



**African Center for Aquatic
Research and Education**

*Annual Report
Year 2019*

www.agl-acare.org



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Collaborating with freshwater experts around the world to address the challenges on the African Great Lakes

Lake Albert
Lake Edward
Lake Kivu
Lake Malawi/Nyasa/Niassa
Lake Tanganyika
Lake Turkana
Lake Victoria

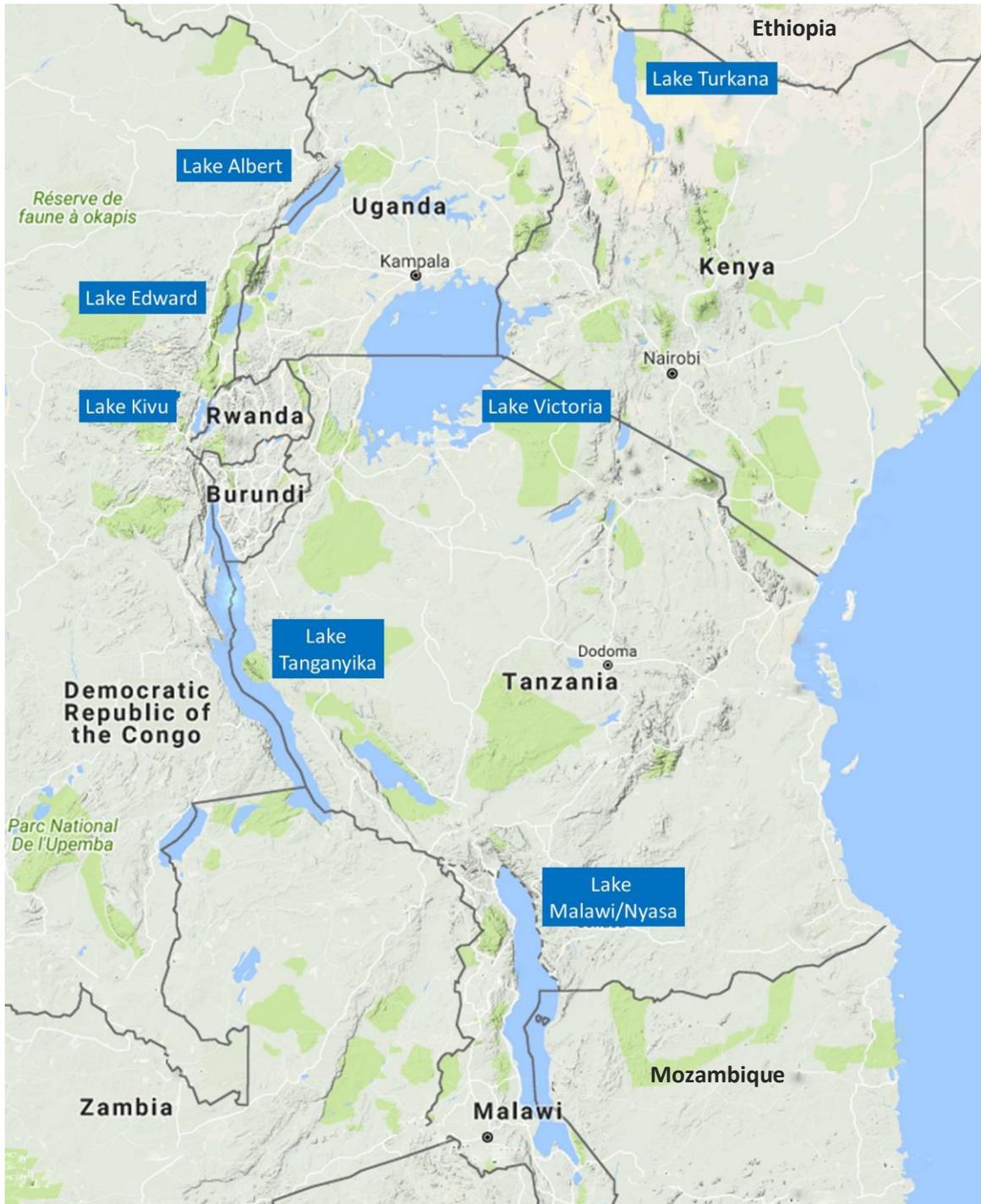
*And the ten riparian countries of the African Great Lakes:
Burundi, Democratic Republic of Congo, Ethiopia, Kenya, Malawi, Mozambique,
Rwanda, Tanzania, Uganda, and Zambia*



The African Great Lakes

Lake Albert, Lake Edward, Lake Kivu, Lake Malawi/Nyasa/Niassa, Lake Tanganyika, Lake Turkana, Lake Victoria

Each of the African Great Lakes varies in its biophysical and demographic characteristics, ecological and economic concerns, governance, and potential sustainable development interventions.



