

YOUTH FOR BIRDS IN LAKES NAKURU AND ELEMENTAITA



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Executive Summary

From March 2024 to April 2025, a conservation education project was implemented around Lake Nakuru and Lake Elementeita—two critical ecosystems in Kenya’s Rift Valley recognized as Important Bird Areas (IBAs) and Ramsar Sites that collectively host over 600 bird species, including the Near Threatened Lesser Flamingo and other globally significant birds. Supported by the African Bird Club, the initiative reached 20 schools within a 10 km radius of the lakes, aiming to educate 1,000 students and train 24 teachers in bird conservation, establishing four school-based bird clubs, and install bird feeders and bird-watching stations ("bird hotels") to promote ongoing engagement. The project unfolded in three phases: stakeholder engagement, interactive environmental education through lectures, films, and field activities, and the installation of conservation infrastructure, with educational materials sourced from platforms like eBird. Activities such as birdwatching excursions and an art competition further inspired student participation, while partnerships with the Wildlife Clubs of Kenya helped anchor the bird clubs within a broader conservation network. Despite logistical challenges posed by remote locations and poor road conditions, the project successfully fostered awareness and stewardship among youth, laying the foundation for long-term sustainability through continued support, curriculum integration, and collaboration with conservation partners.

CHAPTER ONE: INTRODUCTION

1.1 Project area

Lake Nakuru

Lake Nakuru is located at 36° 05' E, 0° 24' S; and lies within the Nakuru City boundaries about 2 km south of Nakuru City and forms the center piece of Lake Nakuru National Park.

