



North American Lake Management Society

2018 Annual Report



Our mission is to forge partnerships among citizens, scientists, and professionals to foster the management and protection of lakes and reservoirs ... for today and tomorrow.



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At this time each year, we reflect back on the accomplishments and challenges of the previous year. This year marks the first year for which NALMS produced an annual report. We hope that this report marks the first in an annual tradition of engaging with our network to celebrate our successes and highlight our future targets.



In 2018, NALMS moved to engage students and young professionals through the creation of an early career membership option to transition our student members into their first full-time, professional lake and watershed management position while simultaneously stabilizing our membership by switching to an annual renewal cycle. If you have not already renewed your membership for 2019, we encourage you to do so.

Additionally, the NALMS board moved our professional ethics program forward through the creation of our ethics committee. This committee continues to highlight the importance of professional ethics within NALMS' publications and at our annual symposium, having current and former board members to review any ethical issues of concern to NALMS or our members.

NALMS continues to highlight experts within the organization through the launch of our Subject Matter Expert List, expansion of our Certification Program and highlighting great efforts through our annual symposium, *LakeLine Magazine* and *Lake and Reservoir Management* journal.

As we look forward, we are excited to engage with local, state and federal partners at the 2019 Annual Symposium in Burlington Vermont, 11–15, 2019. Please join us in Vermont, home to more than 800 lakes and ponds including Burlington's own Lake Champlain for *Watershed Moments: Harnessing Data, Science and Local Knowledge to Protect Lakes*.

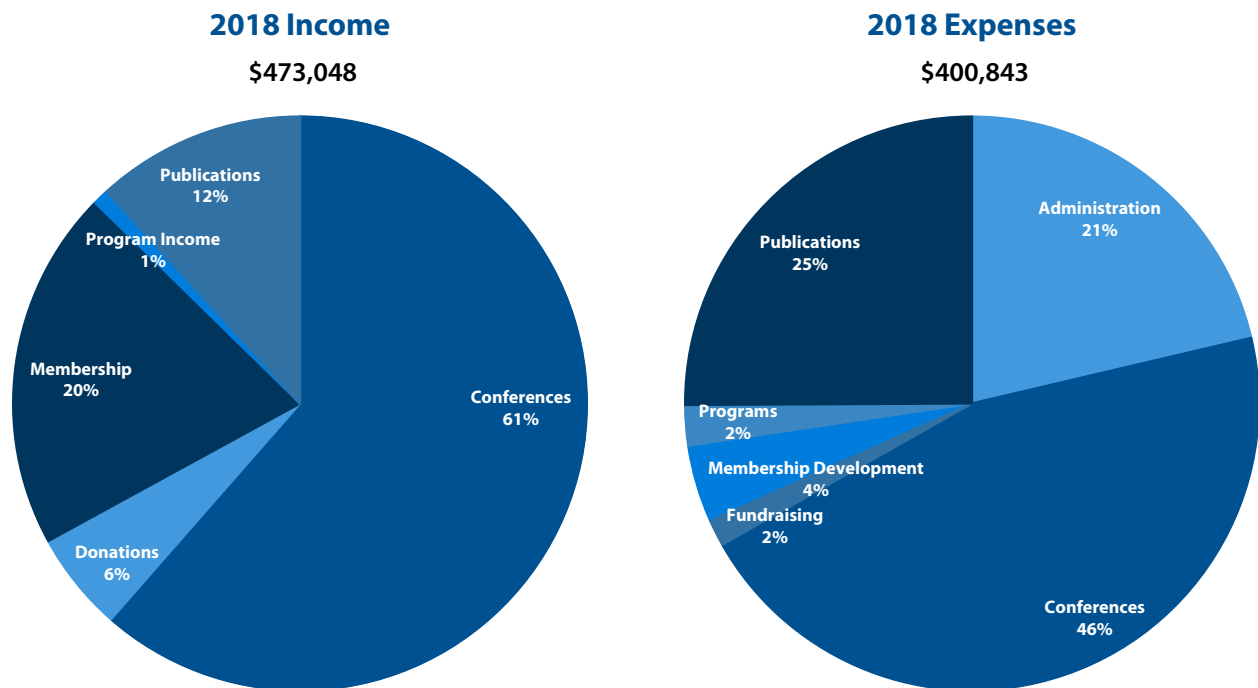
We humbly thank all who have helped us accomplish much over the past year – staff, volunteers, member and supporters. Thanks in part to more than three decades of work by the North American Lake Management Society and our partners, our lakes and reservoirs matter.


