

Critical Sites Network for Freshwater Biodiversity in the Lake Victoria Catchment

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Partners:



rubicon

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- Status of Freshwater Ecosystems
- Potential value of Protected Areas
- Systematic Conservation Planning (Marxan)
- Optimal Site Networks (Preliminary findings)
 - Conservation benefits
 - Livelihoods benefits
- Next Steps / Recommendations

Status of Freshwater Biodiversity

1900



Now



64% wetlands lost

1970



Now



76% decline in freshwater species populations

Freshwater species threatened with extinction

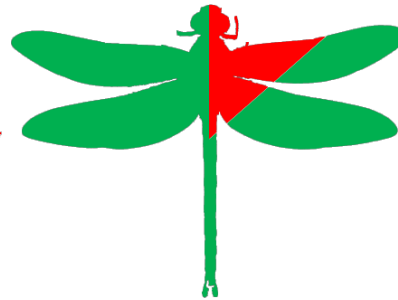


THE IUCN RED LIST
OF THREATENED SPECIES™



30%

~50% species assessed



14%

~70% assessed



44%

~70% assessed

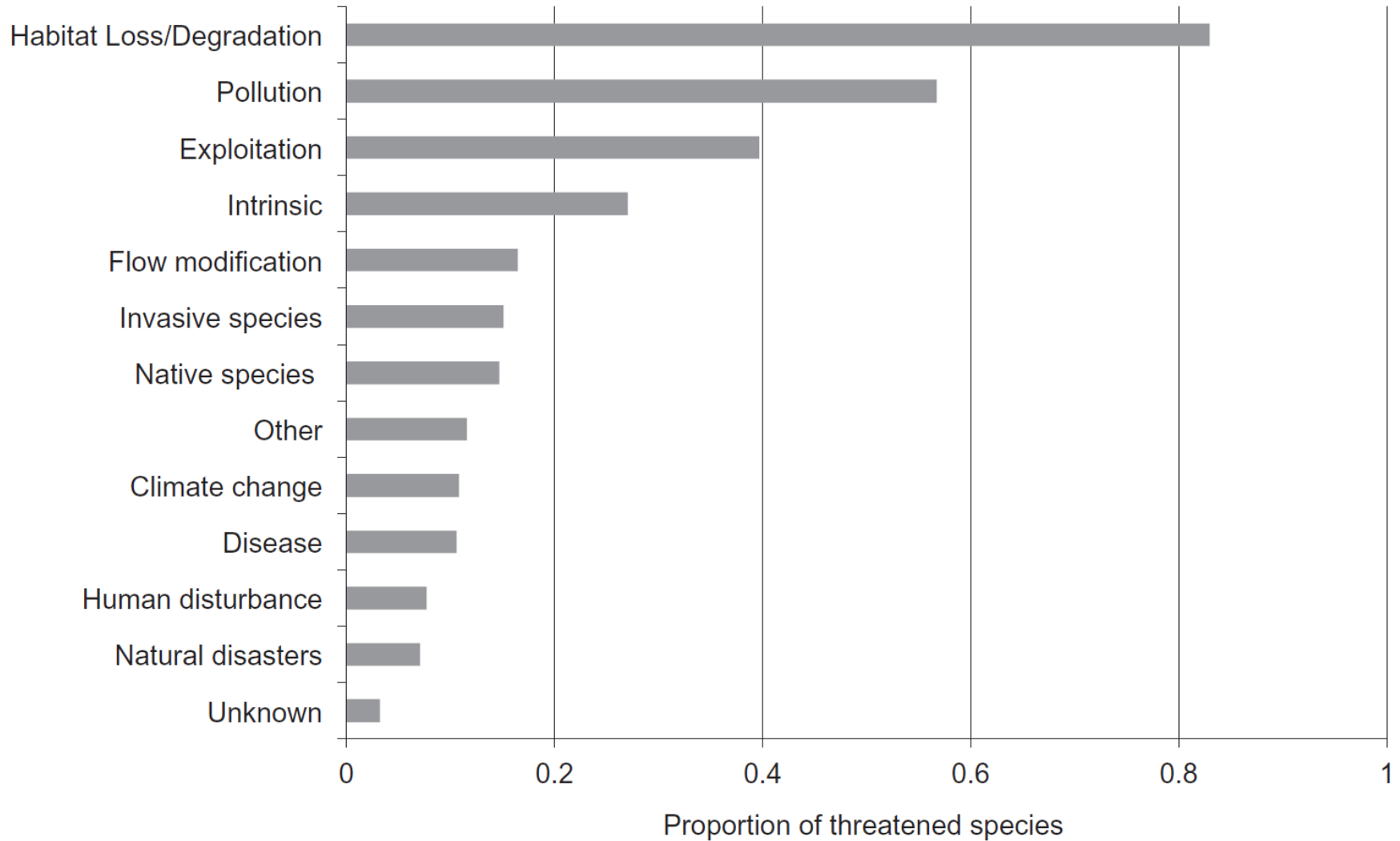


30%

100% assessed

< 20% Threatened – Lake Victoria catchment

Causes of decline



An aerial photograph showing a dark, winding river or stream cutting through a vast, dense green forest. The forest canopy is thick and varied in shades of green, with some lighter patches visible. The river meanders from the bottom left towards the top right of the frame.

Existing protected areas are largely
ineffective for conserving freshwater
habitats & species

Convention on Biological Diversity 2014

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A vibrant underwater photograph showing a large school of fish, likely European perch, swimming in clear, sunlit water. The fish have silvery bodies with a prominent dark lateral stripe and bright orange-red fins. The background shows green aquatic plants and the shimmering surface of the water.

It is critical that we identify sites that are important for freshwater biodiversity so far very few freshwater KBAs have been identified

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Site networks for freshwater biodiversity

- Systematic Conservation Planning (Marxan)
- Species targets:
 - Threatened, endemic, climate vulnerable, utilised
- Other targets:
 - catchment connectivity (river corridors);
 - FW Key Biodiversity Areas
- Data sources:
 - IUCN Red List species assessments
 - CC vulnerability assessments
 - Species livelihoods assessment
 - Key Biodiversity Areas assessment