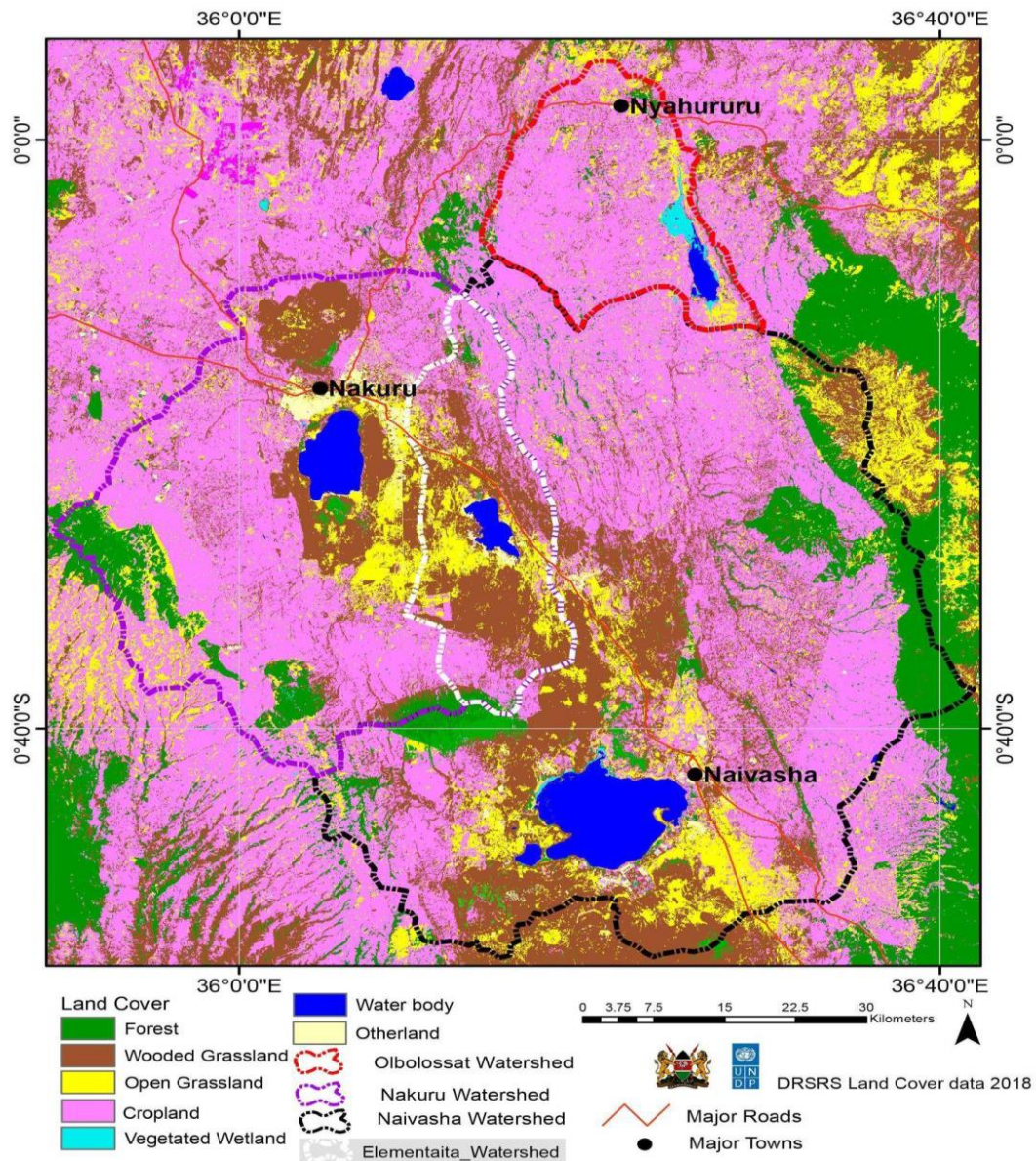


Figure 1: Map showing project area

Lake Nakuru National Park was designated as a UNESCO World Heritage Site in 2011 because of its outstanding universal value.

In addition, Lake Nakuru was designated as Kenya's first Ramsar site (Wetland of international importance) in 1992, following the Kenya ratification of the Ramsar convention in 1990. The lake is internationally renowned for hosting the largest population of Lesser Flamingoes worldwide – what has been described as “the world's greatest ornithological spectacle”. The Park was designated as an international bird sanctuary in 2009, becoming the first national park in Africa to be recognized as an Important Bird Area under the international IBA program.

The Lake Nakuru basin contributes a lot to the national economy through tourism and wildlife, agriculture, livestock, forestry, fisheries, mining, industry, commerce, research and conservation activities. In tune with all these activities, environmental problems in Lake Nakuru basin are diverse. These include the existence of heavily contaminated areas (e.g., the former, current and illegal dumping sites), discharge of heavily contaminated industrial waste water and solid waste, inadequate sanitation services, agrochemical use, deforestation, soil erosion, and ecological changes. In addition, in the past decade, the water levels in the lake have risen significantly leading to unusual hydrologic and limnology changes. The increasing water levels in Lake Nakuru has led to changes in water quality parameters through dilution hence the introduction and survival of the reported fish species that are known to be freshwater namely: Nile tilapia (*Oreochromis niloticus*), Blue spotted tilapia (*Oreochromis leucostictus*) and Victoria tilapia (*Oreochromis variabilis*). The majority of the local community members have now resulted in fishing as an alternative source of livelihood.

Lake Elementaita

Lake Elementaita is a shallow alkaline lake (1,800 ha; maximum depth 1.9 m) lying on the Rift Valley floor. It is fed by the Kikopey hot springs at its southern end, and two small streams, the Meroronyi and Kariandusi, flowing from the eastern plateau. The surrounding landscape is characterized by dramatic rocky faults, volcanic outcrops and cones. Rainfall is erratic and averages less than 600 mm/year. To the east, the lake is flanked by small-scale agriculture, while several large ranches surround the remainder.

