

POLICY BRIEF, SEPTEMBER 2026

From Evidence to Action: Advancing the Conservation and Sustainable Management of Lake Ol Bolossat Ecosystem



EXECUTIVE SUMMARY

Lake Ol Bolossat is a unique yet highly vulnerable wetland ecosystem in Nyandarua County, Kenya. It supports exceptional biological diversity, sustains over 2 million livelihoods, and underpins downstream water security within the upper Ewaso Ng'iro Basin. However, the ecosystem faces several threats from ecological alien invasive species, catchment degradation, governance gaps and unsustainable exploitation. Despite legal frameworks designating it as a Wetland Protected Area (2018) and a Catchment Protected Area (2023), a recent Management Effectiveness assessment scored the ecosystem at a critically low 41.46%. This highlights vital gaps in enforcement, implementation, financing, and community integration. At the same time there are several opportunities for turning the ecosystem into a sustainably managed ecosystem. This brief outlines strategic policy requirements to shift from evidence to action, securing the ecosystem's future, promoting wise use, improve participatory governance and advancing its path toward designation as Kenya's 7th Ramsar Site.

1. Introduction

Lake Ol Bolossat is Kenya's highest-altitude lake of its size and the only natural lake in the Central Highlands, situated in Nyandarua County within the upper Ewaso Ng'iro Basin. The lake, along with its surrounding network of rivers, springs, forests, and grasslands, forms a highly interconnected ecosystem. Lake Ol Bolossat is a designated Important Bird and Biodiversity Area (IBA) and Key Biodiversity Area (KBA), reflecting its importance as a critical habitat that supports a rich diversity of flora and fauna. The benefits of this catchment extend far into the downstream arid and semi-arid lands (ASALs) of Laikipia, Samburu, Isiolo, and Wajir counties supporting diverse ecological and livelihood systems.

This policy brief builds directly upon new scientific evidence generated through the project '*Unlocking Biodiversity Data to Facilitate Designation of Lake Ol Bolossat as the 7th Ramsar Site in Kenya*' (2023–2026). The project implemented collaboratively by the East African Wildlife Society (EAWLS), Wangari Maathai Institute for Peace and Environmental Studies (WMI-UoN) and the Wildlife Research and Training Institute (WRTI), conducted biodiversity and socio-economic studies to support listing of the lake as 7th RAMSAR site, along with Management Effectiveness Tracking Tool (METT) evaluations and tracking of implementation of Integrated management plan. The objective is to guide actionable governance interventions and accelerate the full implementation of the Lake Ol Bolossat Integrated Management Plan (IMP) 2023–2033.



Calceolaria tripartita

Photo by Paul Kiria



Myriostoma cf. coliforme

Photo by Mary Mureithi



Kinangop dainty frog (endemic)

Photo by Daniel Lipack



Sharpe's Longclaw

Photo by George Njiru



Tawny Eagle (*Aquila rapax*)

Photo by Jacques de Spaville



Red-veined darter dragonfly



Kenyan striped skaapsteker

Photo by Vincent Mwangi

2. Why Lake Ol Bolossat Matters

1. Exceptional Reservoir for Global Biodiversity

The project's scientific biodiversity inventory confirmed remarkable ecological richness:

- **Taxa Accounted:** 518 plant species, 278 fungi, 206 invertebrates, 162 birds (total estimated species between 200–375), 17 herpetofauna (amphibians/reptiles), 4 fish species and 7 mammals.
- **Endemism & Scientific Milestones:** Discovery of *Calceolaria tripartita* (believed to be the first record of this species in Africa), 1 fungal species newly recorded in Kenya (*Myriostoma cf. coliforme*), 5 endemic amphibians, and 2 endemic grasshopper species.
- **Species of Conservation Concern:** 24 bird species of high conservation interest, including the endangered Grey Crowned Crane (*Balearica regulorum*), Sharpe's Longclaw (*Macronyx sharpei*), and Tawny Eagle (*Aquila rapax*). It serves as a vital corridor for 20 Palearctic and 2 intra-African migratory bird species.

II. Sustenance of Livelihoods and Regional Hydro-systems

The ecosystem acts as a critical socio-economic anchor supporting over 2 million people across the basin. It supplies essential fresh water, provides critical dry-season grazing areas, support rich agricultural resources, and local fisheries. Because it acts as the primary headwater source for the Ewaso Ng'iro River system, any changes to Lake Ol Bolossat's water security directly compromise downstream populations livelihoods, livestock herds, and wildlife habitats in Laikipia, Samburu, Isiolo, and Wajir.

3. Threats to Lake Ol Bolossat Ecosystem

Unregulated anthropogenic practices and climate vulnerability have combined to create an escalating ecological deficit. Key drivers include:

- **Agricultural Encroachment:** Direct cultivation into vulnerable riparian buffers, causing critical habitat fragmentation and water pollution from agro-chemicals.
- **Catchment Degradation & Siltation:** Soil erosion from surrounding upstream agricultural lands activities filling the lake bed, leading to major structural and subsequent ecological changes.
- **Pollution:** Discharge and runoff from agricultural activities, settlements and other human activities introduce pollutants into the lake, degrading water quality and potentially affecting aquatic organisms, water-dependent wildlife and the ecological functioning of the ecosystem
- **Over-Abstraction of Water:** Unmonitored and extensive upstream water extraction for crop



irrigation, impacting ecosystem services and downstream support services.

