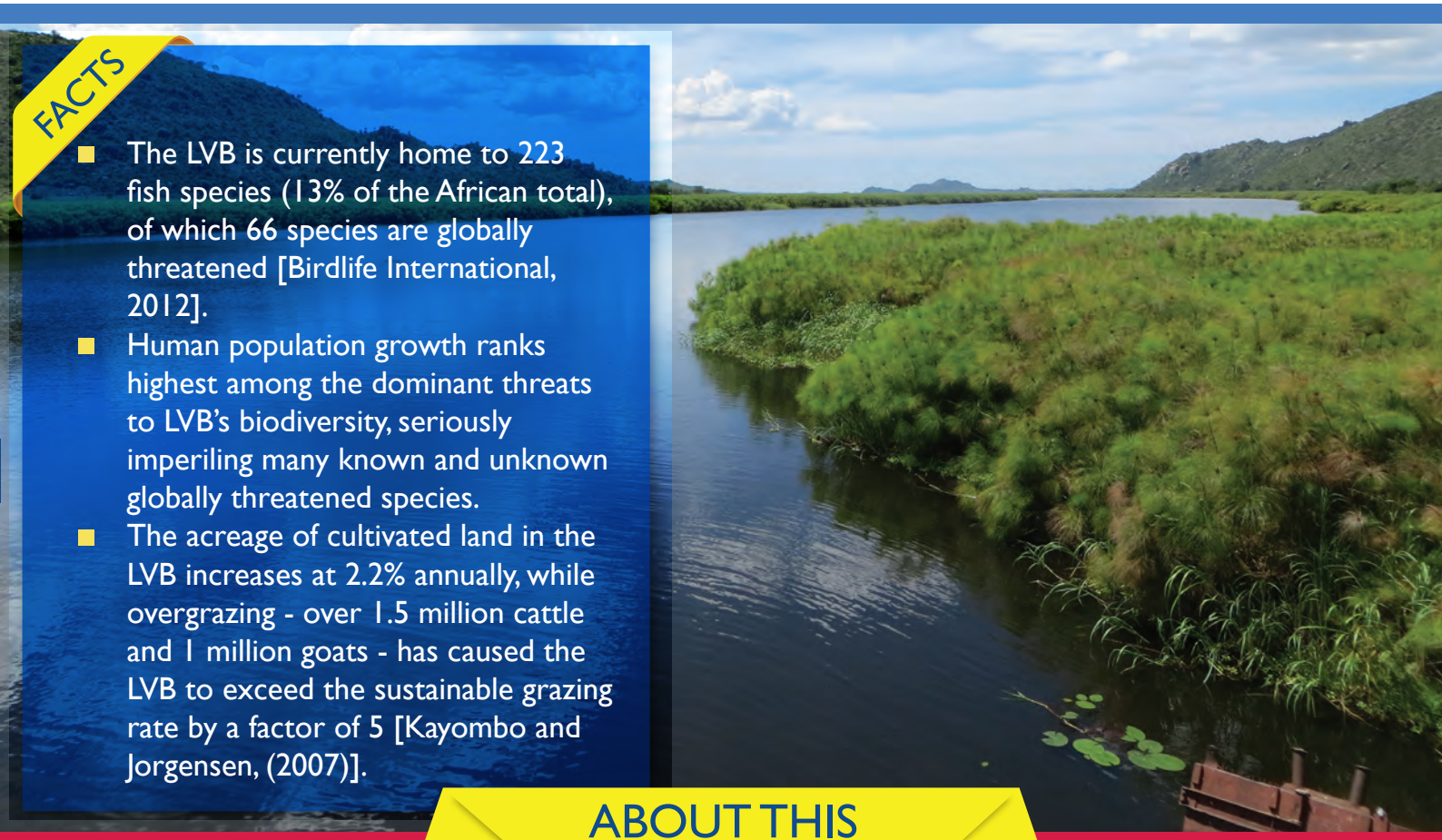
POLICY BRIEF

PLANNING FOR RESILIENCE IN EAST AFRICA THROUGH POLICY, ADAPTATION, RESEARCH AND ECONOMIC DEVELOPMENT (PREPARED) PROJECT

LAKE VICTORIA BASIN ECOSYSTEM PROFILE ASSESSMENT



FACTS

- The LVB is currently home to 223 fish species (13% of the African total), of which 66 species are globally threatened [Birdlife International, 2012].
- Human population growth ranks highest among the dominant threats to LVB's biodiversity, seriously imperiling many known and unknown globally threatened species.
- The acreage of cultivated land in the LVB increases at 2.2% annually, while overgrazing - over 1.5 million cattle and 1 million goats - has caused the LVB to exceed the sustainable grazing rate by a factor of 5 [Kayombo and Jorgensen, (2007)].