The northern and south-eastern lakeshores are open and flat, a spectacular cliff rises to the northeast, and the western shores are broken and rocky. The natural vegetation is mainly *Acacia* and *Tarconanthus camphoratus* bushland interspersed with *Themeda triandra* grassland. Patches of *Acacia xanthophloea* woodland occur near the shore and formerly covered a large area south of the lake. The IBA consists of the lake and its surrounding shoreline, including the hot springs and the cliffs, and the Soysambu Wildlife Sanctuary (5,400 ha), part of the Delamere

Estate, that abuts the lake to the north and west. (Birdlife, 2015). Lake Elementaita has also been designated as one of the wetlands of International Importance (Ramsar sites) in Kenya since 2005 (Kenya Wetlands Forum).

1.2 Conservation Status

Lake Elementaita and lake Nakuru are globally recognized as an Important Bird Area due to the assemblage of various birds of conservation concern such as the threatened, range-restricted Grey-crested Helmet-shrike (Near threatened) which occurs in the surrounding woodland where it may be resident (Bennun and Njoroge, 1999). Other birds in this area include Lesser Flamingo (Near threatened), Jackson's Widowbird (Near threatened), African Crowned Eagle (Near threatened), Greater Spotted Eagle (Vulnerable), Martial Eagle (Vulnerable) and Whiteheaded Vulture (Vulnerable) (Bennun and Njoroge, 1999).

The two lakes also sustain significant populations of over 100 species of Palearctic migratory birds by offering a vital wintering ground for them making this one of the greatest ornithological spectacles on earth.

In addition, the two lakes support one of the major breeding colonies of the Great White Pelicans in the world and forms part of the Great Rift Valley migratory flyway system for migratory birds (African World Heritage Sites, 2011).

Project Goal

Project overall goal was educating the youth and young conservationists through opening up an important new way for environmental awareness learning and activities.

The program was designed to be an educational resource for teaching bird identification studies through the establishment of bird feeders,

The purpose of the project was not only to help in the conservation of birds' habitats but also make ornithology recognized as part of the daily lessons in the schools

Specific objectives

Educate pupils/students about threatened avifauna around Lake Elementaita- Lake Nakuru

1. Initiate Birds clubs with bird identification as the underlying key activity.
2. Create a knowledgeable and skilled young generation that's able to effectively and sustainably contribute to conservation of birds and their habitat in Kenyan 2 Ramsar Site lakes.
3. Establish Bird feeders in 4 schools.

4. Instil bird's conservation knowledge to 1000 students and 24 teachers,
5. Develop school site specific education materials for awareness creation.

Project target outputs

1. Reach out to 1000 students with birds and conservation education
2. Train 24 teachers as trainers of trainers on bird's ecology and habitat conservation
3. Establish bird clubs and birds feeders in 4 schools
4. Develop and distribute Education leaflets of bird list found in the area to 20 schools
5. Prepare a comprehensive project report at the end of the project

CHAPTER TWO:

2.0 METHODS

2.1. Pre-visit

In preparation for the program several telephone calls were made with relevant schools to be visited. The team made a three-day pre-visit to where the GPS co-ordinates where possible, of the schools and the general location of the schools were recorded.

2.2. Birds Conservation and Education Outreach

During the awareness programs twenty schools not far that 10Km from the 2 lakes catchment areas were visited schools. The time spent in each school varied due to the time allocated and the number of students. In schools with high populations schools, the team spent 3-4hrs whereas in the lowly populated schools 2- 3hrs.

The outreach program involved Environmental conservation education talks and lectures focusing on Conservation of the avifauna, and importance of creating bird spaces in the schools. The talk was delivered alongside a video of *Life of Birds by David Attenborough* that sensitized more the theme and enhanced their knowledge of the bird.

The students were too sensitized about the two wetlands; the importance of avifauna found in and around the wetlands and the problems they face due to habitat degradation.