Sara Peel
President

Preliminary Financials as of December 31, 2018

Throughout its history, the North American Lake Management Society (NALMS) has been funded largely through a combination of membership dues, conference revenue, and grants from federal agencies. As federal grant funds decreased and the competition for those limited funds increased, programs and activities that had previously received grant funding are now reliant on the same funding sources as the rest of the organization's general operations: membership dues, conference revenues, and donations.

In recent years, NALMS has put a greater focus on diversifying its income sources through non-governmental grants, exploring sponsorship opportunities for key programs, and developing a culture of giving within the organization. NALMS has also made a concerted effort to expand the visibility of the organization through increased social media and outreach activities.



Who Are Our Members?

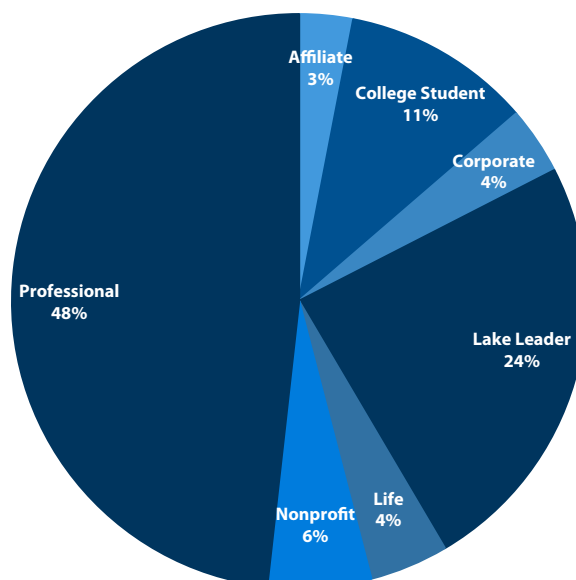
NALMS was founded in Portland, Maine in 1980 as an organization with membership open to both professionals and citizens interested in applied lake management, while other organizations focused on either one or the other. This unique niche is reflected in our mission: *To forge partnerships among citizens, scientists, and professionals to foster the management and protection of lakes and reservoirs for today and tomorrow.*

Our membership serves to bring all stakeholders together welcoming anyone interested. Membership includes professional and citizen scientists, formal and informal educators and academics, federal, state and municipal officials, students, property owners, recreational enthusiasts, and industry representatives.



Members of the student club, TerrAqua, receiving some lake-monitoring training at Hidden Lake, Ohio. Completing the training earns participants level-1 Qualified Data Collector status with the state of Ohio. TerrAqua is advised by NALMS member Eugene Braig. Photo: Eugene Braig.