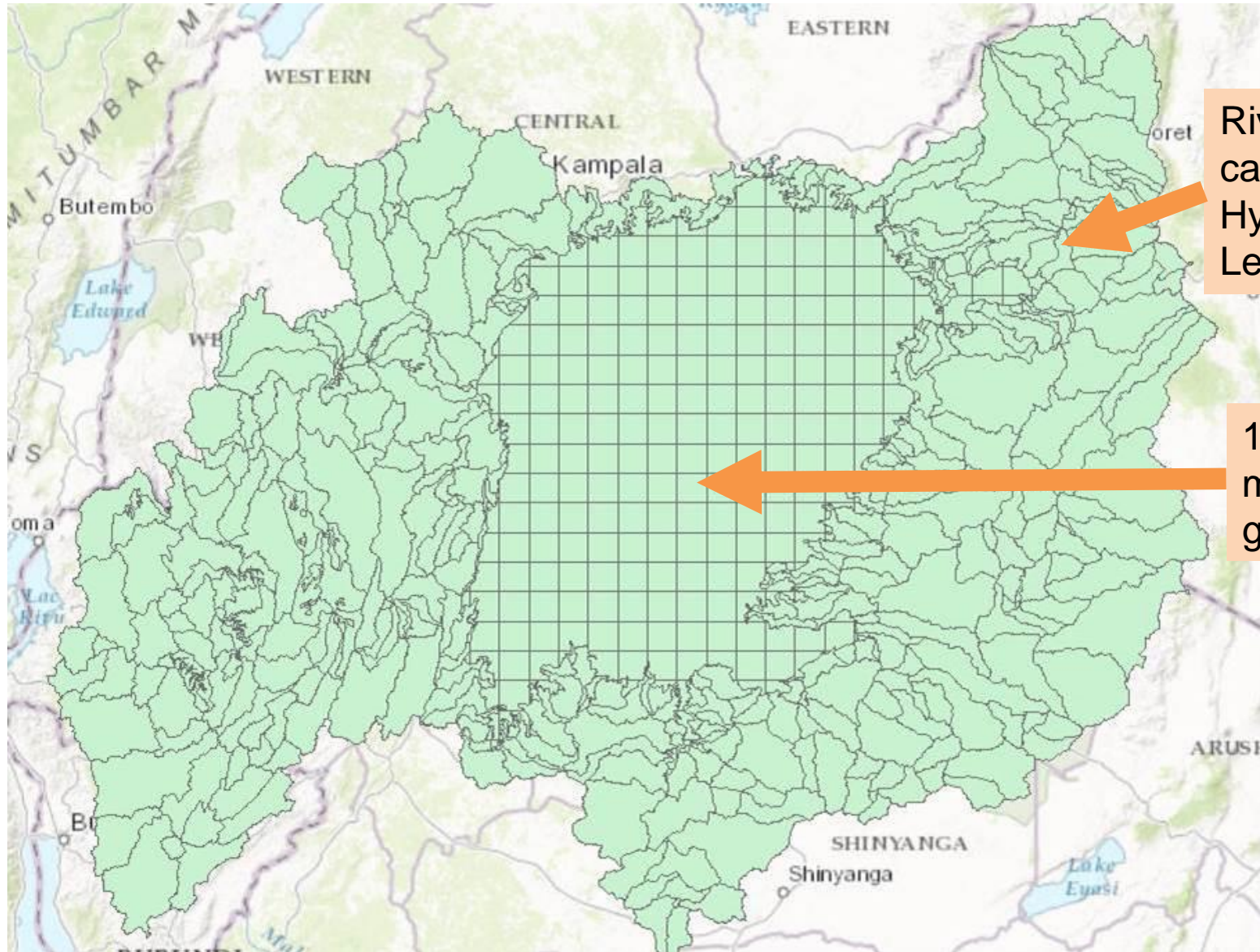
Species data input to Marxan analysis

Taxonomic groups analysed	Number of species newly assessed & mapped for IUCN Red List
Freshwater Fishes – mainly riverine	76
Freshwater Fishes - haplochromines	167 - poor data on within-lake distribution maps
Dragonflies & Damselflies	219
Freshwater Molluscs	70
Freshwater decapods	8 (crabs)
Freshwater Plants	137
Total	646 species

Assessed for livelihoods	Species recorded as used
Plants and Fishes	194



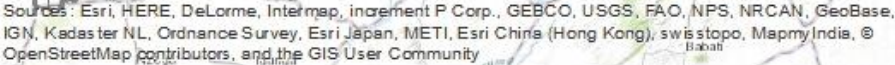
Marxan: Site Planning Units



River sub-catchments.
HydroBASINS
Level 8

10 arc
minute
grid cells

Optimal networks of sites to meet the conservation targets within the minimum total land area

