

The 1st Joint Basin Survey at Limpopo River Basin

Gathering data for a sustainable water resources management

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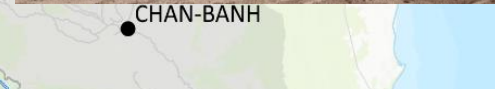


"Integrated Transboundary River Basin Management for the Sustainable Development of the Limpopo River Basin."

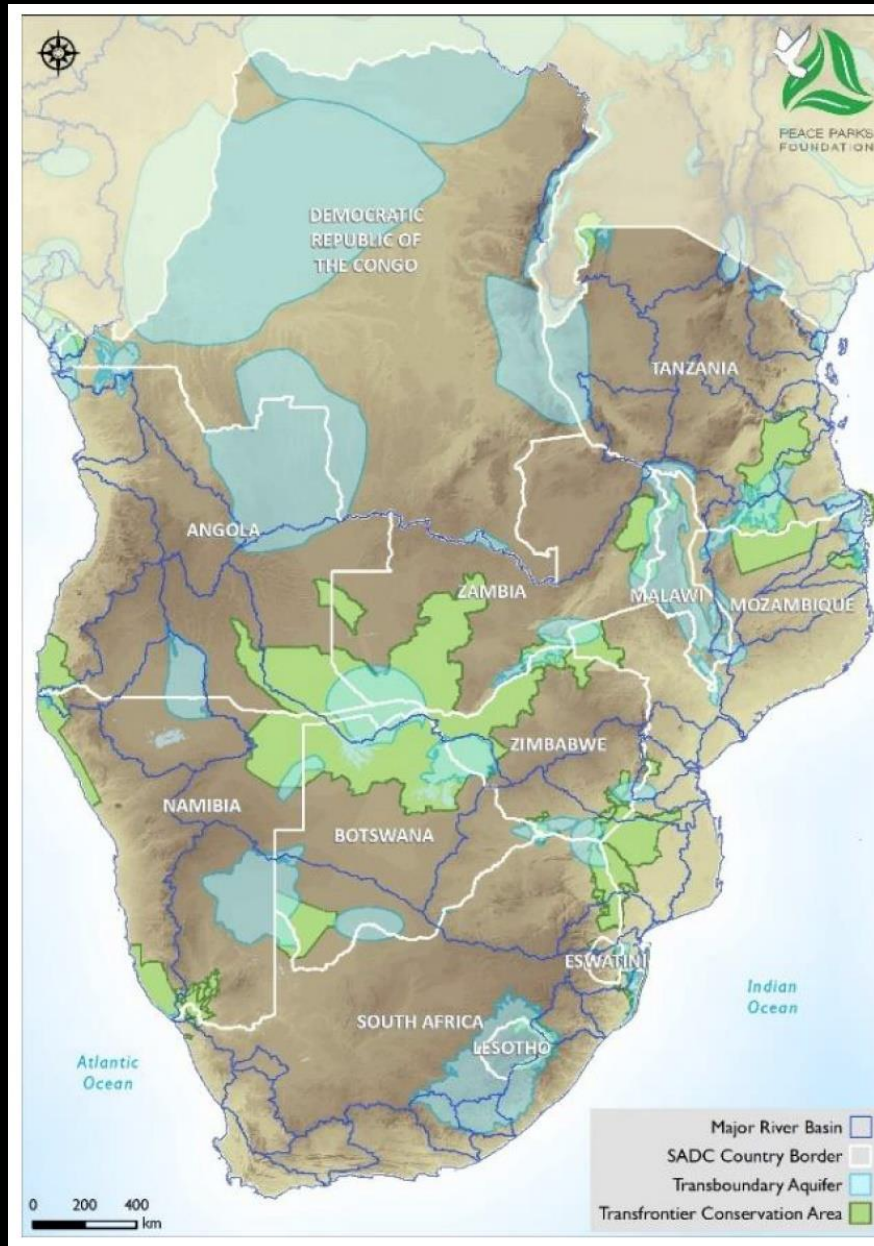


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Southern Africa's Overlapping Natural Assets



- **LIMCOM is 1 of 15 River Basin Organisations in Southern Africa**

- **Important institutional bodies responsible for overseeing the sustainable development and management transboundary water resources**

SADC Institutions:

- **River Basin Organisations (RBOs)**
- **Transfrontier Conservation Areas (TFCAs)**