ABOUT THIS POLICY BRIEF

This policy brief provides a summary of the key messages from the Ecosystem Profile Assessment (EPA) undertaken by the Planning for Resilience in East Africa through Policy, Adaptation, Research, and Economic Development (PREPARED) Project for the Lake Victoria Basin (LVB). PREPARED is funded by the U.S. Agency for International Development (USAID)/Kenya and East Africa and aims to strengthen resilient and sustainable management of biologically significant ecosystems in the East African Community (EAC) and its five Partner States. The EPA provides technical experts and policy makers with a summary of the terrestrial and freshwater biodiversity resources within the LVB and the most critical threats to these resources. The EPA also identifies an initial set of priorities for conservation interventions in biologically significant areas (BSAs) in the basin. This report will support informed policy decision-making in the planning, development and management of the natural resources in the region.

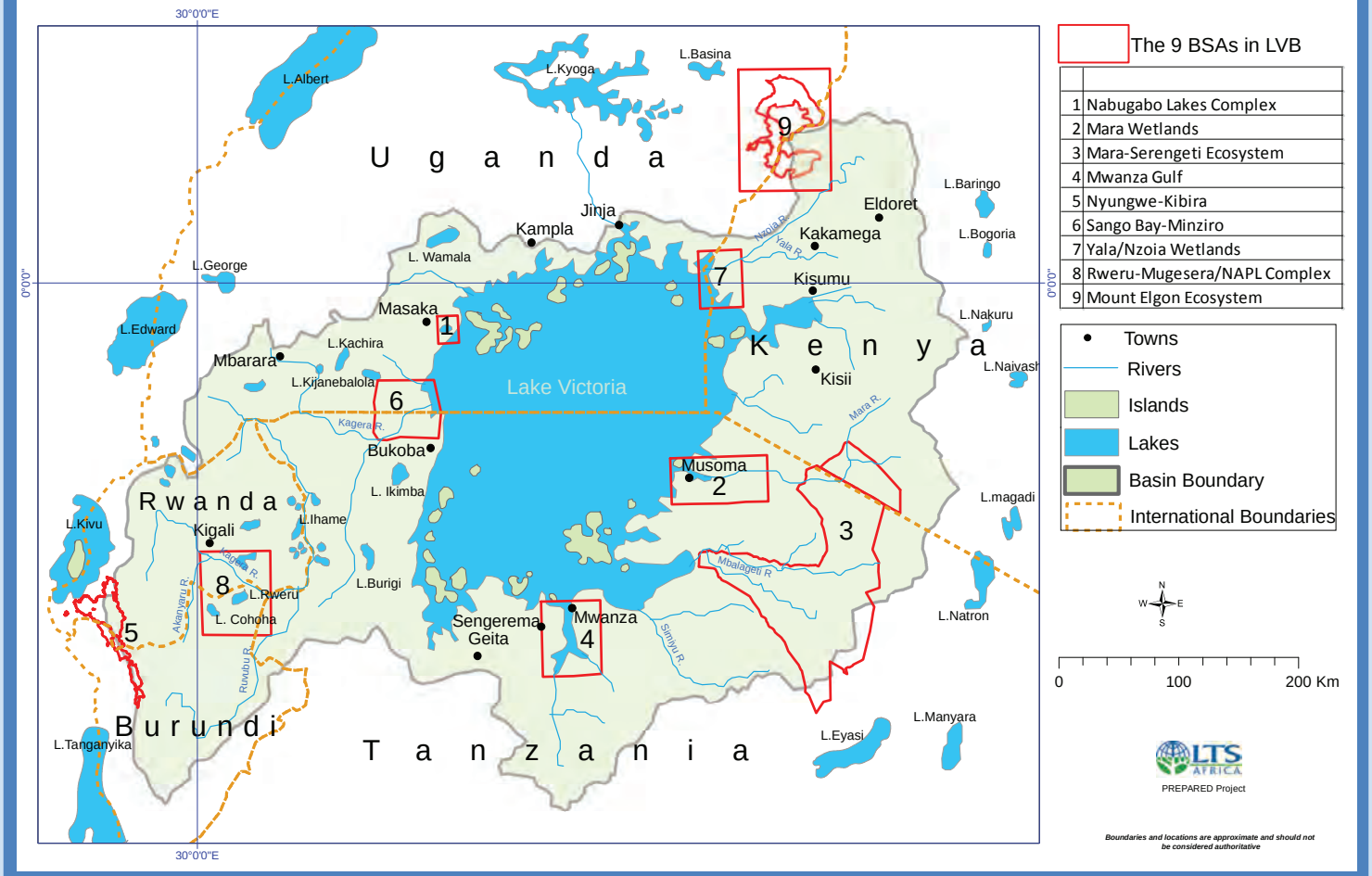
THE LAKE VICTORIA BASIN

The LVB encompasses the second largest fresh water body in the world, Lake Victoria, and is home to a large number of high conservation value sites, ranging from the wetlands around the lakeshores, to the highland forests on the outer edges in Kenya, Uganda, Rwanda and Burundi. The LVB is home to diverse range of wildlife including large mammal populations; endangered species, such as the elephant and rhinoceros; and over 530 bird species, including the rare Shoebill (*Balaeniceps rex*) and Blue Swallow (*Hirundo atrocaerulea*).

The BSAs in the LVB fall under varying levels of land tenure and protection including state owned land, community owned land, national parks, forest reserves, game reserves and RAMSAR sites. While both national and regional efforts are ongoing to protect and conserve the LVB, population growth critically stresses its ecosystem. It is estimated that about 30 million people live around the lake, which is approximately one third of the total population of the East African Community (EAC). The majority of these people depend on natural resources to support their livelihoods. Therefore, a delicate balance must be struck between conservation and economic growth in the LVB.

