



A THRIVING FLOODPLAIN FOR ALL

Uniting Communities
Around Conservation in
Zambia's Kafue Flats



How do you set up an at-risk biome for long term success?

Create an innovative conservation approach to the protected area model which places community members at the core of every aspect of park management.



WHY COMMUNITY IS CRITICAL

Sustainable conservation campaigns depend on community support.

When campaigns empower impacted communities—approaching local populations not as problems, but as ideal environmental stewards—they create advocates, ready and willing to drive the ongoing work of conservation.

When the same campaigns are imposed from without—framing human needs as obstacles to be overcome—they create opponents who will fight for unsustainable practices, making it more difficult than ever to preserve critical ecosystems and biodiversity.

The International Crane Foundation knows that robust partnerships with local communities are an essential part of its work to conserve critical habitats and improve climate change resilience around the world.

That's why, from its first day working with residents of Zambia's Kafue Flats—a wetland of local, national, and cultural importance—the International Crane Foundation has engaged the local community on every aspect of saving the floodplain for species and themselves, magnifying the program's impact and long-term viability.

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A Breathtaking Ecosystem

The health of Zambia's Kafue Flats region—a 6,500 square kilometer area of wetlands, lagoons, grasslands and floodplains—is critical to the wellbeing of the nation's ecosystems, economies, and peoples.

The region is a hub of biodiversity, offering sanctuary to more than 470 bird species—including one of Africa's rarest birds, the Wattled Crane. It also supports many large mammals, including the semi-aquatic Kafue Lechwe, an antelope species found nowhere else on Earth.

Moreover, Zambia depends on the Kafue River Basin's water for municipal supplies, industrial use, livestock watering, and irrigated agriculture (Simfukwe et al., 2012). Irrigated sugar fields generate almost 90% of the country's sugarcane for domestic and foreign markets. Two hydropower dams on either end of the national parks, Kafue Gorge and Itezhi-Tezhi, produce half of Zambia's electricity and 44% of the water to Zambia's capital, Lusaka. Livestock herders graze 20% of Zambia's cattle on the Flats, and fishing here produces up to 20% of Zambia's total fish catch.

In addition, more than 300,000 people make their home here.

The peoples of the Kafue Flats rely directly on the floodplain for fishing, freshwater, reeds for building materials, fertile plains for food, and grazing lands for cattle. The identities of these societies are profoundly intertwined with the seasonal rhythms of the floodplain, making a healthy Kafue Flats region critical to their ways of life.

Managed sustainably, the Kafue Flats region can support a robust wildlife population, serve as a vital economic engine for Zambia, and sustain cultural traditions. A landscape of astounding natural beauty and striking biodiversity, the Kafue Flats presents a remarkable opportunity to integrate responsible tourism, innovative conservation work, and decent livelihoods—creating a win-win situation for people and the environment.

Unfortunately, in recent years, a number of factors have put the ecological integrity of the Kafue Flats at risk—threatening the lives and livelihoods that depend on this complex ecosystem.



. . . Under Threat

Despite the economic, ecological, and cultural importance of the Kafue Flats, the floodplain is degrading under increasing pressures from unsustainable economic practices, population growth, and climate change—and projections indicate that these pressures will only increase over time.

Gypsum mining has scarred the landscape, impairing tourism potential and threatening water quality and wildlife. Moreover, domesticated cattle now outnumber wild Lechwe by more than five to one. Competing for limited grasslands, the nutritionally stressed populations graze unnaturally close together, increasing the spread of disease between animals.

Meanwhile, a surging human population—predicted to reach 100 million by the end of the century (Zambia’s Population to Triple by 2050,” 2011)—places increasing demands on local wildlife. High levels of poaching have decimated large herbivore populations in the region, while fishing village settlements have been moving deeper into the floodplain—taking up the scarce high ground needed by Lechwe for breeding and dispersal during flooding. There are significantly more cattle on the Kafue Flats today than wild herbivores, creating challenges with livestock-wildlife competition for grazing grounds, disturbance of wildlife by cattle herders, and risk of disease transfer between cattle and wildlife. At the same time, unnatural flooding for power generation causes disruption of ecological cycles and contributes to the proliferation of invasive *Mimosa pigra*, which colonizes critical wildlife habitats and impedes access to water.