2.3. Establishment of bird's clubs.

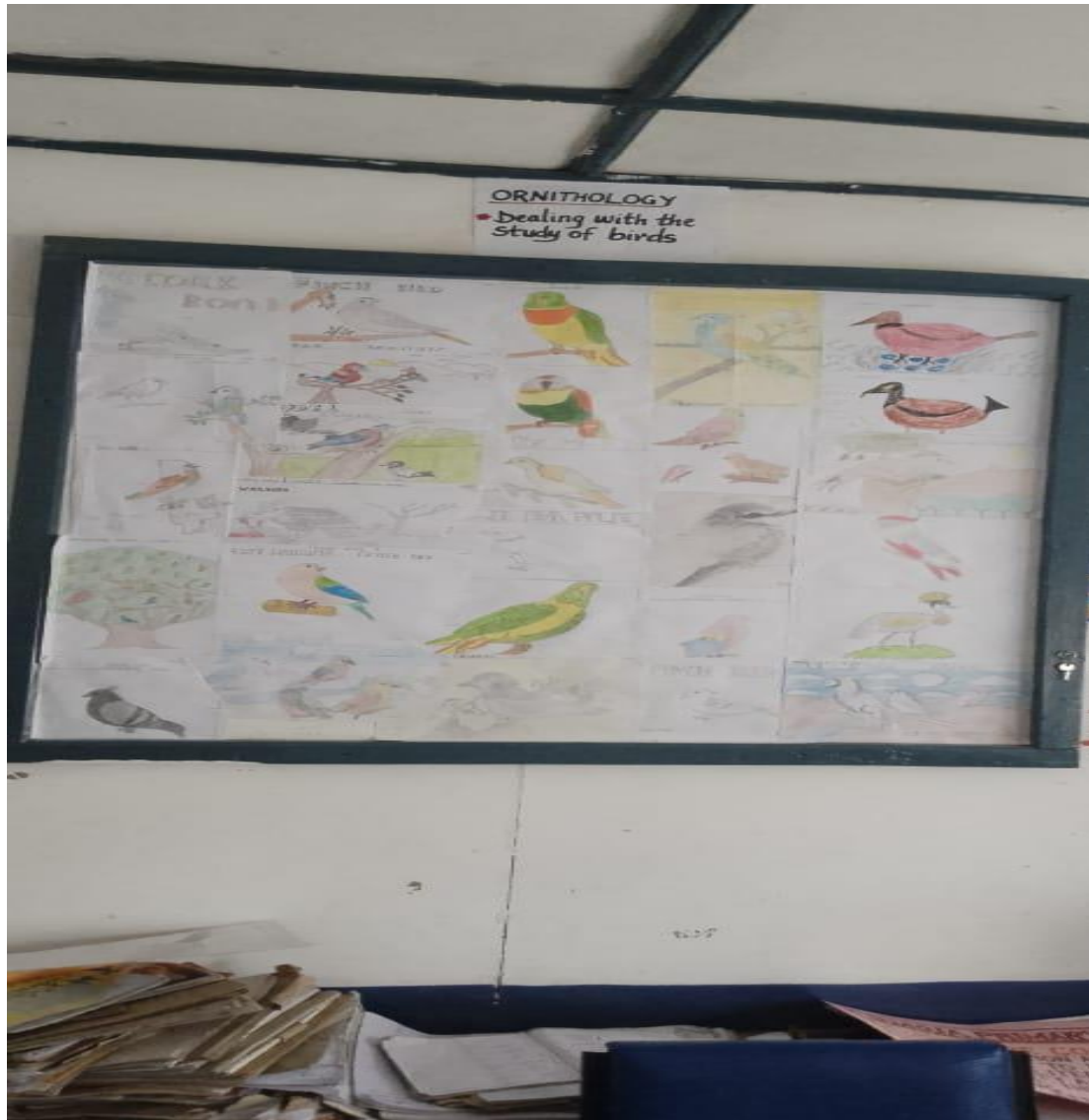
The team visited 4 schools for the establishment of bird club; and issued them with conservation education materials.