There has been a tremendous loss of biodiversity in the LVB. For example, estimates indicate that Lake Victoria's indigenous fish species have been reduced by 80% and roughly 70% of the forest cover in the catchment area has been lost. The primary threats to biodiversity in the basin include (i) habitat loss through conversion to cropland, urban areas and other human-dominated landscapes; (ii) overexploitation or unsustainable harvesting of economically valuable species, especially fish; (iii) pollution of the water, land, and air; (iv) invasive species, including pests and disease pathogens; and (v) environmental transformation, including climate change. The provision of clean water and support to food production (including fishing) and wood and fiber harvesting rank high among the ecosystem services severely impacted by these threats.

BIOLOGICALLY SIGNIFICANT AREAS (BSAS) IN THE LAKE VICTORIA BASIN



EPA METHODOLOGY & BSA SELECTION PROCESS

Preparation of the EPA was highly participatory, engaging stakeholders at the regional, national, sub-national and community levels. The process started with approval of a scope of work and methodology by the Biodiversity Task Force (BTF) created by Partner States, followed by extensive desk studies, fieldwork and data analysis culminating in the identification of BSAs (See Figure Below).

ECOSYSTEM PROFILE ASSESSMENT DEVELOPMENT PROCESS

1. **Biodiversity Task Force (BTF) approval of Scope & EPA Team**
2. **Desk Study LVB Ecosystem Overview**
3. **BSA Data Collection via Field Visits**
4. **EPA Report approved by LVB Sectoral Council**
5. **Development of Conservation Investment Packages**

The BSA selection process required clear and objective criteria that adequately considered species endowment and ecosystem services, degree of threat, and national and regional importance of key landscapes.

The Project worked with the BTF to define three categories of criteria to select and prioritize the BSAs:

(i) Biodiversity importance, endemic or endangered species or unique regulating ecosystem service;
(ii) Threats, loss of natural habitat, degradation of habitat, invasive species; and
(iii) Regional or national priority for the ecosystem as identified in a recognized policy or directive.

The EPA team collected the best available biodiversity and threats-based data on the BSAs, and prioritized them based on their species, ecological processes, and ecosystem services. The EPA Team conducted in-depth analyses of site-specific studies and habitat assessments; national and regional species listings; and international data sources such as the Key Biodiversity Areas (KBAs) and International Union for Conservation of Nature Red Lists. A total of 100 sites were reviewed, and initially reduced to 95 after combining adjacent national BSAs into transboundary landscapes. Finally, nine BSAs were selected based on the criteria listed above and are illustrated in the table below. The PREPARED Project is supporting conservation activities in six of these BSAs.