**SOUTHERN AFRICAN
DEVELOPMENT COMMUNITY
TOWARDS A COMMON FUTURE**

Objectives

- To determine the present ecological state (PES) of the entire Limpopo River Basin
- Provide recommendations to Limpopo Strategic Action Plan (Endorsed by Ministers)
- To contribute to existing e-flows (called Ecological Reserve in South Africa) and sustainable water resources management in the region, to develop a basin wide e-flows agreement

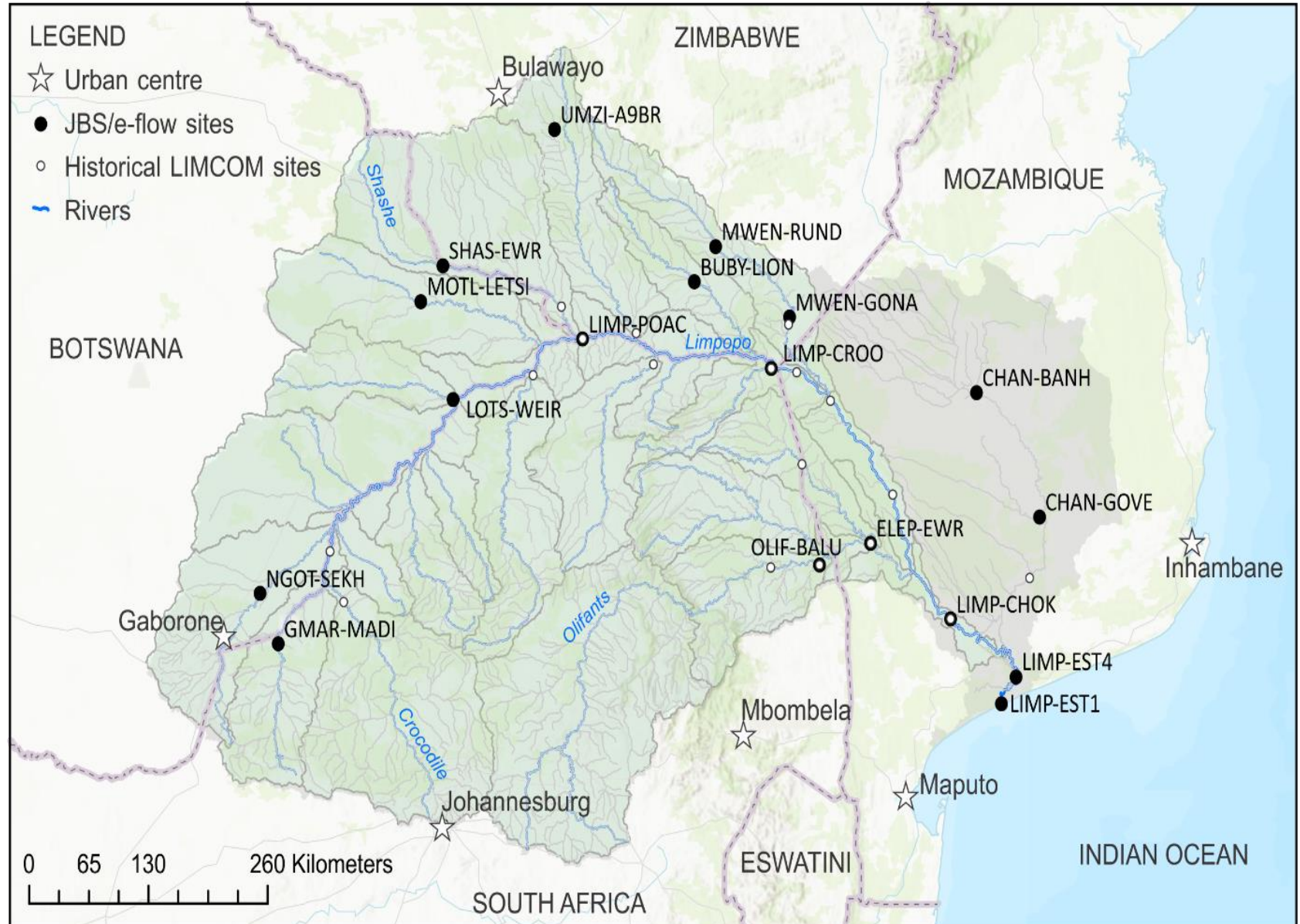


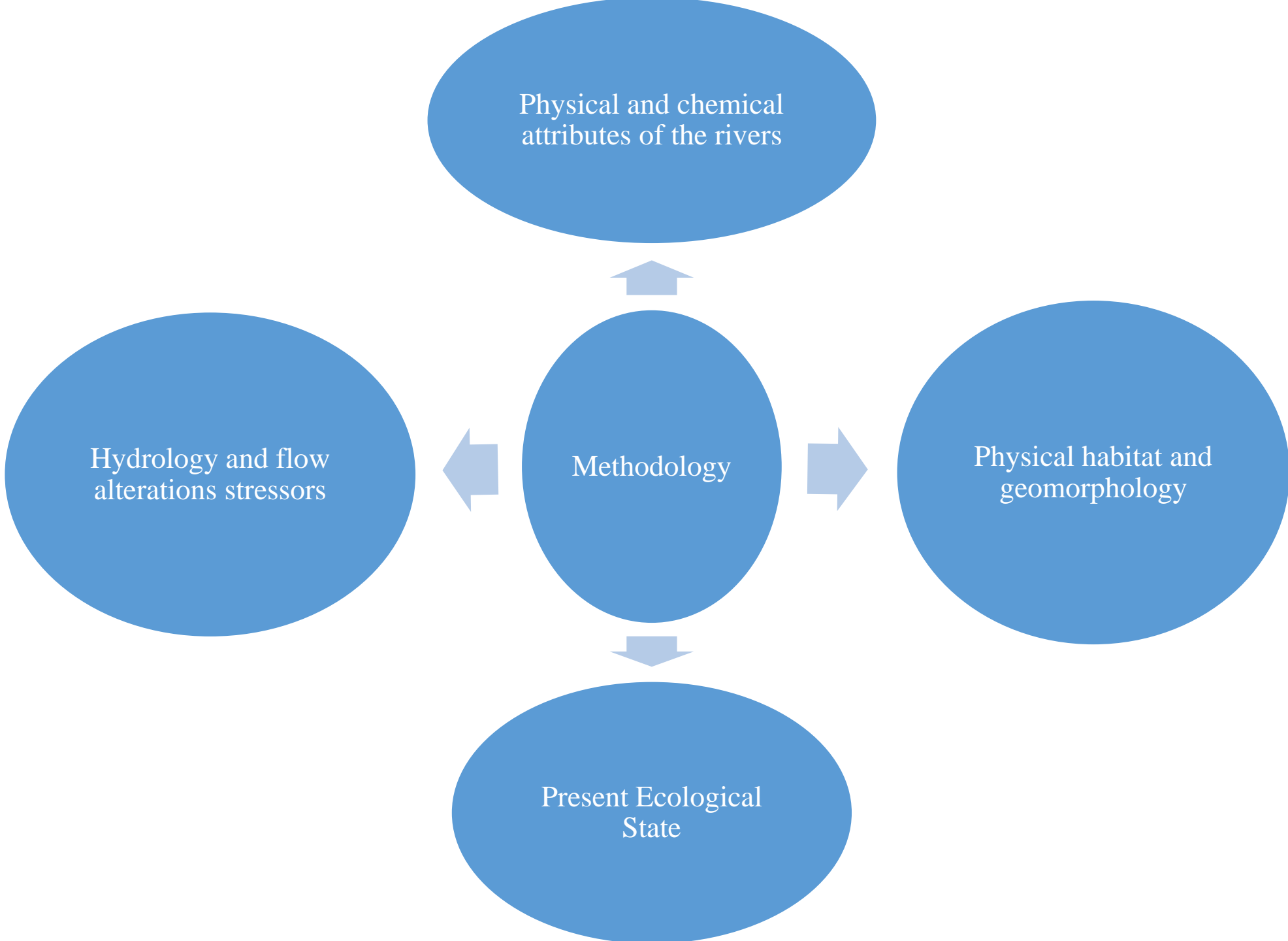
Key Partners



Study area

- August 2024- upper part of the basin
- September 2024- middle and lower parts of the basin