The aim of bird club was primarily to create environmental conservation awareness through Spreading interest and knowledge about wildlife and environment, creating awareness of the greater economic, cultural and aesthetic value of bird habitat and inculcating a better understanding of the need to conserve national resources.

In addition, the bird club was intended to create and garner the goodwill, support and loyalty of teachers, pupils and students, towards environmental conservation and awareness activities.

The activity was not only geared towards rejuvenating the interests of avifauna but also to quench the thirst of knowledge and understanding on environmental conservation in light of the increased damage to our surroundings because of increased human population, habitat loss and degradation due to human activities, deforestation and illegal settlement schemes in wild areas.

It also gave us an avenue of opportunity to share Information through giving out conservation related materials The team also emphasize importances of birds in the minds of learners and the realizations of the core mission of providing conservation education to the youth and supporting the club through training, information sharing and advocacy.



Birds Club Notice Board in one of the schools

2.4 Ornithology training

The trainings were conducted alongside the Mobile environmental outreach program

The newly established bird club members were trained on how identify local birds, their feeding behaviors and morphology, and how to help learners design simple, easily implemented projects to preserve bird habitats.

Students and teachers were trained with information from real scientific studies through Ebird (<http://www.ebird.org>).

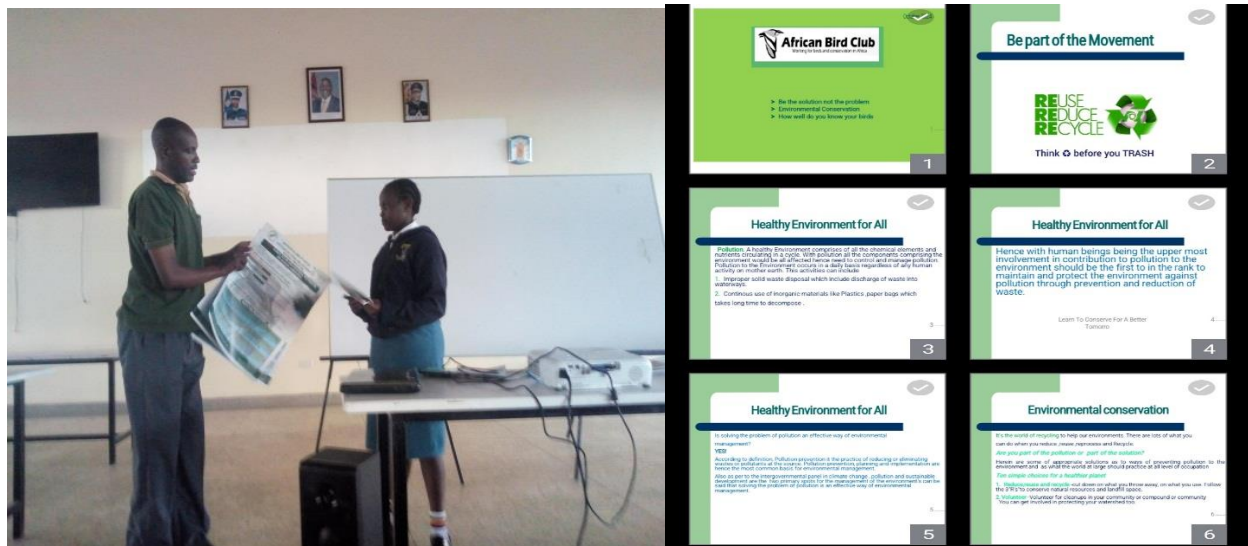
There was also a theoretical introduction to bird watching techniques on how to use binoculars and guidebooks.