The ten riparian countries of the African Great Lakes are: Burundi, Democratic Republic of Congo, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, and Zambia.

Mission, Vision, Values

ACARE sees a world where millions of Africans can depend on healthy African Great Lakes for food, clean water, and reliable employment, supporting a climate of justice, equity, democracy, and peace.

To achieve this vision, ACARE creates highly collaborative systems that strengthen science to positively affect policy and management for healthy African Great Lakes.



Our Theory of Change:

We see a future with millions of people relying on healthy African Great Lakes.

To do this we need . . .

Strong inter-jurisdictional policies and resource management.
Which must be . . .

Based on accurate and cutting-edge scientific information.
Which is contingent on . . .

A strong network of experts working together toward shared goals.
Which depends upon . . .

Trust and regular information exchange among experts, across borders and jurisdictions.
Which is fostered through . . .

Regular and interactive meetings of experts



Message from the Executive Director

It was only two short years ago that ACARE was created by a group of freshwater experts from Africa, North America, and Europe to build a network that addresses challenges on the African Great Lakes. Since then, with few resources but big ideas, we as a community have already come so far. We have created six African Great Lakes Advisory Groups, created numerous partnerships, enhanced communications, and begun the long-term promise of creating a highly collaborative network to strengthen science on freshwater resources.



This is ACARE's first formal annual report and in it you will read about our successes, including the on-going development of the Advisory Groups, which we hope will be one of the world's foremost mechanisms for addressing the challenges on the African Great Lakes. We created these groups during a stakeholder workshop in Entebbe, Uganda in November 2019 with a great turnout and keen interest. We are advancing women in science through our African Women in Science program, which began in 2019, and we have high hopes for engaging students and early career women in many aspects of our efforts, including participation in the Advisory Group process, conferences, research, and policy and management activities.

ACARE is going to rely on partnerships, and throughout the last year we have met a large number of engaged and passionate experts and members of organizations focused on and often located near, the African Great Lakes. We are looking forward to strengthening and building on this foundation to build more partnerships and grow ACARE and the freshwater community.

ACARE is growing with the unending energy and support of so many people, especially the mostly-volunteer staff of the secretariat, our board of directors, and freshwater experts globally. We are especially privileged to be led by so many of our African colleagues on this endeavor-- they are the leaders and experts ACARE supports to enhance the efficacy of their work.

Please enjoy this report and see some of the successes we have had. We look forward to continually building a long-term, resilient network of experts to address the challenges that harm these critical freshwater resources. And we look forward to you joining us.

Ted Lawrence,
Executive Director
ACARE
ted@agl-acare.org

African Center for Aquatic Research and Education: A brief background

We hope that you are familiar with ACARE already, however, we are aware that, with this being the organization's first formal annual report, that we would provide some context to the organization

The African Great Lakes (AGL) are some of the most valuable natural resources on our planet, representing a major portion of the world's surface freshwater and harboring the most productive freshwater fisheries in the world. These lakes are rich natural resources that provide ecosystem services for the welfare and livelihoods of over 50 million people across 10 countries.

Despite their importance, these lakes' natural resources are threatened, in part by climate change impacts and some of the highest population growth rates in Africa.

There's a general migration towards freshwater

resources by populations in

desperate need of good quality potable water. The resources are being over-exploited: the fisheries' current harvest and fishing methods are unsustainable and the benefits do not always accrue locally. The climate variability anticipated in the coming century could threaten the water security and human well-being of much of sub-Saharan Africa, impeding the citizens in these regions to be a self-reliant society.