Members by Membership Level



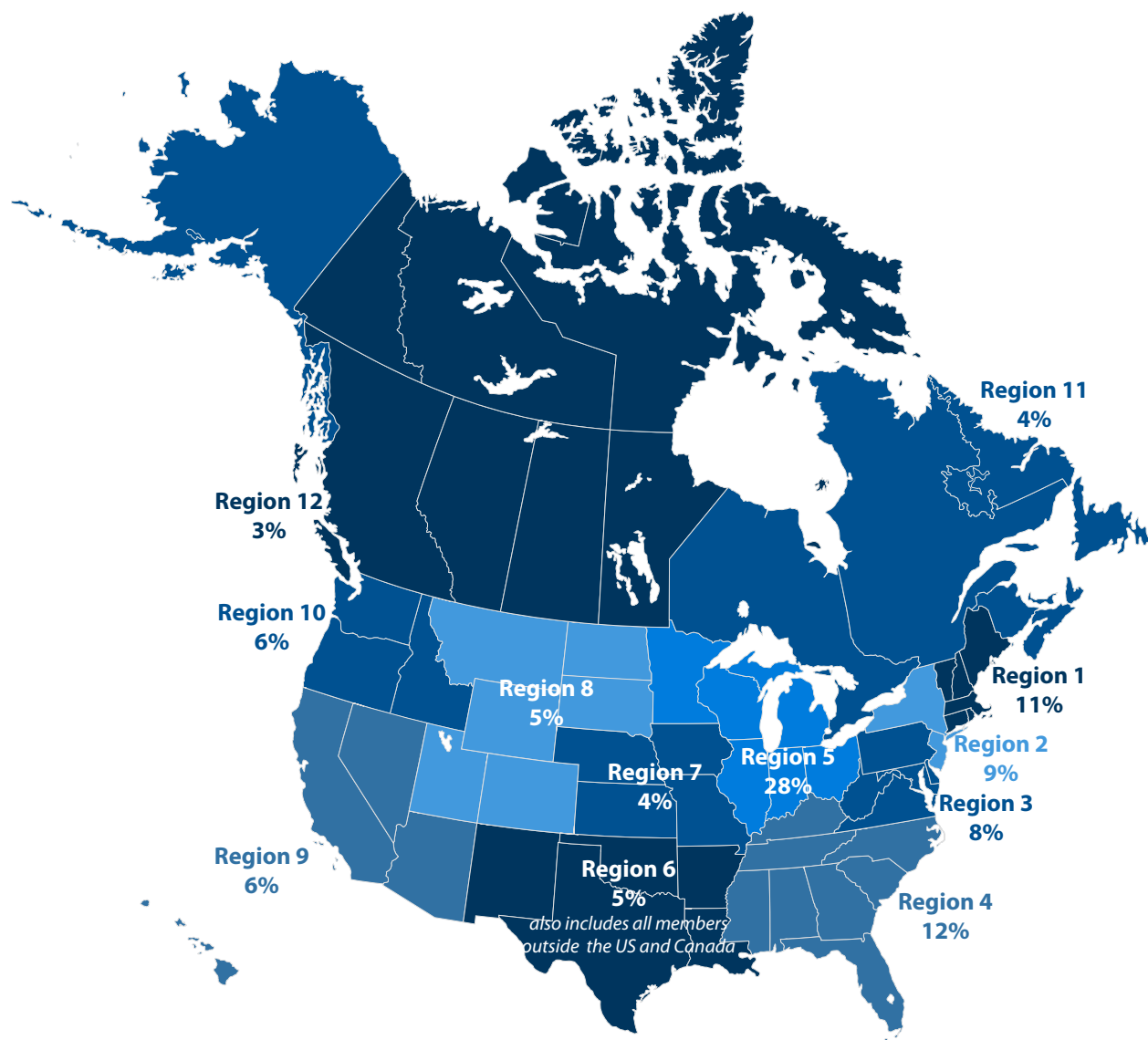
Promoting Diversity

Diversity for NALMS means creating a community of inclusion. We respect and value the unique contributions and perspectives of all members, employees, event participants, students, volunteers, and our local and international communities. Diversity includes age, culture, disability, ethnicity, gender, national origin, color, race, religion, sexual orientation, diversity of thought, ideas, and more. Diversity maximizes our true potential for creativity, innovation, and collaborative problem solving. NALMS strives to cultivate a Society built on mentorship, encouragement, tolerance, and mutual respect, thereby engendering a welcoming environment for all. NALMS promotes diversity in all areas of activity, including fostering diversity in membership, leadership, committees, staff, outreach, public engagement, recruitment, and all other areas of Societal activity.

Where Are Our Members?

As a lake management organization, our membership is greater in areas with a high concentration of naturally-occurring lakes, *i.e.*, the Great Lakes, New England, and Southeast. NALMS members, however, are found in all areas of the US and Canada as well as internationally. NALMS members live and work not just on natural lakes, but also on reservoirs and in the watersheds that feed lakes and reservoirs.

NALMS' board of directors includes volunteers representing 12 geographic regions in the US and Canada. Members residing outside of the US and Canada are represented on the board by the Region 6 director.



Volunteers Monitoring the Quality of Our Lakes

The Secchi Dip-In demonstrates the potential of volunteer monitors to gather environmentally important information on our lakes, rivers and estuaries.

The concept of the Dip-In is simple: individuals in volunteer monitoring programs take a transparency measurement on one day during the month of July. Individuals may be monitoring lakes, reservoirs, estuaries, rivers, or streams. These transparency values are used to assess the transparency of volunteer-monitored lakes in the United States and Canada.

A goal of the Dip-In is to increase the number and interest of volunteers in environmental monitoring by contributing to a national effort.



Shannon McFarland takes a Secchi disk measurement on Shelburne Pond, Vermont. Photo: Lisa Borre.

In 2018, NALMS partnered with the Oklahoma Water Resources Board and was awarded an Exchange Network Grant from the US Environmental Protection Agency for updating the Secchi Dip-In database and website. These enhancements will make it easier for individual volunteers and volunteer monitoring programs to submit their data via the website or Lake Observer mobile app to the Dip-In.

