mouths through lake ice and sent for laboratory analysis. The Alliance is optimistic that in the future the varied capabilities of CLAD can continue to serve Members and other stakeholders in similar scenarios where data collection and monitoring is needed and provides a tangible benefit to future lake and watershed management actions.



2021 Chautauqua Lake Water Quality Research Panel

The 2021 Chautauqua Lake Water Quality Research Panel, sponsored by the Alliance, was presented on April 10, on the Chautauqua Institution's Virtual Porch. The panel, which was free and open to the public, featured presentations by Dr. Courtney Wigdahl-Perry from the State University of New York at Fredonia; Dr. Kiyoko Yokota and Mr. Cole Beale from SUNY Oneonta; Dr. George Bullerjahn, Dr. Timothy Davis, Ms. Katelyn Brown, and Mr. Jay DeMarco from Bowling Green State University; and

Dr. Rick Relyea, Dr. Harry Kolar, and Mr. Eric Siy from The Jefferson Project at Lake George. The event covered a wide range of important topics relevant to issues in the lake and watershed. The Alliance would like to thank Chautauqua Institution for hosting the event, and the panelists who generously donated their time to present on their work. These presentations helped to further the public dialogue that was initiated with the inaugural panel in 2020, and serve as an important example of how academic research can be effectively communicated to the public and stakeholders moving forward. A recording of the panel is available for free, on-demand viewing at: **http://www.chautauquaalliance.org/news/2021-chautauqua-lake-water-quality-research-panel/**

Alliance Committees

The Alliance extends its thanks to its many volunteers who participate in its three active committees, which are described below.

1. *Data Analysis and Research (DAR) Committee*
   Chair: Mike Jabot, PhD
   Board Representative: David Shepherd
   In 2020, the Alliance transitioned the former Scientific Review and Advisory Committee into a Data Analysis and Research (DAR) Committee. The DAR Committee is populated with individuals who have backgrounds in research, the natural sciences, engineering, data analysis, and/or other related technical fields and experience with the environmental factors impacting the health of Chautauqua Lake and its watershed. The purpose of the Committee is to provide scientific and technical input to the Board of Directors and Executive Director of the Corporation.

2. *Lake Management Committee*
   Chair: Mike LaTone
   The Lake Management Committee was formed with the purpose of coordinating in-lake maintenance, harmful algal bloom mitigation efforts, and potential future dredging efforts. This Committee is populated with local municipal leaders and executive directors and presidents of local lake managing organizations and is chaired by Alliance Board Member Mike LaTone. These meetings bring together many of the stakeholders involved with Chautauqua Lake maintenance in order to plan and coordinate in-lake maintenance.
   a. *Macrophyte Management Strategy (MMS) Subcommittee*
      As part of the Lake Management Committee, the MMS Subcommittee was created and populated with a small group of individuals representing a variety of disciplines including Chautauqua County Watershed Coordinator Dave McCoy who chairs this Subcommittee. The Subcommittee is tasked with providing updates to the 2017 Chautauqua Lake Macrophyte Management Strategy (MMS) as the expectations and needs of Chautauqua Lake stakeholders have adapted and changed since its inception.

3. *Watershed Management Committee*

   Chair: Rob Yates

   The Watershed Management Committee was also formed in late 2019 with the purpose of providing guidance and feedback regarding potential Alliance partnered watershed projects and to recommend watershed project ideas for grant submission that attempt to reduce the flow of nutrients and sediments from the watershed into Chautauqua Lake. The Committee is populated with local municipal leaders, highway and department of public works superintendents, and representatives from the Chautauqua Watershed Conservancy, Soil and Water Conservation District, and County Department of Health and Human Services.

5/2021-5/2022 Board of Directors

Director	**Member Affiliation**
Bruce Erickson – Chair	Chautauqua Lake Association
Don Emhardt – Vice-Chair	Town of Chautauqua
Mary Hutchings – Secretary	Chautauqua Lake Partnership
Jim Andrews – Treasurer	Town of Busti
Pierre Chagnon	County of Chautauqua
Rob Yates	Town of North Harmony
Mike LaTone	Chautauqua Lake Partnership
David Shepherd	Arnold Holmberg Foundation
Paul (P.J.) Wendel, Jr.	County of Chautauqua (*Ex officio*)
Mike Jabot	Chautauqua Watershed Conservancy
Ted McCague	Village of Lakewood

Note: A maximum of 9 directors comprise the board of directors. Those listed above served for all or some portion of 2021. The first 9 directors listed in bold comprised the Alliance Board as of the date of this report.

Special Recognitions

The Alliance wishes to recognize that we as a community continually stand on the shoulders of those who have gone before us. Special appreciation to all those listed below and to the many more who remain unnamed.

CLMC participants: Linda Barber, Chuck Battaglia, Bill Boria, Craig Butler, Sally Carlson, Pierre Chagnon, Doug Champ, Jane Conroe, Rick Constantino, Fred Croscut, Bill Daily, Jeff Diers, Tom Erlandson, Mark Geise, Tom Geisler, Lyle Hajdu, Vince Horrigan, John Jablonski, Joe Johnson, Don McCord, Wade Morse, Debbie Naybor, Andrew Nixon, Karen Rine, Kevin Sanvidge, Kim Sherwood, Mark Stow, Art Webster, Dave Wilson, Tad Wright and Chris Yates

Leading the evolution from CLMC to an Alliance: Linda Barber, Pierre Chagnon, Don Emhardt, Mark Geise, Lyle Hajdu, Vince Horrigan, Don McCord, Dave McCoy, Randy Sweeney and Tad Wright.