NABUGABO LAKES COMPLEX - UGANDA

- 22,000 hectare Ramsar site comprising Lake Nabugabo, 3 satellite lakes and a number of connected wetlands.
- Very low ionic content and nitrogen concentration supports carnivorous plants.
- Boasts up to 300 plant species, 14 of which are only found at this site within Uganda.
- Home to 281 bird species, including 15% of the world's population of the Blue Swallow and 5 globally threatened species

2 MARA WETLAND - TANZANIA

- Located near the mouth of the Mara River, Mara Wetland covers approximately 51,700 hectares when seasonally flooded.
- Globally significant wetland that lacks formally recognized protection status.
- Contains 30 species of mammals and 14 fish species
- Home to 81 terrestrial bird species, several of which are endemic and/or endangered.

3 MARA - SERENGETI ECOSYSTEM - KENYA AND TANZANIA

- The Serengeti National Park and Maasai Mara National Reserve occupy a combined 1,628,600 hectares, with a much larger dispersal area around them. This transboundary landscape comprises primarily grassland plains and savanna.
- Home to the highest density and diversity of large herbivores on earth and hosts an annual migration of close to two million herbivores-including wildebeest, zebra, and Thompson's gazelle.
- Houses at least 530 bird species, 100 species of dung beetles, 9,000 hyenas, 3,000 lions, and 250 cheetahs.

4 MWANZA GULF - TANZANIA

- Located at the southeastern side of Lake Victoria, about 60 kilometers long and between 2.5 kilometers and 11 kilometers wide with a surface area of approximately 500 square kilometers.
- Important Bird Area (IBA) and a small part is protected as Saa Nane Island National Park.

5 NYUNGWE - KIBIRA COMPLEX - RWANDA/BURUNDI

- Covers Nyungwe forest (114,100 hectares - 97,100 hectares of which are within a national park) in southwest Rwanda and Kibira National Park (40,000 hectares) in the northwest Burundi.
- One of the most ancient and extensive montane forest blocks in eastern Africa, dating back to before the last Ice Age. It forms one of the two most remote sources of the Nile.
- Nyungwe has 1,924 animal and plant species.
- Kibira is home to 200 bird species and 10 endangered primate species.

6 SANGO BAY - MINZIRO SWAMP FORESTS - UGANDA/TANZANIA

- Transboundary landscape comprising the 55,100 hectare Sango Bay and Kagera Wetland System in Uganda and the 25,700 hectare Minziro National Forest Reserve in northwestern Tanzania.
- Sango Bay contains 1,000 species of plants, 78 species of mammals, 431 species of birds (including the rare and "vulnerable" Blue Swallow and the Shoebill), 31 species of amphibians, 44 species of fish, 279 species of butterflies, and 67 species of dragonflies.
- Minziro Forest has unique combination of West African and Afro-Montane forest species, including the endemic tree genera *Baikiea* & *Podocarpus*. Mammals include the African elephant, black and white colobus monkey and the restricted-range blue monkey.

YALA - NZOIA WETLANDS - KENYA

7

- Covers about 30,000 hectares along the northeastern shores of Lake Victoria that includes three satellite lakes and Yala swamp, one of Kenya's largest freshwater wetlands.
- The only protected area in the wetland is the Lake Kanyaboli National Reserve (4,142 hectares).
- Hosts 172 bird species that include papyrus-endemic birds and a diversity of fish species.

8

RWERU - MUGESERA COMPLEX AND NORTHERN AQUATIC PROTECTED LANDSCAPE - RWANDA/ BURUNDI

- Chain of lakes and swamps astride or spread around the Rwanda-Burundi border.
- In 2006 Burundi protected 30,000 hectares of the landscape through the Declaration of the Northern Protected Aquatic Landscape.
- Home to 168 bird species and 222 plant species.

MOUNT ELGON ECOSYSTEM - KENYA/UGANDA

9

- Approximately 221,401 hectare transboundary landscape containing 5 protected areas: Mt. Elgon National Park in Kenya and Uganda; the Namatala Central Forest Reserve and Mount Elgon Forest Reserve in Uganda; the Trans-Nzoia and Mount Elgon Forest Reserves; and Chepkitale National Reserve in Kenya.
- Mount Elgon is known for caves that are regularly visited at night by herds of "salt-mining elephants," bushbuck, duiker and buffalo.
- Holds 37 globally threatened species – 22 mammals, 2 insects and 13 bird species.