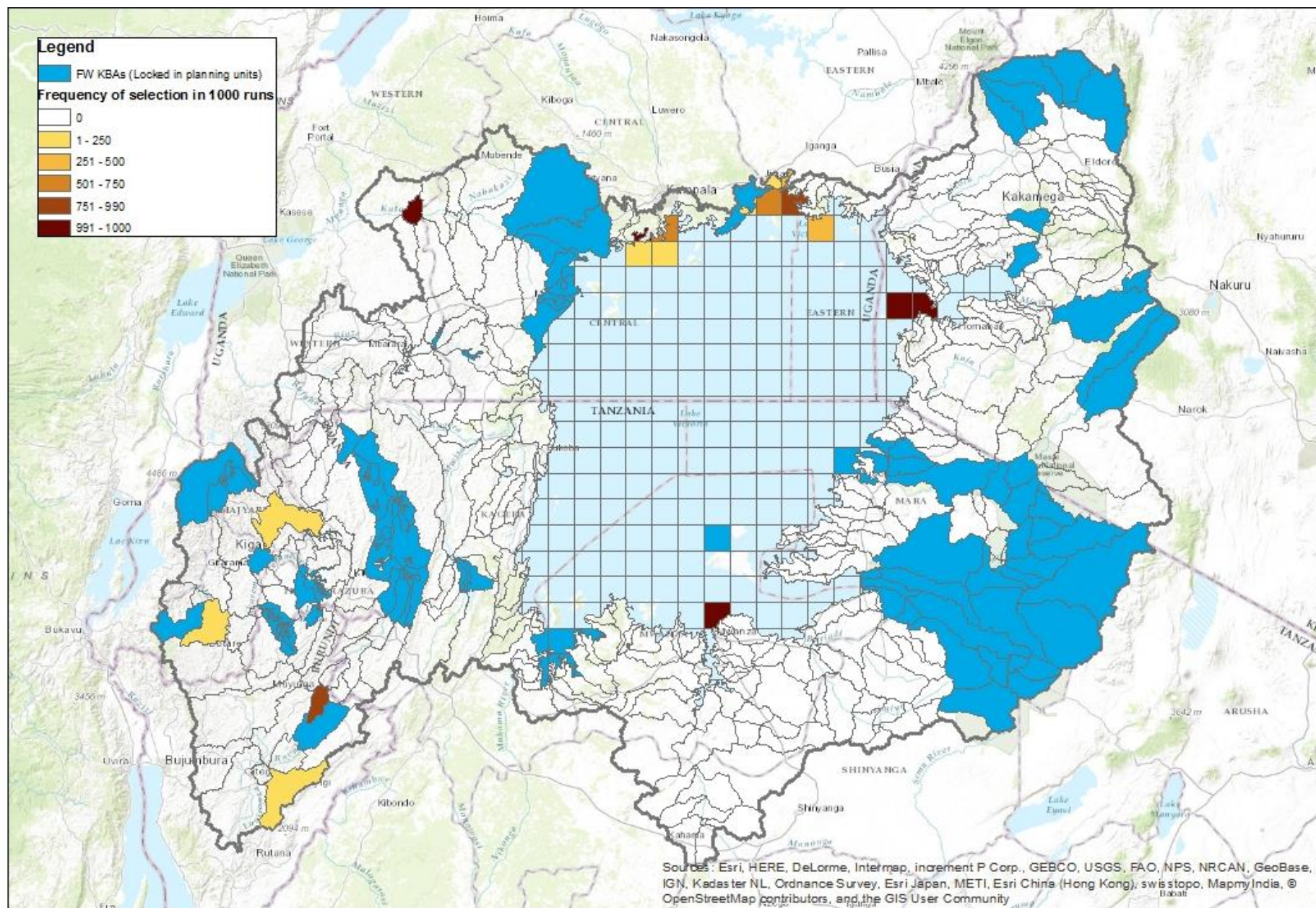


Incorporating Freshwater Key Biodiversity Areas (KBAs)