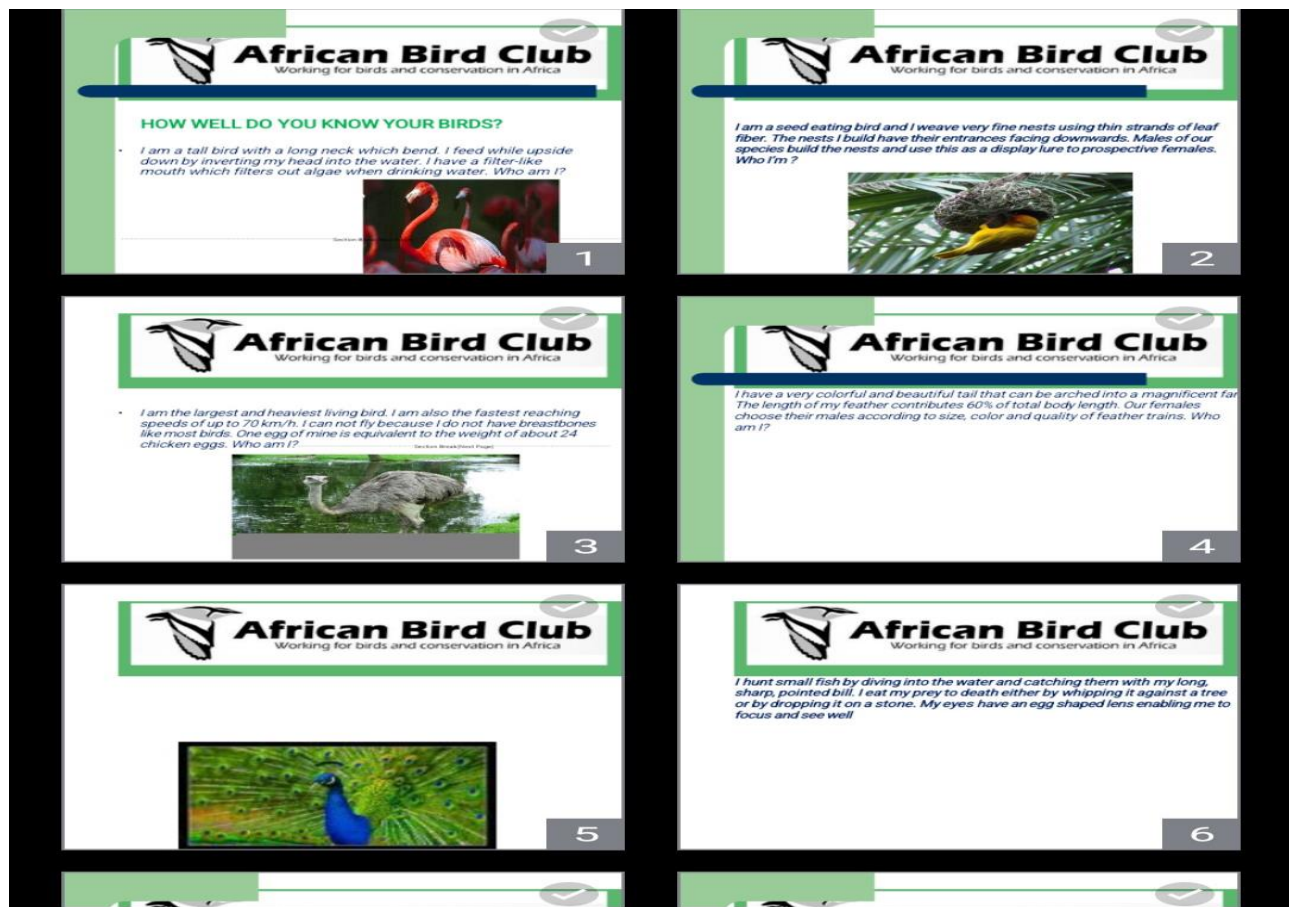
2.5. Educational materials

Educational materials containing environmental information on Lake Elementaita, and Lake wetlands, their biodiversity and importance were distributed to the schools to facilitate the learning process.

Previously school community members did not have access to education materials about the two wetlands. This inhibited their comprehensive understanding of the status, as well as the threats facing the two lakes ecosystem.