All of these pressures take place against the backdrop of global climate change, which is already impacting the Kafue Flats with “rising temperatures, changing rainfall patterns, and more frequent and severe droughts and floods” (“Nature-based Solutions in the Kafue Flats, Zambia,” n.d.).

To safeguard the long-term health of the Kafue Flats—to ensure a “thriving floodplain for all”—the International Crane Foundation has developed a strategy grounded in the wisdom of the peoples who have lived and worked on the floodplain for centuries—one that centers their economic and cultural needs



A Model Approach to Conversation

Developed in close relationship with chieftainates across the Kafue Flats—including the Muwezwa, Shakumbila, Hamusonde, Choongo, Mungaila, Nalubamba, and Mwanachingwala—the International Crane Foundation’s integrated conservation strategy is the product of deep, ongoing conversations with local communities.

In regular meetings conducted in community centers, town halls, and other gathering places throughout the floodplain, International Crane Foundation representatives engage in dialogue with the people who know the Kafue Flats best—the farmers, herders, fishers, and other community members who engage with the ecosystem every day to maintain their livelihoods. Speaking directly with members of local communities, these representatives ask people what they have seen on the floodplain—and how they think conservation problems should be addressed.

Through these conversations, the International Crane Foundation, its partners, and traditional local leadership have developed a uniquely innovative approach to floodplain conservation, addressing cross-cutting conservation goals across four pillars of integrated action:





Park Management

The local peoples of the Kafue Flats will benefit culturally and financially from helping to restore the ecosystem. They will continue to take pride as its custodians while benefiting from nature-based livelihood activities such as park management, invasive weed control, wildlife protection, sustainable fishing, rotational grazing, and ecotourism that can bring much-needed cash income. These efforts will be guided by the general management plan updated by the Department of National Parks and Wildlife with support from the International Crane Foundation and the World Wide Fund for Nature, Zambia.

Ecological Restoration

Working together, the International Crane Foundation, its partners, and local peoples will prevent the extinction of wildlife, reducing the spread of invasive species and helping critical flora and fauna thrive.

Research And Monitoring

International Crane Foundation researchers will monitor the restoration efforts, document improvements in the ecosystem, and incorporate learnings into adaptive management of the Kafue Flats floodplain.

Community Engagement And Livelihoods

All of the above activities will center the wants and needs of the community who must form the backbone of any successful conservation effort on the Kafue Flats. Working together with local chieftainates, we will design conservation programs that bring employment opportunities and cash income to the region.

In addition to local partners on the ground, the International Crane Foundation is also working with stakeholders at the national and global levels, including:

- The Zambian Department of National Parks and Wildlife (DNPW) under the Ministry of Tourism, and other Zambian governmental bodies
- The University of Zambia
- The Endangered Wildlife Trust (EWT)
- SelfHelp Africa
- BirdWatch Zambia
- Solidaridad
- World Wildlife Fund Zambia
- Agricultural associations
- Financial and aid institutions

Thanks to the planning and hard work of stakeholders in the Kafue Flats region and beyond, The International Crane Foundation's strategy is already yielding dividends by reducing poaching in the area, contributing to the Flats' status as a center of research excellence, supporting the national economy, and pushing back invasive species.



AN INNOVATIVE APPROACH TO ANTI-POACHING LAW ENFORCEMENT

The Kafue Flats floodplain supports buffalo, zebra, hippo, and the world's only population of Kafue Lechwe, which are all being decimated by the illegal bushmeat trade. The Kafue Flats is a high-stakes resource that needs effective anti-poaching efforts and habitat restoration put in place to protect its 3,000 Wattled Cranes, 470 species of birds, and many other species of imperiled mammals.

While there is considerable protection "on paper" for the Kafue Flats, law enforcement is poorly financed, equipped, and trained—and physically unable to cover even a fraction of these lands. This has resulted in unsustainable levels of wildlife hunting, livestock grazing, and fishing.

Through in-depth interviews with traditional governments and local peoples, the International Crane Foundation learned that poverty drives poaching and other degradation activities on the Kafue Flats. In other words,

poachers and illegal fishers violate existing environmental laws out of economic necessity.