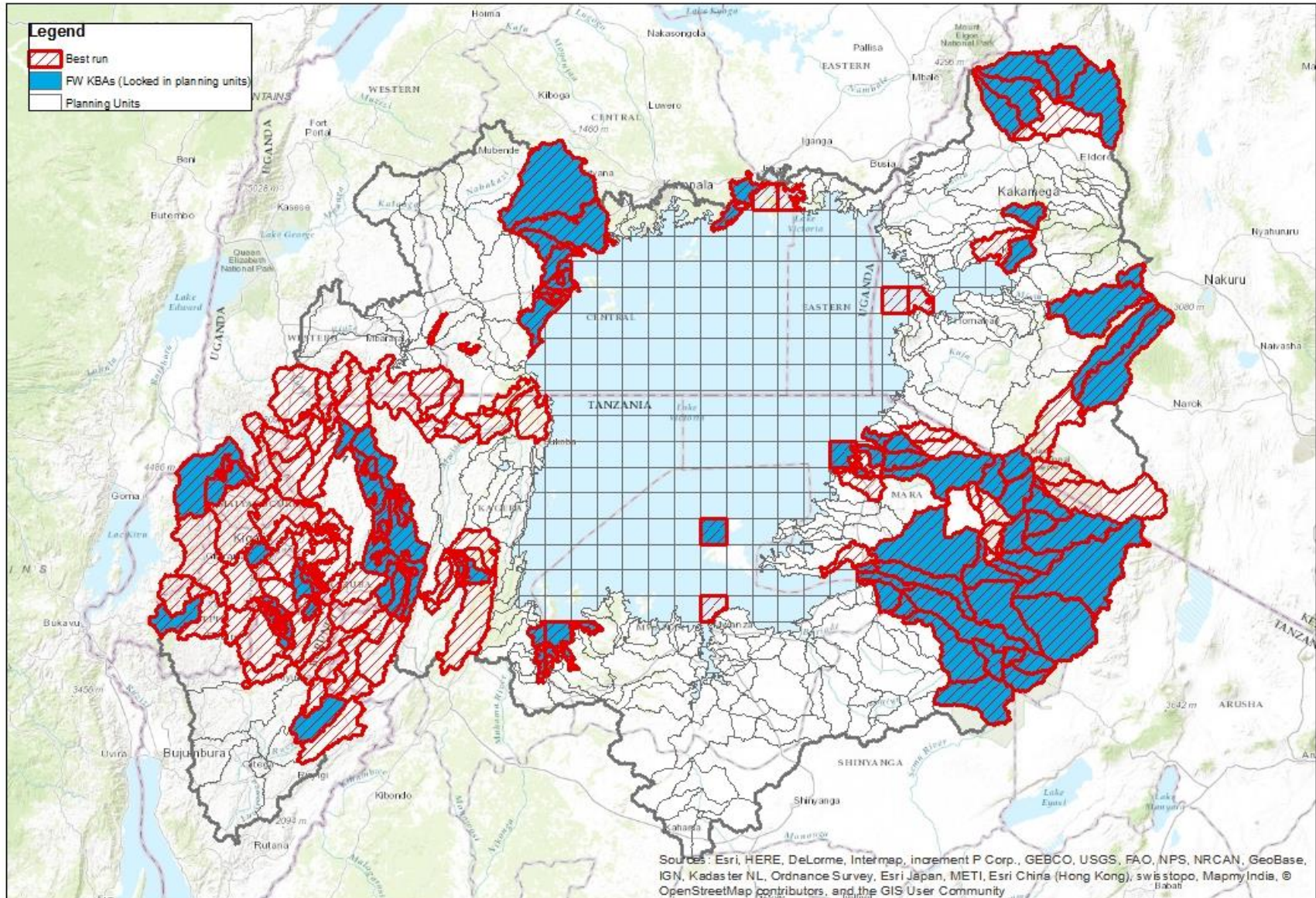
All sub-catchments with 20% overlap with a Freshwater KBAs are automatically included in the network.