Celebrating Our Lakes

For more than 20 years, NALMS has celebrated **Lakes Appreciation Month** to focus attention on the value lakes and reservoirs provide to society and the threats they face. Lakes and reservoirs are used for a variety of purposes: water supply for municipal, industrial and agricultural use, recreation, flood control, and aesthetic enjoyment. However, they are often considered “free” resources by users and this can result in abuse and neglect.



Scenes from a Lakes Appreciation Month event in Colorado. Photos: Steve Lundt.

July is a time when many folks are vacationing and enjoying lakes and reservoirs. This provides a perfect opportunity to set aside time to celebrate or volunteer to help your local waterbody.

NALMS encourages the public to participate in Lakes Appreciation Month activities such as organizing lake or watershed clean-up events, starting a watershed storm drain stenciling program, hosting a Lakes Appreciation Night at a local restaurant benefiting a local lake association, among many other ideas listed on the Lakes Appreciation Month website.

In 2018, NALMS started offering sponsorship opportunities for Lakes Appreciation Month, with LaMotte Company signing on as a sponsor of the event.



Advancing the Profession of Lake Management

NALMS' **Professional Certification Program** identifies individuals who have exceptional training and experience in lake management.

A Certified Lake Manager (CLM) is an individual who is directly involved in the comprehensive management of a lake, pond, reservoir or other body of water and its watershed. Lake managers make decisions that affect the quality and uses of the body of water through management recommendations and the implementation of those recommendations.

A Certified Lake Professional (CLP) is also an individual who is directly involved in the management of a lake, pond, reservoir or other body of water and its watershed. However, lake professionals provide critical technical or socio/economic data used in making decisions that affect the quality and uses of the body of water.

CLMs and CLPs have satisfied NALMS requirements for certification and established themselves as knowledgeable and experienced experts of waterbody management.

In 2018, NALMS took steps to streamline the application process for new CLMs and CLPs.



Ann St. Amand, CLP, collects a water sample for algae and zooplankton analyses. Photo: Ken Wagner.

Creating Information Resources to Combat Harmful Algal Blooms

Harmful algal blooms (HABs) impact lakes and reservoirs worldwide and algal toxins can cause illness and death of humans and domestic and wild animals. Resource managers, lake associations, and local, state, and provincial governments are beginning to address problems associated with HABs and potential toxicity. These organizations need easily accessible, current information to effectively make decisions and minimize human health risks. Most of the information available about inland HABs in North America is diffuse and there is a need for a centralized information resource. NALMS adopted an initiative to take a leadership role in furthering the understanding and management of HABs in inland waters and in educating people about this emerging area of concern. The **Inland HAB Program** is a direct result of this initiative. NALMS aims to serve as an information clearinghouse for all HAB issues, including, but not limited to Cyanobacteria, Dinoflagellate, Haptophyte, and Euglenoid driven blooms in freshwater and brackish inland systems. The long-term vision for the HAB Initiative is to provide an internet-based network where information about HAB occurrences, cyanotoxins, risk assessment, monitoring programs, and management options can be obtained and shared.



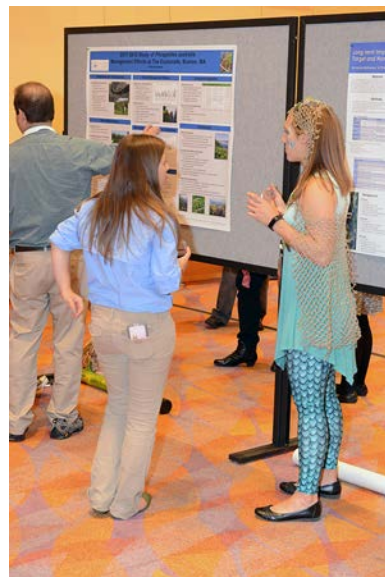
Photo: Ohio Sea Grant

Supporting the Next Generation of Lake Managers

NALMS' student members play an important role in the future of the organization and we offer a number of **student programs** to help them in their transition to lake management professionals. At our symposia, NALMS offers travel scholarships through the Eberhardt Memorial Student Fund, and the Jody Connor Student Awards recognize excellent student presentations. The Student Mentorship Program pairs active NALMS members with student members providing a valuable student-mentor relationship.