- **Poaching & Wildlife Exploitation:** Systematic illegal collection of birds eggs for species like endangered Grey Crowned Crane populations and Egyptian Goose eggs as well fishing
- **Encroachment:** Systematic encroachment by settlement and authorized buildings complicating sustainable ecosystem management
- **Land Use and Land Cover Change:** Changes in land use around L. Ol Bolossat have contributed to declines in open water, macrophyte, tussock and forest cover since 1973, with negative implications for biodiversity

4. The Compliance and Enforcement Gap

A core finding of the project is the wide divergence between formal legal status and operational reality. While the lake was designated a Wetland Protected Area (2018) and a Catchment Protected Area (2023), the objective Management Effectiveness Tracking Tool (METT) assessment returned a score of just **41.46%**.

This score reflects operational deficiencies across five key pillars: weak legal enforcement mechanisms, severe institutional resource constraints, minimal ongoing field monitoring, insufficient inclusive community participation, and the complete absence of long-term sustainable financing frameworks.

5. Call to Action - Recommended Framework

Strategic Pillar	Priority Action
1. Governance, Legal Protection & Institutional Co-ordination	• National Reserve Gazettement: Fast-track the gazettelement of L. Ol Bolossat as a National Reserve to establish clear institutional mandates and enforcement authority for its protection and management • Ramsar Site Fast-Tracking: Accelerate coordination with the relevant government agencies to complete Kenya's 7th Ramsar site designation. • Inter-County Caucus: Formally establish a transboundary resource governance body linking Nyandarua, Laikipia, Samburu, Isiolo, and Wajir Counties • IMP Funding: Bridge the 41.46% METT gap by fully budgeting the Integrated Management Plan (2023-2033).
2. Catchment Conservation, Restoration & Enforcement	• Riparian Regulations: Fast-track riparian reserve regulations and support county adoption to strengthen riparian protection within the L. Ol Bolossat ecosystem • Spatial Planning: Implement the Nyandarua County Spatial Plan (2020-2030) to strengthen riparian protection and guide sustainable land use within the L. Ol Bolossat catchment • Erosion Controls: Promote soil and water conservation measures, including strip farming, to reduce erosion and siltation • Springs and Streams: Protect and restore springs and streams feeding L. Ol Bolossat to sustain water inflows and support aquatic biodiversity • Sustainable Landscapes: Scale up community-led ecosystem restoration around L. Ol Bolossat using indigenous species matched to ecological sites, supported by effective monitoring mechanisms
3. Biodiversity and Ecosystem Conservation and Management	• Strengthen Community Institutions: Strengthen Water Resource Users Associations (WRUAs), Community Forest Associations (CFAs) and the Beach Management Unit (BMU) in governance, resource mobilisation, partnership engagement and community participation to enhance conservation and effective stewardship of L. Ol Bolossat • Monitoring Using Citizen Science: capacity build citizens to collect, interpret, track and report biodiversity species cited in the lake ecosystem.

Strategic Pillar	Priority Action
3. Biodiversity and Ecosystem Conservation and Management	• Invasive Alien Species: Report new alien species, promote their management and encourage removal from the lake and surrounding landscapes using evidence based removal methods. • Support Conservation in Learning Institutions: Establish and strengthen school-based environmental education and awareness programmes to build knowledge and conservation values among learners for longterm stewardship of L. Ol Bolossat.
4. Community Livelihoods & Sustainable Finance	• Payment for Ecosystem Services (PES): Implement downstream-to-upstream structural compensation frameworks for ecosystem mutualbenefits. • Nature-Based Enterprises: Incubate community-owned eco-tourism ventures and other nature-based enterprises, and ensure equitable benefit sharing • Conservation Agriculture: Transition catchment agriculture to agro-ecology models for health ecosystem and livelihoods to minimize negative impact to the lake ecosystem • Sports Tourism: Strengthen the L. Ol Bolossat Marathon as a conservation and sports-tourism initiative, with mechanisms to channel proceeds towards priority conservation and sustainable livelihood actions, supported by transparent reporting • Clean Energy: Enhance access to affordable, clean and energy-efficient technologies in communities and schools to reduce reliance on biomass and pressure on the L. Ol Bolossat ecosystem

6. Recommended Citation: East African Wild Life Society (EAWLS), Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi (WMI-UoN), and Wildlife Research and Training Institute (WRTI). 2026. From Evidence to Action: Advancing the Conservation and Sustainable Management of Lake Ol Bolossat Ecosystem. Nairobi, Kenya.

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b) Government of Kenya (2020). *Lake Ol Bolossat Integrated Management Plan (2023-2033)*. ISBN 978-9914-9940-8-7

7. Acknowledgement

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c) Kirika, P. M., Muchane, M. N., Muchai, V., Muthoni, I., Njoroge, L., Ndithia, H., Gathua, J., Odeny, D., & Kinyua, C. (2026). *Lake Ol Bolossat Rapid Biodiversity and Socioeconomic Assessment Report: Supporting the Designation of Lake Ol Bolossat as Kenya's 7th Ramsar Site* (Thenya, T., Okumu. J. & Mukaindo, A., Eds.). East African Wild Life Society and Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi. ISBN 978-9914-29-018-9

8. Further Reading

a) East African Wild Life Society, Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi, & Wildlife Research and Training Institute. (2026). *Assessment of*

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