Physical and chemical attributes of the rivers

Water quality and chemical stressors in the LRB

Water samples

Sediment samples

Isotope samples

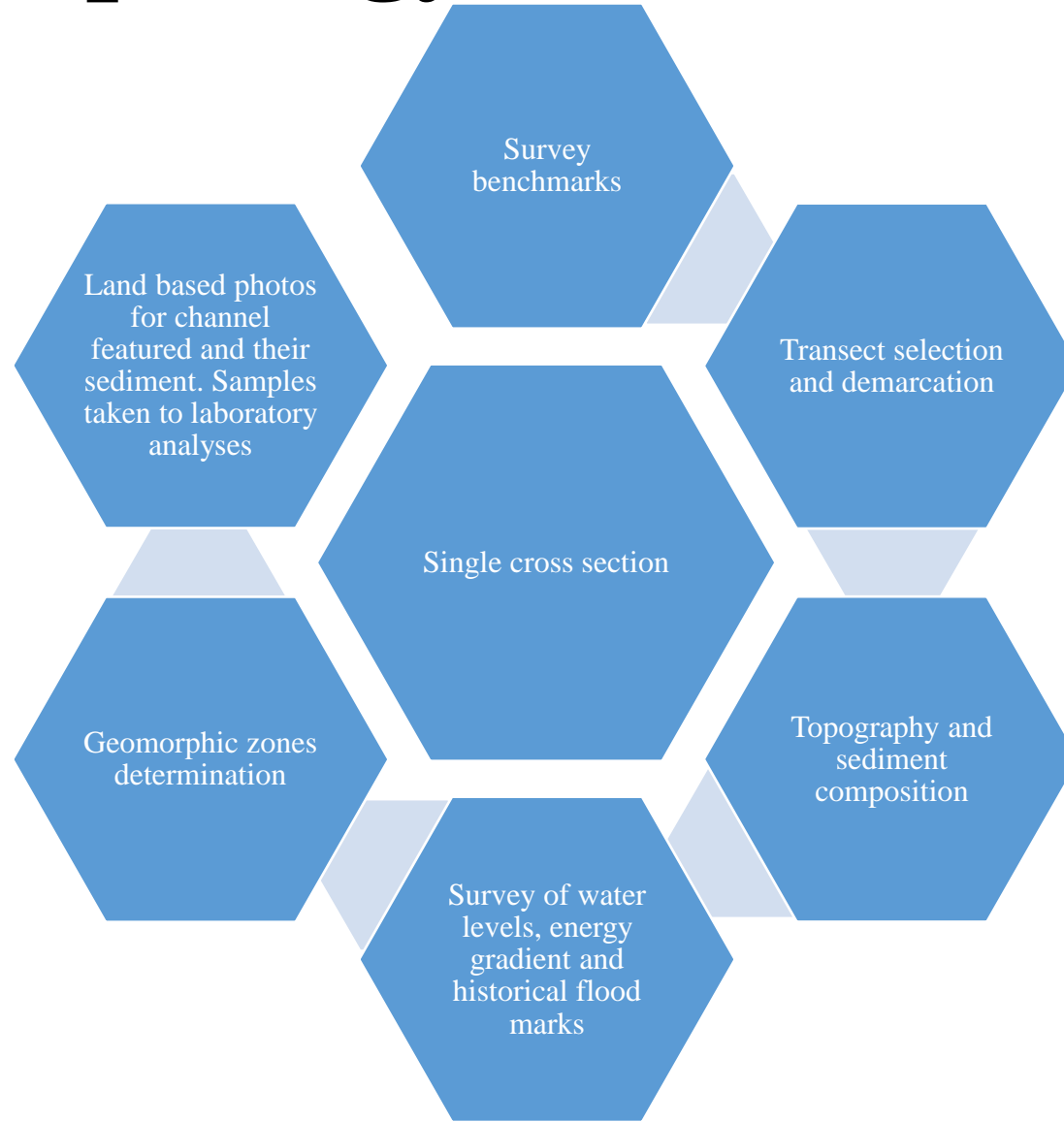
In-situ water quality

Diatom collection

Laboratory analyses



Physical habitat and geomorphology



Hydrology and flow alterations stressors

Historical data

- Limpopo Monograph
- Limpopo Reconciliation study (2015)

Flow statistics

- Mean, percentage zero flow, min. and max. flows/per month, median
- Baseflow

Flow variability index

- Natural flows
- Present day flows



Present ecological state

Riparian vegetation

- Site and riparian delineation
- Reference ecological status
- PES for riparian vegetation using Riparian Vegetation Assessment Index (VEGRAI)

Fish

- Active fish sampling (cast net, running seine net, electrofisher, angling techniques)
- Passive fish sampling (fyke nets)
- PES for fish communities using fish response assessment index (FRAI)

Macroinvertebrates

- In-situ water quality
- Habitat preference analysis
- Stream condition assessment
- Taxonomic identification
- SASS5
- Fixed area grab samples
- MIRAI



Preliminary results summary

- Indication of altered flows, habitat change and water quality particularly in the upper and lower reaches of the basin
- Significant lower diversity of aquatic fauna