RECOMMENDED INTERVENTIONS FOR BSAs

The EPA recommends potential interventions for each BSA that aim to more effectively safeguard critical biodiversity in these sites, including:

Promote regional aquatic ecosystems landscape conservation. Interconnected aquatic, wetland ecosystems in the LVB are not defined by national borders. Additional emphasis should be placed on supporting regional efforts to harmonize policies and collaborate on conservation activities to protect and sustainably manage their biodiversity.

Strengthen and promote transboundary conservation institutions. In order to effectively manage transboundary BSAs, such as the Nyungwe-Kibira ecosystem in Rwanda and Burundi or the Mara River Basin in Kenya and Tanzania, effective institutional frameworks are key for national governments to collaborate and formulate joint decisions about shared resources. Strong transboundary conservation institutions are able to address key threats to biodiversity in these landscapes, such as the unsustainable use of water resources; wetland and forest degradation; wildlife and habitat loss; declining fisheries and fish stocks; and increasing sedimentation, pollution, and eutrophication in a holistic, comprehensive and impactful manner.

Support development and implementation of conservation management plans. Management plans provide an essential framework to guide management of a conservation area and assure the public that the area is being responsibly maintained. Management plans exist for all the BSAs except Yala Wetlands in Kenya and Mara Wetlands in Tanzania. Additional resources and commitment are required to implement existing management plans and develop new ones, through participatory processes, for the Mara and Yala wetlands.

Secure financing for conservation activities. Insufficient financial resources severely challenges protected-area management plan implementation. In order to overcome these challenges, Conservation Investment Plans (CIPs), otherwise known as business plans or investment packages, should be developed for each BSA. The CIPs should be simple, marketable documents that lay out priority conservation activities for each BSA, elaborate their scope and intended outcomes, and identify budgetary and human resources that are required to operationalize and implement them. The CIPs can be presented to potential funders and investors at national, regional and global levels. The intended long-term outcome is a more diverse, secure and sustainable financing portfolio for each priority BSA.

Provide opportunities to diversify livelihoods. Communities living in and around BSAs rely heavily on natural resources to support their livelihoods. The growing population in the LVB will continue to exert an increasing demand for natural resources, such as fish, agricultural land, and timber which accelerates the rate of biodiversity loss. As biodiversity decreases, ecosystem services decline; negatively impacting livelihoods and human well-being. Communities will require new livelihood opportunities that support sustainable resource management while enabling income generation and poverty alleviation.

Design and pilot market-based mechanisms. The potential exists to introduce and implement payment for ecosystem services (PES) schemes, ranging from carbon sequestration to biodiversity protection, microclimate regulation, and watershed protection schemes. Piloting PES schemes in the LVB will provide an additional source of income to support conservation activities.

Develop innovative conservation approaches and tools. Introducing innovative measures, approaches and tools aimed at protecting the remaining, sometimes relatively small, isolated, and important or unique species and natural habitats remains an urgent need. Appropriate Information and Communications Technology (ICT)-based tools developed to monitor wildlife and habitats, collect and share information on poaching and human-wildlife conflict incidences, or develop trans-frontier conservation approaches show great promise.

MOVING FORWARD

The recommendations above provide a practical road map of activities that can be undertaken to prevent further biodiversity loss and promote effective management of these high conservation value areas. The PREPARED Project, in partnership with the Lake Victoria Basin Commission (LVBC), already supports some of these recommendations, including:

- Working with the Republic of Kenya and the United Republic of Tanzania to establish the institutional framework to jointly manage the Mara River Basin;
- Supporting the development of a management plan for Mara Wetlands and a revised management plan for Nabugabo Wetlands Ramsar site;
- Conducting total economic valuation studies of ecosystem services in Nabugabo Wetlands, Mara Wetlands, Sango Bay-Minziro ecosystem, and Nyungwe-Kibira ecosystem. The results from the completed economic valuations indicate the cost of biodiversity loss and the economic benefits of conservation and help define investment priorities for each BSA;
- Developing five CIPs for BSAs in the LVB. The CIPs will be used to raise funds from governments, donors, corporations and other public-private agencies to implement conservation activities; and
- Working with the LVBC and Partner States to mainstream biodiversity priorities in wider policies, plans, and strategies within governments and regional organizations.

The Lake Victoria Basin Ecosystem Profile Assessment provides opportunities for key decision makers in EAC and the Partner States to use evidence—based information to inform policies and practices to realize sustainable resource management goals.

USAID
FROM THE AMERICAN PEOPLE

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