Simply arresting poachers would not solve the underlying economic problems that drive people towards illegal hunting and fishing. To be successful over the long term, the International Crane Foundation's approach to law enforcement would need to be more constructive.

As part of its integrated strategy for the floodplain, the International Crane Foundation supports the training and deployment of local men and women scouts on law enforcement teams. Such jobs simultaneously increase the effectiveness of local law enforcement—contributing to the achievement of greater polity—while also offering economic opportunities that reduce the incentives that drive poaching.





A CENTER OF RESEARCH EXCELLENCE ON THE KAFUE FLATS

As part of its integrated strategy for the floodplain, the International Crane Foundation aims to make the Kafue Flats a model wetland for ecological research.

Researchers and local people will collect data on biodiversity through fieldwork, aerial surveys, remote sensing, and baseline biodiversity data for other lesser-known taxa. Researchers will also operate the Kafue Flats Wetland Information System (KWIS) hosted on the Global Biodiversity Information Facility, an international network and data infrastructure aimed at providing anyone, anywhere, open access to data about all types of life on Earth.

KWIS will serve as a tool for hosting, analyzing, visualizing, and sharing freshwater biodiversity data for the Kafue Flats Wetlands.

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SUPPORTING THE NATIONAL ECONOMY WHILE SUSTAINING HEALTHY WILDLIFE AND COMMUNITIES

The Kafue Flats has been a grazing system for cattle and wildlife since time immemorial. Cattle ownership has great cultural significance in Zambia and beef production is very important to the national economy of Zambia.

Recently, the Kafue Flats was declared as a Beef Special Economic Zone by the Zambian cabinet. If managed sustainably, the Kafue Flats can support highly profitable grass-fed beef production—and support healthy populations of wild herbivores like Kafue Lechwe, buffalo, and zebra.

We are partnering with the government, local communities, non-government organizations, and private businesses to work holistically towards sustainable cattle grazing and thriving wildlife on the Kafue Flats, which requires management of water, fires, and invasive species, regulation of livestock movements, control of disease, and other range management considerations.



CONTROLLING MIMOSA PIGRA



For years, the Lochinvar and Blue Lagoon National Parks protected areas have faced a growing infestation of *Mimosa pigra*...

...an invasive species of thorny shrub that “forms dense, impenetrable thickets that displace native vegetation, choke waterways, and increase sedimentation. . . . altering wetland ecology and invading pasture and agricultural lands” (“*Mimosa pigra*,” n.d.) From a small infestation of two hectares (ha)—approximately five acres—in the early 1980s, *Mimosa pigra* has spread to cover more than 3,000 ha (7,414 infested acres) of floodplain, harming biodiversity and livelihoods.

Engaged by Zambia’s Department of National Parks and Wildlife—and working in partnership with the Endangered Wildlife Trust, the World Wide Fund for Nature, and local communities—the International Crane Foundation has implemented a long-term plan to fight the *Mimosa pigra* infestation.

From 2017-2020, the International Crane Foundation and its partners annually hired 150 people from local communities to clear Lochinvar and Blue Lagoon National Parks of the invasive plant.



A Community-Driven Effort

Workers hired from the local community cut and burned the mimosa shrub and spot-sprayed regenerating shrubs with a low-residue herbicide, reducing any regrowth.

Working with entomologists from the Government Agricultural Research Station and using protocols developed by the Centre for Agriculture and Biosciences (CABI), the team carefully released *Carmentis mimosae* moths into *Mimosa pigra* stands in Lochinvar National Park. The moths, which burrow into the stems of *Mimosa pigra* shrubs as part of their lifecycle, further weakened the shrub's grip on the floodplain.

The project has already helped clear 60% of the invasive growth, and the team aims to clear over 95% of *Mimosa pigra* within the next few years.

Thanks to these efforts, majestic IUCN Red List mammals and birds—including Kafue Lechwe, hippos, and breeding pairs of Wattled and Grey Crowned Cranes—have returned to the restored areas. Many species of resident and migratory waterbirds have been found in the restored areas during surveys, including birds that have never been recorded in Zambia.