No single organization, government, or entity can solve the problems that afflict our natural resources - especially large multi-jurisdictional lakes. ACARE was created to increase collaboration, knowledge sharing, and harmonization of research and management as key elements to enhance conservation efforts in the AGL.

ACARE aims to ensure informed decisions related to sustainable fisheries and aquatic resource management in the AGL. ACARE is in the process of administering a highly collaborative network of experts with three long-term goals: (1) strengthen global and regional research partnerships; (2) administer transboundary and inter-jurisdictional lake advisory groups; and (3) build capacity of freshwater

scientists through experiential education and public engagement.

ACARE works toward a ceaseless and enduring focus on strengthening science so that we have comprehensive knowledge of the AGL to better inform policy and management of these freshwater resources.

ACARE was created to increase collaboration, knowledge sharing, and harmonization of research and management as key elements to enhance conservation efforts in the African Great Lakes.

It is time to revitalize the highly endorsed concept of collaboration, stronger science, and information exchange and begin to address Africa's capacity to deal with these pressing transboundary issues, which are degrading its' most essential resource: water. And, most importantly, these efforts must be driven by the experts of the African Great Lakes who are best placed to identify and address the challenges of their own nations.

It is necessary, therefore, not to contemplate actions depending on uncertain predictions, but to establish resilient and sustainable mechanisms and institutions that allow humans to address the emerging, unpredictable events and circumstances that occur.

ACARE formed in July of 2017. Since then we have been carefully crafting approaches to solving the biggest challenges facing large freshwater lakes, especially in Africa.

In this section, we highlight five main processes or projects that advance our mission:

- A. Sustainable Development Goals P. 10**
- B. International Association for Great Lakes Research P. 11**
- C. African Women in Science P. 12**
- D. African Great Lakes Network Workshop P. 13**
- E. Advisory Groups P. 14-16**



United Nations Sustainable Development Goals

There have been numerous efforts created by experts globally that describe the needs, tools, and knowledge for improving the health of large freshwater resources.

One of these major efforts, The United Nations Sustainable Development Goals (SDGs), help guide ACARE and its partners in their efforts to enhance the health of the African Great Lakes and the millions of people who depend on them.

ACARE uses the SDGs as a guide; we've adopted the tools, objectives, principles, and at times, the spirit of many of the goals and steps. The rationale for sharing them here is to demonstrate that the calls to improve our world are being done so by experts globally, and we heed their calls, advise, and direction to better the natural resources on which millions of people depend.

Below, from left to right, show how ACARE uses each goal, either as part of our process (e.g. SDG 17 – partnerships), and/or the results of the process (e.g. clean and healthy resources), or impacts (e.g. reduced hunger and poverty due to healthy resources). Ultimately, a healthy system of natural resources allows people to realize their own visions of peace, justice, and livelihoods.



International Association for Great Lakes Research 2019 Conference

The International Association for Great Lakes Research (IAGLR) is a scientific organization made up of researchers studying the Laurentian Great Lakes, other large lakes of the world, and their watersheds. Annually, IAGLR holds a conference where hundreds of scientists and other professionals from a wide variety of disciplines attend to address topics concerning research and management of freshwater systems.

During the past three years, IAGLR conference organizers have been increasing the global scope of the organization, from a mostly North American focus to a broader international one. As part of this effort, some of the world's largest freshwater lakes, found in Africa, have been included in the program, mostly from efforts taken by ACARE.

During IAGLR's 2019 conference in Brockport, NY, ACARE facilitated a session titled: Interacting Threats on the African Great Lakes and hosted members of the African Great Lakes community. ACARE hosted a number of researchers from the AGL to present their work, and then facilitated a discussion on ways forward with experts ranging in geographic knowledge and scientific specializations. The session was a great success.

In 2019, ACARE began planning for greater attendance of African scientists at future IAGLR conferences, including by members of the six Advisory Groups (see pp. 13-14) and by initiating the African Women in Science (AWIS) program (see next page), where African students or early career women will attend IAGLR.



African Women in Science (AWIS)

Historically, women have been disenfranchised from work in the sciences, reducing the perspective, knowledge, and efforts of one major portion of our population. We are not going to advance very far with such limited perspectives trying to solve critical issues facing our natural resources.