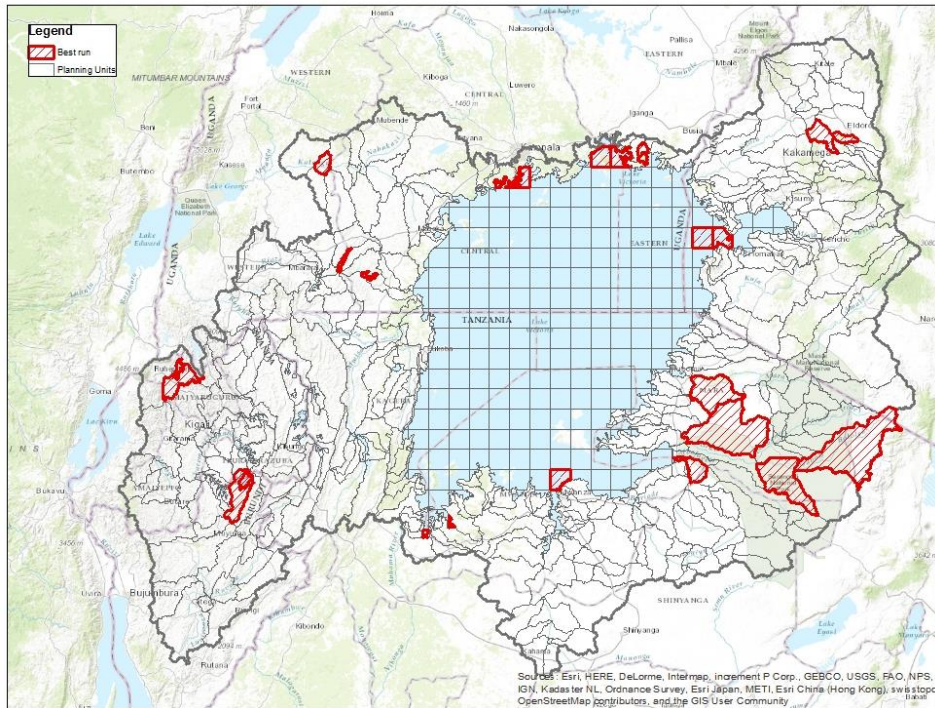
How many additional sites are required to meet the species targets?