The project addressed this limitation by distributing the education materials to the schools.





Sample of the Education Material

2.6 Bird Excursion

After class bird viewing excursions were preceded by a talk on common birds found the vicinity. The student was divided into small groups and guided on the use of binoculars and the use on field bird guidebooks. Common plants and other fauna that they came across were also identified, as well as the interconnectedness between the plants, animals and the wetland.

The importance of birds to people and to the environment, especially as disturbance indicators and the threats they face due to degradation were also highlighted during the walks.

The students participated in take-home worksheets where they record their observations of their local birds and bird habitat and draw them as part of the art competition



A pupil using a binocular as she look on the perch for the purple grenadier

2.7 Art Competition

In May 2024, the project team held an art competition, each school was requested to let the bird clubs' members to draw the birds they had seen in the school compound. 170 entries were received and the winning entries are below can be seen below.

The drawings were from students aged 8 years old or 16 year. The gist of the competition was for them to draw their favorite bird they have seen in school compound.



Sample of the art entries

2.6 Establish Bird Hotels-

The project developed bird feeders and watering points for the birds. The bird club members planted tree and flowers sites.

The purpose of the establishment of bird feeders and watering point is to provide a practical approach to a modified environment that allow more attraction to birds and bird watching for the school community, encouragement of the practicing of the above activity in their homes and act as demonstration for the other community members



The pupils with one of the bird feeder



The bird feeder



Water bath

3.0 RESULTS/OUTPUTS

3.1 Awareness Creation

During this project, the project team interacted with 1180 pupils and students from 20 schools and 24 teachers

Using various approaches, the teachers and students were trained and sensitized on bird identification, threats and ways of conserving the bird habitat.

During the interaction session the theoretical lessons and practical lessons were introduced to the learners with particular emphasis on safeguarding the environmental integrity of the two lakes.

Bird Identification also formed part of the practical lessons including the use of vocalization, coloration, feeding habits, and habitats utilization.

Pupils and students in the program were guided in the identification of the common birds found in the school compound and the various habitats. The main aim being to develop simple bird list of each school

Below is a table indicating the order of visits to the schools for the program and the total number teachers and students/pupils reached.

Name of the School	No. of Pupils	No. of Teachers
Narianta Primary School	220	6
Itherero Primay School	200	5
Kamungei Pry School	180	4
Kanorero Primary School	380	6
Kapkures Primary School	300	4
<u>St. Johns Primary School</u>	250	6
Kianjoya Primary	200	5
Kianjoya Sec School	280	2
Kiboko Primary	100	6
Kiunguria Primary School	200	4
Kiungururia Secondary	150	3
Umoja Pry School	200	5
Maria Veronica Girls	300	6
Mbogo Primary	200	6
Mburu Gichua Primary	250	4
Mirindu Primary	280	5
Miti Mingi Sec School	300	4
Miti Mingi Secondary	200	5
Nderit Primary School	150	4
Njoro Pry School	120	3

3.2. Establishment of Bird Clubs

Four school bird clubs were established, forming a grass-root of conservation network. The formation of bird clubs' network is key to the project sustainability. This network is associated to the Wildlife Clubs of Kenya and will be used by other conservation organizations or conservationist who plans to undertake any conservation work in the two lakes ecosystem.

Through the clubs, students gained knowledge about wildlife, especially the avifauna and plants found in their surroundings and their interdependence with the two lakes. They also gained understanding of the threats facing the two lakes that include habitat degradation through sand harvesting, irresponsible waste disposal/pollution and excessive abstraction of water and how to effectively protect this Environment in the long term. This was enhanced during the interactive lectures and also during the walks where these threats were witnessed.

The 4 schools had no environmental clubs. Through the activities of this project, especially birding influenced the formation of bird club thus guaranteeing sustainability.