Thus ACARE is specifically focusing on enhancing the participation of women scientists for the purposes of developing professionally, enhancing their network, gaining different views and approaches on large freshwater resources, and eventually, positively affecting policy and management on the most critical resources on our planet.

During 2019, ACARE, in line with enhancing diversity, started the African Women in Science program to include women in the networking process on the African Great Lakes and in other activities where freshwater experts meet.

This effort aims to enhance the network of African Great Lakes freshwater experts to include more women. Increasing the number of female researchers in the African scientific community specifically, and the global community in general, will help advance efforts in protecting the African Great Lakes.

ACARE plans on increasing increase women's participation at future IAGLR (see p. 11) meetings, in the Advisory Group process, research endeavors, and other future meetings (especially scientific conferences).



The African Great Lakes Stakeholder Network Workshop

Strengthening Capacity in Research, Policy and Management Through the Development of a Network of African Great Lakes Basin Stakeholders

Highlights

Building on regional efforts, including the 2017 African Great Lakes Conference, led by The Nature Conservancy and the MacArthur Foundation, ACARE developed a project to create a highly collaborative network to establish a system of collaboration and information exchange on the African Great Lakes.

To build the network, ACARE held the **African Great Lakes Stakeholder Network Workshop** in Entebbe, Uganda from November 5-7, 2019. ACARE and its Ugandan hosts, the Lake Victoria Fisheries Organization and the National Fisheries Resources Research Institute, hosted freshwater experts from 18 countries, including members from each of the 10 riparian African Great Lakes countries. Success!

- **The workshop resulted in the establishment of 6 multi-jurisdictional collaborative bodies (see pp. 14-15) to address challenges on each of the African Great Lakes.**
- **Groups designed their own purpose, structure and processes, and will meet at least annually.**
- **Workshop attendees signed a “Statement of Support of the African Great Lakes Freshwater Stakeholder Collaborative Process” (p. 16)**



Advisory Groups

The result of the **African Great Lakes Stakeholder Network Workshop** included the creation of six Advisory Groups for the African Great Lakes, and include:

Lake Edward-Albert Advisory Group

Lake Kivu Advisory Group

Lake Malawi/Nyasa/Niassa Basin Fisheries and Aquaculture Network

Lake Tanganyika-Science Advisory Group

Lake Turkana Advisory Group

Lake Victoria Advisory Group

Lake Edward/Albert Advisory Group – Build on the existing collaboration across boundaries, include players working on gaps identified, investigating issues that impact the health of the lakes, and the well-being on surrounding communities. The group will suggest solutions. The core members are from the riparian countries of Uganda and the Democratic Republic of Congo. Because Lakes Edward and Albert have many of the same scientists, they felt it necessary to create one group.



Lake Kivu Advisory Group – The group proposes to enhance communication and collaboration of entities across borders of the riparian countries of Rwanda and Uganda and sectors that research and work to solve issues that impact the health of the lake and surrounding communities.

Lake Malawi/Nyasa/Niassa Basin Fisheries and Aquaculture Network – The group proposes to enhance communication and collaboration among its members in order to conduct research and address issues that impact the health of the lake and surrounding communities, in particular with respect to fisheries and aquaculture development. The core group of members are from the riparian countries of Malawi, Mozambique, and Tanzania.



Advisory Groups

Lake Tanganyika Scientific Advisory Group – The group proposes to halt and reverse (ensure sustainability of) the decline of Lake Tanganyika renewable natural resources and ecosystem services through collaboration in research, data synthesis and dissemination, education and outreach in order to support achieving the objectives of the Lake Tanganyika convention. The core group consists of members from the riparian countries of Burundi, Democratic Republic of Congo, Tanzania, and Zambia.



Lake Turkana Advisory Group – The group proposes to carry out both long- and short-term research on fish stock assessment, limnology, climate change impacts, food security and economic studies in Lake Turkana and its catchment/Basin. Technology such as remote sensing will be employed in studies especially in the conflict prone areas. The riparian countries of the LTuAG are Ethiopia and Kenya.