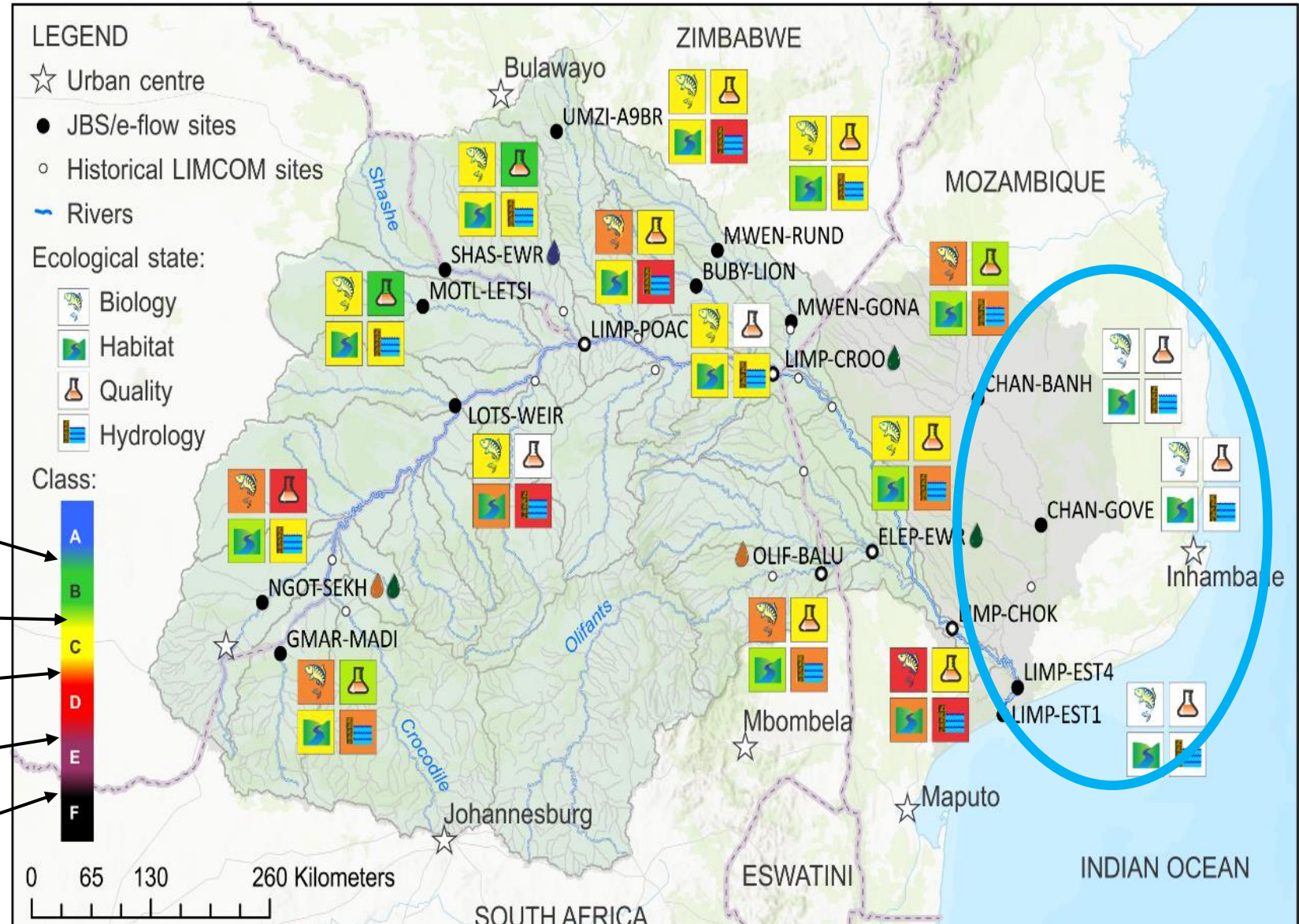
Largely natural with modifications, 82-89%

Moderately modified, 20-39%

Largely modified, 40-59%

Seriously modified, 20-39%

Extremely modified, 0-19%



Next steps

- Survey 3 planned for 2025 to be undertaken in Mozambique on the Changane Floodplain/River in the Banhine National Park and in the Limpopo River Floodplain and Estuary
- Establishment of a road map for e-flow to contribute to regional legal framework establishment to make direct contribution to sharing of water in the basin
- Capacitating LIMCOM multi-sectoral and cross-countries team of technocrats in conducting country-specific and basin-wide e-flow assessment as per harmonized methodological approach with the effective engagement of relevant sectors/disciplines
- Form key partnership between the GLTFCA and LIMCOM

Thank you



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