Students elect their own representative to the NALMS board and the organization also highlights the work of student members through a regular column in *LakeLine Magazine*. A series of videos on lake management topics is created by students and showcased on the NALMS website and the organization's YouTube channel.

To help our student members more easily make the transition from school to professional careers in lake management a new early career membership category was created in 2018. This membership level is available to individuals with less than 5 years in the field.

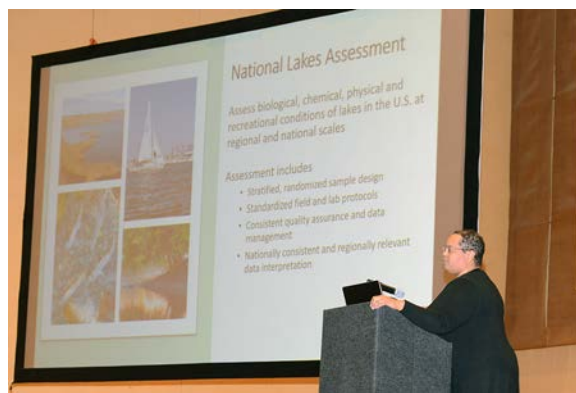


Students are encouraged to present their research at NALMS' annual symposia. The poster session for the 2018 symposium was held on Halloween. Photo: Todd Tietjen.

Facilitating the Exchange of Lake Management Advancements

Since 1980, NALMS' **Annual Symposium** has played an important role in facilitating the exchange of ideas and technological advancements through oral presentations, posters, workshops, field trips, and exhibits covering a wide variety of lake and reservoir management topics. The symposium offers excellent opportunities for networking, and lifelong professional associations are often forged at the NALMS symposium.

NALMS is a melting pot, welcoming anyone with an interest in lakes and lake management. The 500–600 attendees of NALMS' symposia represent both public and private sectors, including water resource professionals, academic researchers, lake and watershed managers, and lake associations. The symposium attracts attendees from all over the US and Canada, as well as other international locations.



Amina Pollard of the US Environmental Protection Agency gave a plenary presentation on the National Lakes Assessment at the 2018 Symposium held in Cincinnati, Ohio. Photo: Todd Tietjen.

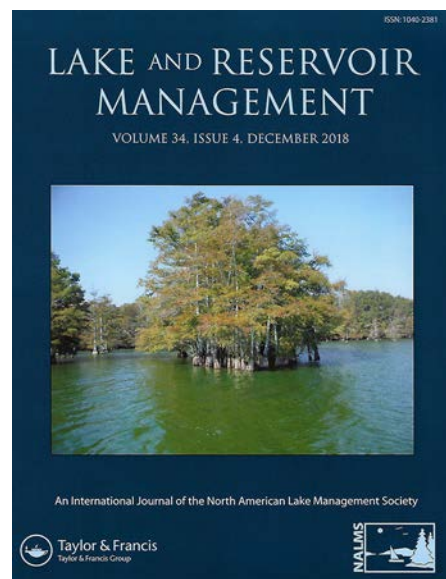
The 2018 symposium was held in Cincinnati, Ohio where the theme was "Now Trending: Innovations in Lake Management." The 2019 symposium will be held in Burlington, Vermont in mid-November. The theme is "Watershed Moments: Harnessing Data, Science, and Local Knowledge to Protect Lakes."

Advancing the Science of Applied Lake Management

Lake and Reservoir Management publishes original, previously-unpublished studies relevant to lake and reservoir management. Papers address the management of lakes and reservoirs, their watersheds and tributaries, along with the limnology and ecology needed for sound management of these systems. All submissions are peer-reviewed.

Lake and Reservoir Management is published quarterly by Taylor & Francis as part of their Environmental Science portfolio with ownership and editorial control residing with NALMS.

Most NALMS members receive complimentary copies of *Lake and Reservoir Management* by mail as well as online access through the Taylor & Francis website. Non-members may purchase individual articles or subscriptions through the Taylor & Francis website.