Lake Victoria Advisory Group – Proposes to provide research-based decision support to policy makers and resource managers for the sustainable management of the Lake Victoria Basin by: (1) Initiating, improving, and encourage collaboration in research and timely dissemination of information to resource managers; (2) Driving investment opportunities to further research and collaborations; (3) Identifying sector weaknesses for capacity building; (4) Advocating for resource sustainability; (5) Identifying problems and prioritization; (6) Developing tools for decision making; and (7) Developing data sharing tools for existing data. The LVAG consists of members of the three riparian countries of Kenya, Tanzania, and Uganda.



Advisory Groups

The collaborative network described in this annual report is facilitated by ACARE, but it is driven by the freshwater experts of Africa.

The greatest success of 2019, is having the endorsement by the attendees of the workshop of ACARE to advance and facilitate the collaborative process described in this report.

STATEMENT OF SUPPORT OF THE AFRICAN GREAT LAKES FRESHWATER STAKEHOLDER COLLABORATIVE PROCESS

Members of this African Great Lakes Stakeholder Workshop, held in Entebbe, Uganda, November 5-7, 2019, recognize

1. These African Great Lakes (AGL) known as Lake Albert, Lake Edward, Lake Kivu, Lake Malawi/Nyasa/Niassa, Lake Tanganyika, Lake Turkana, and Lake Victoria are critical freshwater resources that millions of people depend on to realize their own vision of livelihoods, justice, equity, democracy, and peace;
2. These AGL are adversely affected by the well-recognized environmental issues which negatively affect the biological, ecological, economic, and socio-political aspects of these vastly important resources;
3. That some past efforts to address these environmentally degrading issues, and the resources themselves, are often done in a manner not adequate to positively change policy and management of these resources; and, thus,
4. Enhanced processes of collaboration between freshwater experts from the riparian countries (Burundi, DR Congo, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, and Zambia) are required to strengthen scientific and other informational approaches so that positive policy and management of these large freshwater resources can be enacted.

Through a process facilitated by the organization African Center for Aquatic Research and Education, we the members agree to support ACARE in its efforts to facilitate the collaborative processes of freshwater experts on the AGL and globally.

Signed by individual workshop participants

As a relatively new organization, ACARE relies on volunteers to help administer the programs and projects. The four volunteers and a half-time Executive Director are considered the “secretariat” which is advised by a Board of Directors. ACARE’s main program is facilitating the Advisory Groups who are the experts who inform the direction of needs on each of those lakes.

ACARE Secretariat:

- Jess Ives, Director of Operations
- Ben Flavin, Legal Counsel
- Ted Lawrence, Executive Director
- Stephanie Smith, Strategic Advisor
- Ross Shaw, Fundraising Associate & Administrative Assistant

ACARE Board of Directors:

- **Robert Kayanda**, Director, Fisheries Resource Monitoring and Research, Lake Victoria Fisheries Organization, Jinja, Uganda
- **Robert Hecky**, (Board Chair), University of Minnesota Duluth (Emeritus), Large Lakes Observatory, Duluth, Minnesota, USA
- **Kevin O. Obiero**, Centre Director, Kenya Marine and Fisheries Research Institute, Sagana, Kenya
- **Howard Stein**, Professor School of Public Health & Department of Afroamerican and African Studies, University of Michigan, Ann Arbor, Michigan, USA

Special mention: *Those of who have worked on the African Great Lakes, especially Lake Victoria, likely know **Dr. Oliva Mkumbo**. She was one of ACARE’s first board members and helped influence its development. Dr. Mkumbo deservedly retired as the Deputy Executive Secretary of the Lake Victoria Fisheries Organization (and ACARE) in 2018. She has been involved in bi- and mutli-national freshwater lake issues her entire career. We thank her for all of her work, guidance, optimism, and energy on our natural resources.*

The Advisory Groups

Each Advisory Group consists of freshwater experts from each of the African Great Lake's riparian countries:

Lake Edward-Albert Advisory Group*

- Joseph Matunguru, University of Burundi, Doctoral School/LEAF II Project (DRC)
- Mulongaibalu Mbalassa, Official University of Bukavu
- Herbert Nakiyende, National Fisheries Resources Research Institute
- Joyce Nyeko, Department of Fisheries Resources, Uganda
- William Okello, National Fisheries Resources Research Institute
- Maarten van Steenberg, Royal Belgian Institute of Natural Sciences
- Oscar Wembo, Ruwenzori State University (DRC) & Mbarara University of Science and Technology