The project also engaged learners in field equipment including binoculars and guidebooks in bird identification. This exercise also played a subsidiary role for the students to appreciate the value and importance of the equipment in field work and created enthusiasm for the need for continuous bird monitoring.

3.3 Conservation Outputs and Outcomes

- ☐ The learners learned how to identify birds, and bird habitat as well as be able to identify threats to birds and their habitat,
- ☐ The students acquired the necessary skillset needed to participate in local conservation efforts and expand their experience and knowledge.
- ☐ As teachers and students learn about their local birds, they will be more supportive of programs that protect birds and their habitats.
- ☐ The project was so popular that schools continued to request for the birding activities and the positive outcomes from the grants has- allowed us to incorporate funding for this activity into grants submitted to other conservation benefactors.
- ☐ The new knowledge and skills learned will lead to appreciation toward birds, students and teachers will engage local communities and encouraging decisions and actions that support conservation
- ☐ The project helped in restoring the environment and creating a micro-habitat for wildlife including birds that depend on the trees for foraging, roosting and nesting through tree growing initiatives
- ☐ The learners also took part in tree planting activities in their schools. Flowering trees and flowers were planted

3.4 Lesson learnt from the Program.

A few opportunities exist for this program to be replicated and scaled up in this region

- The program developed a good rapport with the schools' administration.
- The success of the program was further enhanced by support from the bird club patrons.

- The program provided the capacity to form bird clubs in schools during the program.
- An avenue to share and distribute educational materials to the schools visited.
- Means to assess eligible schools for micro- eco-projects.
- An avenue to strengthen conservation education and awareness of schools in the two lakes.

Challenges

Majority of the schools targeted were in very remote locations and accessibility during the rainy season was difficult. We got stuck on several occasions and therefore leading to delays in executing the programs. The extreme cold weather was a challenge to the team but eventually managed to overcome.

Recommendations

The program has a high potential of being scale up to the other school neighboring the rift valley

There is need to increase the training programs for teachers on environmental matters as teachers are the link between the community and the environment

Conclusion

The Lake Elementaita ecosystem has characteristic open access thus it at a high risk of degradation and overextraction by the local community.

The forms of over-exploitation and degradation of the lake include sand harvesting, irresponsible waste disposal, pollution and excessive abstraction of water, overgrazing, farming and harvesting of firewood and other natural products (Mwendwa et al. 2015).

Through awareness program to the students and pupils, gained the understanding on the importance of the two lakes and the effects of the above risky activities to the lakes basin and all that depends on it.

Through the project we emphasized conservations initiatives that the newly formed bird club can do in schools that will enhance or influence their vibrancy

The methodology deployed in this project gave Learners a chance to gain more knowledge on environmental issues, learn and appreciate their biodiversity and also equipped them with skills on observing, collecting and monitoring data against the threats.

The discussions featured issues affecting the two lakes and created a platform for the students to ask questions and engage in the discussion. The nature walks allowed them to connect and appreciate nature, learning about the biodiversity found within their school and around the lake as well as how to use the field equipment.

Documentaries further augmented their knowledge and need to protect and care for their environment and biodiversity found in their areas with posters and magazines being long term references for more environmental information.

Acknowledgements

This program was made possible through the generous support of the African Bird Club (ABC) Small Grants for Conservation. Their financial contribution enabled us to reach a wide number of young people with bird and environmental education programs, raising awareness and empowering them to take part in bird conservation and protection efforts.

Special thanks go to the school administrations and teachers who not only permitted but actively participated by accompanying students during outdoor sessions. Their continued support for birding activities within their institutions is both commendable and deeply appreciated. Soysambu conservancy, and the wildlife Clubs of Kenya for accommodating the four school as their registered members

Most importantly, heartfelt gratitude goes to the dedicated project team, whose time, energy, and personal resources were invaluable to the success of this initiative. The future of bird conservation is not just hopeful, it's already here, binoculars in hand.

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