Restoring Ecosystems— and Improving Lives

Since the *Mimosa pigra* control project commenced in 2017, a total of 600 local workers have been engaged to complete the work. Monthly cash payments have helped improve the lives of the workers and their families.

Several of the field workers have used their earnings to:

- Buy livestock such as goats and cows, thus improving their asset base
- Send their children to school by buying uniforms and books and paying school fees
- Maintain their homes
- Pay college tuition fees and leave seasonal employment
- Set up small businesses including local lending and trading
- Secure emergency food supplies

While people on the Kafue Flats can meet most of their needs through subsistence agriculture, fishing, and trade, cash payments simplify many otherwise time-consuming transactions. Some transactions, such as school fees, can only be conducted using cash.

In other words, cash payments—such as those offered through ongoing conservation work on the Kafue Flats—make it quicker and easier for people to improve their homes, plan for the future, support their children, and improve resilience in times of crop failure..

The success of the *Mimosa pigra* project advanced goodwill for conservation campaigns in the Kafue Flats—paving the way for even more ambitious partnerships in the years since.



SCALING SUCCESS: A BRIGHT FUTURE FOR THE KAFUE FLATS

The Kafue Flats Restoration Partnership

Inspired by the success of the community-driven *Mimosa pigra* campaign, in 2023 a robust network of government agencies, NGOs, and community organizations came together to form an agreement that will support effective conservation work in the Kafue Flats region for decades to come.

The Kafue Flats Restoration Partnership—a 20-year agreement between the Zambian Department of National Parks and Wildlife, the International Crane Foundation, the

Endangered Wildlife Trust, and World Wide Fund for Nature (WWF), Zambia—will ensure that ongoing campaigns in the Kafue Flats region strive for critical goals while balancing ecological conservation, ecosystem services, and human wellbeing over the long term.

The Kafue Flats Restoration Partnership’s strategy updates and expands upon the existing restoration campaign, deepening the work involved in all four pillars, and widening scope to include new activities.



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Ecological Restoration

Alongside traditional leaders and communities, the Kafue Flats Restoration Partnership is continuing to address the spread of *Mimosa pigra* on the Kafue Flats wetlands. Long-term efforts are underway to restore water conditions through environmental flow releases from upstream dams, which would limit future *Mimosa pigra* establishment. The project will increase government capacity to manage Zambian floodplains and advance global understanding of large-scale *Mimosa pigra* control methods and their measurable impact on biodiversity and livelihoods.

Law Enforcement

The Kafue Flats Restoration Partnership is working to ensure that DNPW law enforcement is well-supported, fully equipped, and highly strategic in reducing poaching. It is equipping rangers and scouts, many of them hired from the local community, with the necessary fuel, food, vehicles, and communication tools for rapid and strategic law enforcement responses to poaching. This includes setting up a ground-breaking and innovative law enforcement monitoring tool, the Spatial Monitoring and Reporting Tool (SMART), which will enable better decision making for patrol design, vital data collection on animal locations and poaching occurrences, rapid deployment of patrol teams to critical hotspots, and provision of critical infrastructure.

Community Engagement And Livelihoods

The Kafue Flats Restoration Partnership is working with the DNPW, traditional leaders and their representatives, and Community Resource Boards to create an updated management plan for the Kafue Flats protected areas with full stakeholder participation. Range management practices can ensure a more balanced, sustainable livestock population on the broader floodplain, improving access to cattle water points and grasslands while protecting habitat for wildlife. The Kafue Flats Restoration Partnership aims to benefit grazing livelihoods through innovations such as Kafue Flats grass-fed cattle marketing for higher profit per head of cattle. The Kafue Flats Restoration Partnership is also directly engaging with schools and the local community to raise awareness about the importance of the Kafue Flats wetland ecosystem to long-term wellness and livelihoods through participation in cultural events and celebrating environmental days such as World Wetlands Day (2 February) and World Environment Day (5 June) every year..

Research And Monitoring

The Research and Monitoring pillar of the Kafue Flats Restoration Partnership will complement the other three pillars in answering critical ecological questions and in reducing the threats to the species and wetland ecosystem.