Lake Kivu Advisory Group

- Charles Balagizi, Goma Volcano Observatory
- Hyangya Lwikicha Béni, Unité d'Enseignement et de Recherche en Hydrobiologie Appliquée, Dpt. de Biologie/ISP-Bukavu
- Fabrice A. Muvundja, Université Catholique de Bukavu
- Deogratias Nahayo, INES-RUHENGERI
- Natacha Pasche, Swiss Federal Institute of Technology Lausanne
- Edouard Rugema, Shema Power Lake Kivu Ltd
- Kisekelwa Tchalondawa, ISP of Bukavu

Lake Malawi/Nyasa/Niassa Basin Fisheries and Aquaculture Network

- Geoffrey Chaluva, University of Malawi - Polytechnic
- Jose Halafo, National Institute of Fisheries Research
- Carlos Jonasse, National Institute of Fisheries Research
- Geoffrey Kanyerere, Deputy Director - Fisheries Research
- Jonathan Kihedu, Tanzanian Fisheries Research Institute
- Peter Limbu, The Nature Conservancy
- Ben Ngatunga, Freelance Ichthyologist
- Maxon Ngochera, Malawi - Fisheries Department
- Antonio Pegado, National Institute of Fisheries Research

*The experts on Lakes Edward and Albert determined it was necessary to have only one Advisory Group for the two lakes due to heavy overlap and ongoing partnerships between experts on each lake.

Lake Tanganyika-Science Advisory Group

- Els Dekeyser, KE Leuven
- Lloyd Haambiya, Ministry of Fisheries and Livestock, Zambia
- Cyprian Katongo, University of Zambia
- Beatrice Marwa, Lake Tanganyika Authority
- Pascal Masilya, CRH-UVIRA (DRC)
- Huruma Mgana, Tanzania Fisheries Research Institute - Kigoma
- Ritha Mlingi, Kigoma Regional Secretariat
- Nshombo Muderhwa, Centre de Recherche en Hydrobiologie CRH Uvira
- Pascal Mwapu Isumbisho, URGEHA-ISP/Gombe, DR Congo
- David Nahimana, University of Burundi
- Gaspard Ntakimazi, University of Burundi
- Harris Phiri Department of Fisheries, Zambia

Lake Turkana Advisory Group

- Abebe Getahun, Addis Ababa University
- Jeppe Kolding, University of Bergen
- James Last, Kenya Marine and Fisheries Research Institute
- John Malala, Kenya Marine and Fisheries Research Institute - Lake Turkana Station
- Kevin Obiero, Kenya Marine and Fisheries Research Institute/ACARE
- Mulugeta Wakjira, Jimma University, Ethiopia

Lake Victoria Advisory Group

- James Barasa, University of Eldoret
- Robert Kayanda, Lake Victoria Fisheries Organization/ACARE
- Lily Kisaka, Lake Victoria Basin Commission
- Mary Kishe, Tanzania Fisheries Research Institute
- Julius Manyala, University of Eldoret
- Modesta Medard, World Wildlife Fund
- Shigalla Mohongo, Lake Victoria Fisheries Organization
- Hillary Mrosso, Tanzania Fisheries Research Institute
- Chrisphine Nyamweya, Kenya Marine and Fisheries Research Institute
- Richard Ogutu-Ohwayo, National Fisheries Resources Research Institute
- Alfred Otieno, University of Eldoret
- Edward Rukuunya, Ministry of Agriculture, Animal Industry and Fisheries
- Anthony Taabu Munyaho, National Fisheries Resources Research Institute

ACARE relies on partnerships to enhance networks, fund activities, and strengthen science on the African Great Lakes. During 2019, the following partners were a key part of ACARE's growth.