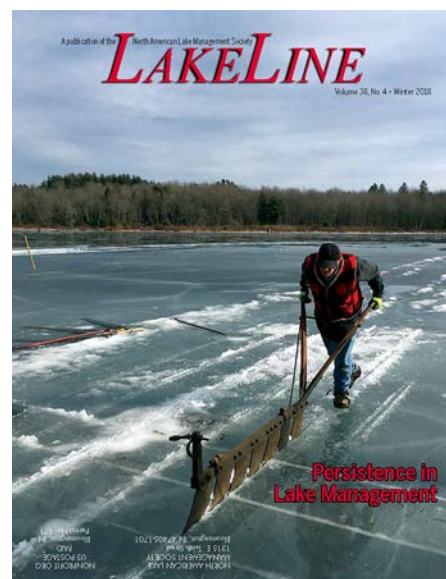


Providing Resources for Lake Managers, Users, and Advocates

LakeLine Magazine is published quarterly as a medium for exchange and communication among those interested in lake management. *LakeLine* is distributed to all NALMS members and other subscribers and each issue contains news, commentary and articles on topics affecting lakes, reservoirs and watersheds. Because issues are organized around a theme, such as control of invasive species or resolving recreational conflicts, each issue becomes a valued reference and resource for lake managers, users, and advocates.

The themes for the *LakeLine* issues in 2018 were: Dam Removal, National Lakes Assessment, In-Lake and/or Watershed Management, and Persistence in Lake Management.

Starting with the spring 2019 issue, *LakeLine Magazine* will be switching to an all electronic format.



Forging Partnerships

A key part of our mission is to forge partnerships among a diverse group of lake and watershed stakeholders as well as lake-related managers, scientists, governmental agencies, and nonprofit organizations and consortia. NALMS values and encourages relationships among its members, constituents, and professional colleagues to support NALMS' mission to foster the management and protection of lakes and reservoirs for today and tomorrow.

Current partnerships include the *Consortium of Aquatic Science Societies*, the *Source Water Collaborative*, the *Reservoir Fisheries Habitat Partnership* and the *Aquatic Plant Management Society*. NALMS also has representatives on the *Advisory Committee on Water Information (ACWI)*, the *National Water Quality Monitoring Council (NWQMC)*, and the *ACWI Climate Change Work Group*. These scientific advisory committees to federal agencies assure these agencies work with state governments and stakeholders to improve decision-making about natural resource management and environmental protection.



As a member of the Consortium of Aquatic Science Societies (CASS), NALMS has been part of CASS' efforts to educate the public about aquatic sciences and to recruit and encourage the next generation of aquatic scientists, particularly underrepresented minorities, such as at the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) conference.

Supporting Action on Climate Change

Aquatic ecosystems are sensitive to climate change, and the impacts of future climatic changes include a wide range of negative consequences. There may be increased flooding, pollutant transport, sediment erosion, and extended droughts from more frequent extreme events. Increased water temperatures will affect oxygen regimes, redox potentials, lake stratification, mixing rates, and the metabolism and life cycles of aquatic organisms. Freshwater species are at especially high risk to be threatened or endangered due to climate change. Overall, shifts in precipitation variability and seasonal runoff will have profound effects on water supply, water quality, and management of water resources.

NALMS supports the following three 'prudent and responsible' actions for citizens and policymakers, as provided by the Union of Concerned Scientists and The Ecological Society of America:

- Anticipate and plan for the regional impacts of climate change to reduce future damage;
- Reduce contributions to the global problem of heat-trapping greenhouse gas emissions;
- Minimize human pressures on the global and local environment to reduce the vulnerability of ecosystems. Prudent actions include: reducing air pollution, protecting the quality of water supplies and aquatic habitat, reducing urban sprawl, reducing habitat destruction and fragmentation, restoring critical habitats, and preventing the spread of invasive nonnative species.

For more information see NALMS' entire climate change policy at www.nalms.org/nalms-position-papers/climate-change-impacts-on-lakes/

2018 Donors

The support of our donors allows us to strengthen our programs, and therefore, continue our important work to save lakes, reservoirs, and watersheds.

Eberhardt Memorial Fund

Donations to the Eberhardt Memorial Fund support NALMS' student programs, including travel grants to attend our yearly symposium.

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R Workshop Presenters
Phyllis Schaer
Ann St. Amand
Jordyn Stoll
Perry Thomas
Kenneth Wagner

Lake Givers Club

The Lake Givers Club provides a way for individuals and organizations to make a contribution towards NALMS programs:

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Shannon Brattebo
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Colorado Lake & Reservoir Management Association
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Virginia Lakes & Watersheds Association
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Eugene Welch
Barbara Wiggins
Shian-chee Wu
Kiyoko Yokota

G. Dennis Cooke Symposium Fund

The G. Dennis Cooke Symposium Fund provides support for themed sessions and plenary speakers at our annual Symposium.