Funders: The Lenna Foundation, Ralph C. Sheldon Foundation, Chautauqua Region Community Foundation, Gebbie Foundation, Holmberg Foundation, Hultquist Foundation, County of Chautauqua, and Private Contributors.

Appendix A

2021 May Member Meeting Minutes

Thursday, May 13, 2021 at 4:30 PM ET
Via Zoom due to COVID-19 pandemic

Directors Present: Ted McCague, Mike Jabot, Bruce Erickson, Paul Wendel, Jr., Mike Latone, David Shepherd, and Pierre Chagnon.

Staff in Attendance: Randall Perry – Alliance Executive Director, and Taylor West – Alliance Project Manager.

Others in Attendance: Linda Swanson – Sheldon Foundation; Tory Irgang and Lisa Lynde – Chautauqua Region Community Foundation (CRCF); Cassie Pinkoski – Chautauqua County Soil and Water Conservation District; John Ford; Vince Horrigan; and Julia Ciesla-Hanley

Member Representatives in Attendance: Randy Holcomb – Village of Lakewood; Jim Wehrfritz – Town of Ellery; Ruth Wahl, Becky Nystrom, John Jablonski and Whitney Gleason – Chautauqua Watershed Conservancy (CWC); Doug Conroe, Debbie Moore, and Rudy Mueller – Chautauqua Lake Association; John Shedd – Chautauqua Institution; Emily Beers, Dave McCoy, and Bill Ward – County of Chautauqua; Don Emhardt – Town of Chautauqua; Louise Ortman – Town of North Harmony; Pat McLaughlin – Town of Ellicott

I. ***Call to Order***
P. Chagnon called the Annual May Member Meeting of the Chautauqua Lake and Watershed Management Alliance (Alliance) to order at 4:31 pm. A quorum of six out of nine Board members were present at the start of the meeting.

II. ***Review of the 2020 May Member Meeting Minutes***
M. Jabot made a motion to approve the 2020 May Member Meeting Minutes. T. McCague seconded the motion made by M. Jabot, which passed unanimously.

III. ***Secretary's Report on Notification and Quorum***
M. Jabot indicated that a quorum of the Board was present.

M. Jabot indicated that written notifications of the Annual Meeting were sent out on March 12, May 5, and May 7, 2021. M. Jabot indicated that ballots were sent out to all 24 current Alliance members. M. Jabot indicated that 18 Member Voting Ballots were received to date, which constitutes a quorum per the Alliance by-laws. M. Jabot indicated that the results of these ballots were counted and tallied by the Alliance staff and have been provided to the Board Chair and Secretary.

IV. ***Election of Directors – Ballot Canvass and Report***

P. Chagnon asked if there were any additional ballots to be submitted by Members. None were noted. R. Perry indicated that based on the final vote counts, D. Emhardt (15 votes yes), B. Erickson (16 votes yes), and M. Hutchings (13 votes yes) were all elected to the Board.

P. Chagnon welcomed the newly elected directors to the Alliance Board. P. Chagnon indicated that he will be sending the orientation packet with assignments to the new directors. P. Chagnon indicated that once they have completed their assignments and conflict of interest statements, he would then meet with them to go through the orientation packet. P. Chagnon indicated that he anticipates that the newly elected directors will be seated by the June Board Meeting. P. Chagnon thanked the members for the participation in the election.

V. ***Election of Officers***

No board action occurred under this agenda item.

VI. ***Presentation of 2019-2020 Annual Report***

R. Perry presented on the Alliance's 2020 Annual Report. R. Perry thanked the Board, County, Foundations, and Alliance Members for their support. A copy of the report and presentation is available on the Alliance's website.

P. Chagnon indicated that there was a lot that happened in 2020. P. Chagnon indicated that there is a lot more to come in 2021.

VII. ***Member Open Discussion***

P. McLaughlin thanked the Alliance for the herbicide treatment grant. P. McLaughlin indicated that he believed SOLitude completed the herbicide treatment project today. P. McLaughlin indicated that they posted 15 signs at public access points within the Town of Ellicott and Village of Celoron. P. McLaughlin indicated that the signs will be removed Saturday. P. McLaughlin indicated that the muck is back in Celoron and

Ellicott and has accumulated approximately 6-10 feet from shore. P. McLaughlin indicated that he would recommend to his Board that they renew their Alliance membership and sign the new MOU.

M. Latone indicated that some of the signs that were put up in Ellicott went missing. M. Latone indicated that the police have been notified.

J. Wehrfritz asked who the nominees were that were put forth by the Alliance members.
R. Perry indicated that there were two nominees for the Town/Village seat: Don Emhardt and Ellen Barnes. R. Perry indicated that there were four nominees for the two at-large seats: Bruce Erickson, Mary Hutchings, Ruth Wahl, and John Cresanti.
J. Wehrfritz asked why the other nominees that weren't part of the recommended slate were not included on the ballot.
P. Chagnon indicated that the Alliance followed the procedures that are stated in the by-laws.
J. Wehrfritz asked how members could vote for alternate candidates if members are not aware who the other alternate candidates are.
P. Chagnon indicated that the Alliance will take this into consideration in the future as a potential enhancement to the election process.

VIII. ***Adjourn Annual Member Meeting***

B. Erickson made a motion to adjourn the May Member Meeting. The Motion was seconded by M. Latone and was passed unanimously. The meeting adjourned at 5:14 pm.

The Alliance Board of Directors passed a motion to approve these 05/13/21 Meeting Minutes on 5/12/22.