Lake Victoria Fisheries Organization



National Fisheries Resources Research Institute



Tanzania Fisheries Research Institute



Kenya Marine and Fisheries Research Institute



The Nature Conservancy



African Centre of Excellence in Aquaculture and Fisheries



Lilongwe University of Agriculture and Natural Resources



IHE – Delft: United Nations Institute for Water Education



Swiss Federal Institute of Technology



UNIVERSITY OF MINNESOTA DULUTH

Driven to Discover

Large Lakes Observatory University of Minnesota



Great Lakes Fishery Commission



ALLIANCE for AFRICAN PARTNERSHIP

Alliance for African Partnership Michigan State University

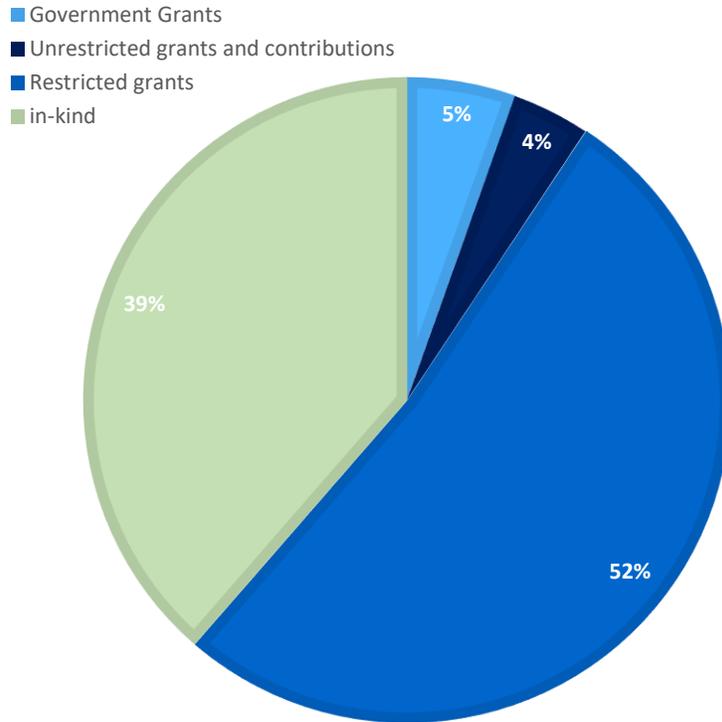


Royal Belgian Institute of Natural Sciences

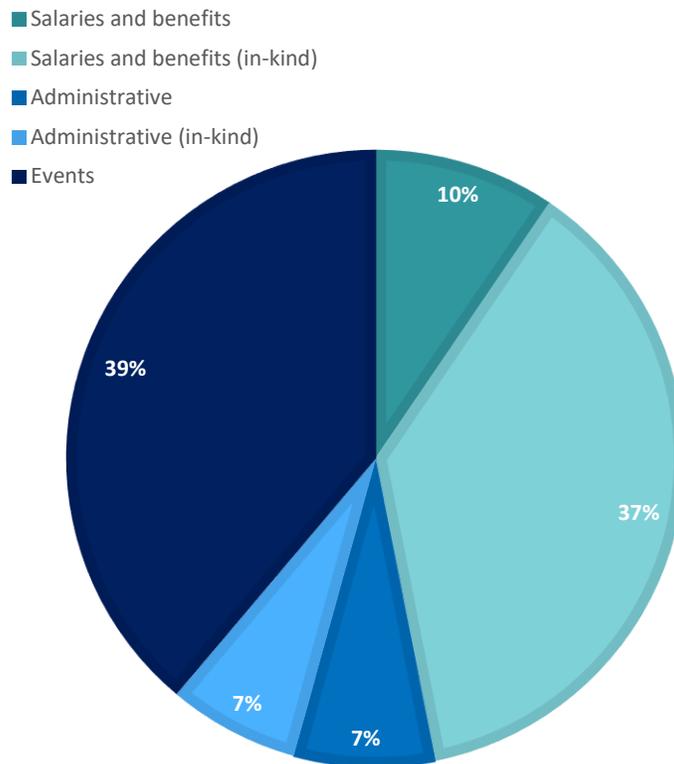
Partnerships

Finances

REVENUES



EXPENSES



ACARE is a young organization with relatively few financial transactions. We, however, will follow the strictest standards of financial transparency to ensure trust and legitimacy. ACARE will fulfill requests for financial disclosure upon request at info@agl-acare.org and post our financial reports on our website.

www.agl-acare.org



The African Center for Aquatic Research and Education, INC. is not-for-profit organization and falls under U.S. tax exempt status under section 501 (c)(3) of the Internal Revenue Code.



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