Public Awareness

The Kafue Flats Restoration Partnership will communicate regularly with government, partners, and communities about the local, national, and international importance of this work for people and wildlife. By creating and distributing content (videos, newsletters, podcasts, etc.) that showcases the beauty of the Kafue Flats floodplain and the collective power of its peoples, the Kafue Flats Restoration Partnership will spark keen interest in the conservation projects underway here, motivating current stakeholders and encouraging future partners to lend their support.



A VISION FOR THE KAFUE FLATS

Goals for 2030 . . .

By 2030, the International Crane Foundation and its partners envision a Kafue Flats floodplain with . . .

- Restored natural vegetation cover and diversity
- An estimated population of Wattled Cranes stable or increasing at 3,000 individuals
- An estimated population of Kafue Lechwe stable or increasing by 5% compared to the 2018 population of 23,000
- 3,000 hectares of *Mimosa pigra* cleared
- Steep reductions in poaching and illegal fishing
- A flourishing local economy powered by ongoing conservation campaigns

These goals align with the economic and climate resiliency goals of the Government of the Republic of Zambia, as expressed in the government's Vision 2030 (2006) and National Adaptation Plan for Zambia (2023) planning documents, respectively. These goals are also relevant to the Eighth National Development Plan.

. . . and Beyond

The International Crane Foundation's vision of 'A Thriving Floodplain for All' also aligns with international goals to address the global poverty, climate, biodiversity, and freshwater crises.

The Kafue Flats Restoration Partnership's strategy for floodplain restoration, for instance, advances many of the objectives outlined in the United Nations' 17 Sustainable Development Goals (THE 17 GOALS | Sustainable Development, n.d.), including:

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No Poverty, Decent Work, And Economic Growth

By generating employment opportunities in innovative, community-driven wetland restoration and law enforcement programs, the Kafue Flats Restoration Partnership is reducing poverty on the floodplain—thereby addressing one of the root causes of degradation activity.

Climate Action, Life Below Water, Life On Land

Working alongside local communities to develop sustainable agricultural and husbandry practices, the Kafue Flats Restoration Partnership is empowering the peoples of the Kafue Flats to increase climate change resilience and biodiversity.

Peace, Justice, And Strong Institutions

By recruiting new scouts and other law enforcement officials to increase the effectiveness of existing anti-poaching laws, the Kafue Flats Restoration Partnership contributes to the enhancement of sound polity in the region.



The integrated, community-driven strategy also advances key targets outlined in the Kunming-Montreal Global Biodiversity Framework (Secretariat of the Convention on Biological Diversity, n.d.).

At the local level, the International Crane Foundation envisions a Kafue Flats region restored to its previous glory—a future where people are an integrated part of a beautiful, thriving floodplain.

Kafue Lechwe—along with zebra, buffalo, and wildebeest—will safely roam grassy floodplains and drink from the Kafue River and its wetlands. Roaring hippos will breach deep pools of clear water, surrounded by crocodiles and otters that adorn riverbanks free of invasive plant life. Migratory and resident flocks of Wattled and Grey Crowned Cranes, ducks, pelicans, storks, herons, and vultures will flock in the sky and marshes. Bream and other fish species will swim in nurseries of water and plants—a bountiful resource for wildlife, fishing, households, and the economy.

Delighted school children, dedicated birdwatchers, and other park visitors will marvel at an abundance of natural beauty, while local communities will take pride in their

natural heritage. Meanwhile, researchers will continuously monitor ongoing conservation and restoration efforts, documenting improvements in the ecosystem, incorporating new knowledge into the adaptive management of the Kafue Flats floodplain.

Meanwhile, life will change for the local communities who make all of these dramatic improvements possible.

On the restored Kafue Flats floodplain, local people will find direct employment working in protected areas. They will have consistent access to water, health, markets, and other social services. They will benefit from improved management and governance capacity—and, eventually, the distribution of benefits from carbon offsetting, tourism, big-game hunting, and other nature-based solutions.

With benefits realized by the community, sustained and increased partnerships with government, agricultural organizations, research institutions, and substantial financial investment, International Crane Foundation and its partners will help make ‘A Thriving Floodplain for All’ a reality in Zambia's Kafue Flats.





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