Incorporating Freshwater KBAs

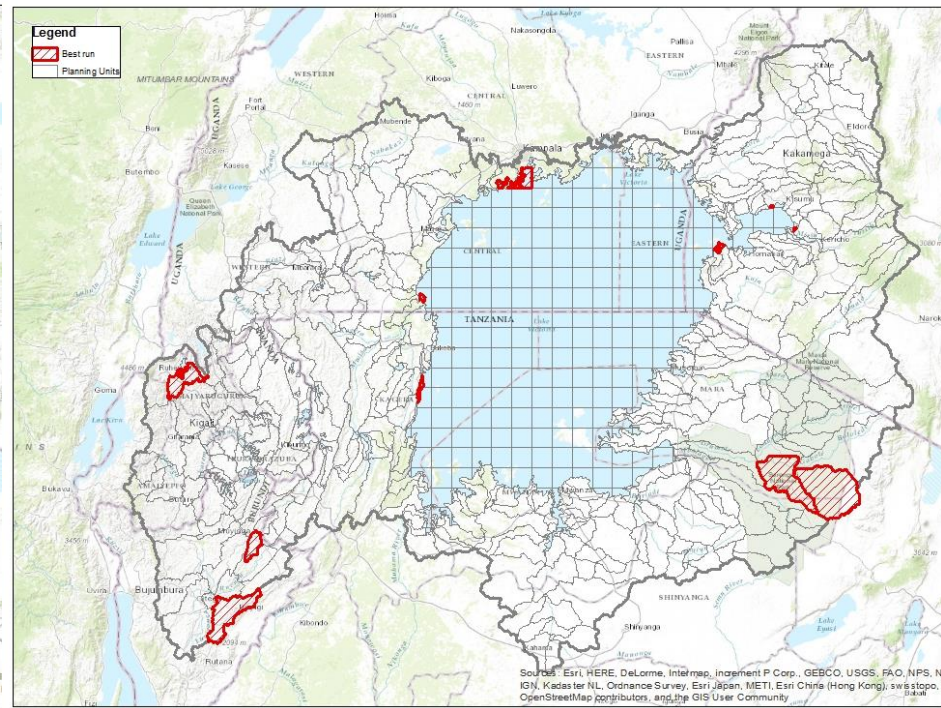


With “high connectivity” targets – river corridors are identified





Species Conservation targets
“Best run”



Species Use targets “Best run”

- Refine Marxan analysis: incorporate current land use, existing PAs, CC exposure...
- Gap analysis: FW biodiversity in current PA and KBA networks
- Propose critical sites network to better represent FW biodiversity
- Make all data and outputs widely available
 - www.iucnredlist.org
 - www.ibat-alliance.org/ibat-conservation

- Evaluate current management focus on FW biodiversity within existing PAs and KBAs
- Consider expansion of current PA network
- Conduct baseline survey of species distributions and status – **v data poor at present**
- Establish long-term monitoring programme for species status
- Create habitat map for Lake Victoria
- Raise awareness of importance of FW species

A narrow waterway flows through a dense thicket of tall, green reeds and grasses. The water is calm, reflecting the surrounding vegetation. The reeds have long, thin leaves and some have brown, feathery seed heads. The scene is captured from a low angle, looking down the length of the waterway. The text "THANK YOU FOR LISTENING" is overlaid in white, bold, sans-serif capital letters across the middle of the image.

THANK YOU FOR LISTENING