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Linda Green
George Izaguirre
William F. James
Matt Ladewig

Honorary & Memorial Donations

Donations in Memory of Jim Vennie

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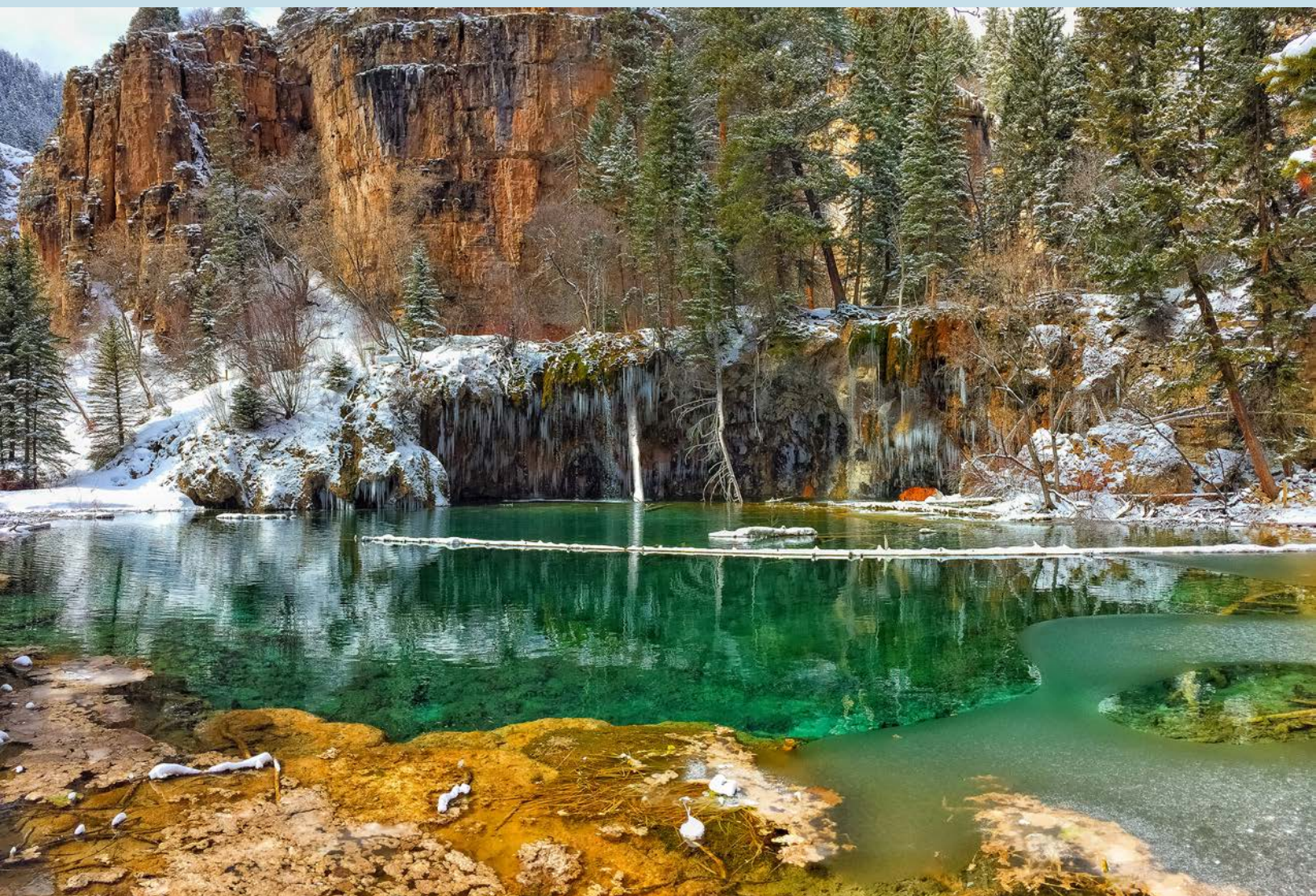


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Front cover: The Wolf of Peyto Lake by NALMS member Clint Calhoun

Back Cover: Hanging Lake, Glenwood Canyon, Colorado by NALMS member Jillian Taylor

Both photos were entries in the 2018 NALMS Photo Contest. Clint's photo was awarded the Editor's Choice Award and Jillian's received the People's Choice Award.