

FRESHWATER HEALTH INDEX

CONSERVATION
INTERNATIONAL



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FRESHWATER HEALTH INDEX

- Combines ecological integrity (health) with ecosystem services and water governance.
- Ecosystems are at the heart of the assessment to help decision makers make the necessary connections between ecosystem protection and human benefits.
- It explicitly involves stakeholders for integrated water resources management. Important to make results as relevant as possible to the local decision context.
- Measures stakeholder perception on various governance topics and measures the relative importance stakeholders give to different indicators.





Ecosystem Vitality

4 indicators

7 sub-indicators



Ecosystem Services

3 indicators

8 sub-indicators



Governance & Stakeholders

4 indicators

12 sub-indicators

Rating scale

Very critical

0 - 30

Critical

30 - 60

Regular

60 - 75

Good

75 - 90

Very good

90 - 100



INDICATORS OF FRESHWATER HEALTH

- Combination of remotely sensed, monitored, modeled and survey data
- Each indicator scaled from 0-100 for ease of interpretation
- Ecosystem Vitality and Ecosystem Services indicators can be modeled to assess scenarios

ECOSYSTEM VITALITY

Water Quantity

- Deviation from natural flow
- Groundwater storage depletion

Water Quality

- Suspended solids
- Total nitrogen
- Total phosphorus
- Other quality parameters of concern

Basin Condition

- Bank modification
- Flow connectivity
- Land cover naturalness

Biodiversity

- Species of concern
- Invasive & nuisance species

ECOSYSTEM SERVICES

Provisioning

- Water supply reliability
- Biomass for consumption

Regulation & Support

- Sediment regulation
- Water quality regulation
- Flood regulation
- Disease regulation

Cultural

- Conservation areas
- Recreation

GOVERNANCE & STAKEHOLDERS

Enabling Environment

- Water resources management
- Right to resource use
- Incentives & regulations
- Financial capacity
- Technical capacity

Stakeholder Engagement

- Information access
- Engagement in decision-making processes

Vision & Adaptive Governance

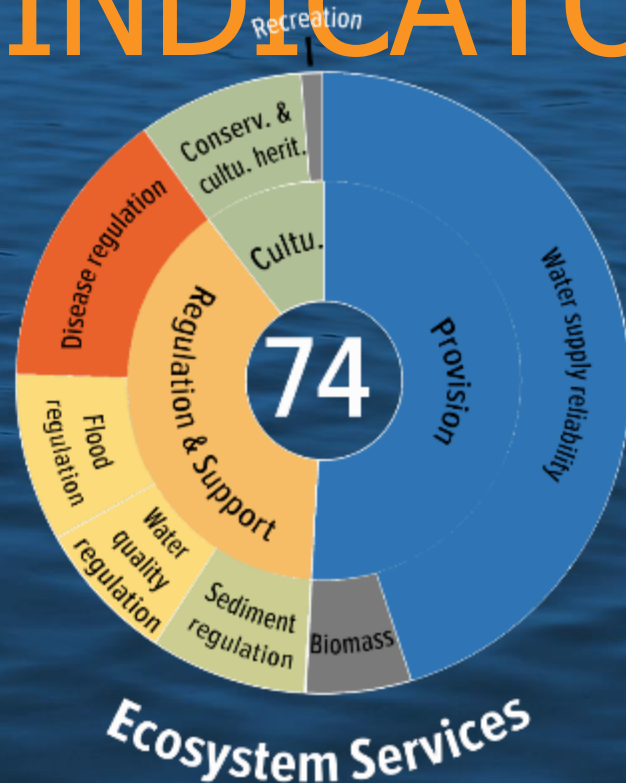
- Strategic planning & adaptive management
- Monitoring & learning mechanisms

Effectiveness

- Enforcement & compliance
- Distribution of benefits
- Water-related conflict



FHI TAKES THE FORM OF COMPOSITE INDICATOR



FHI GOALS



Assess freshwater
health status and
trends



Evaluate tradeoffs
and synergies of
future scenarios



Apply indicators within a
basin to guide
management and
policies

Vision for the FHI in the uMzimvubu

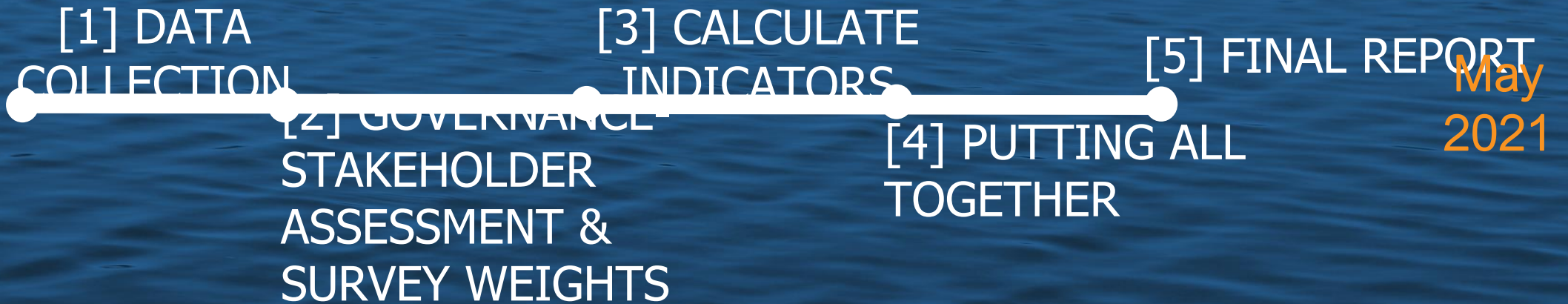
- Support implementation of the Freshwater Health Goals
- Assimilate all relevant existing data
- Assemble technical committee to help calculate indicators
- Contribute to ensuring the regular production of the “State of the Basin Report”
- Host training and capacity development workshops for interested collaborators

WHO ARE THE AUDIENCE AND TARGET USERS?

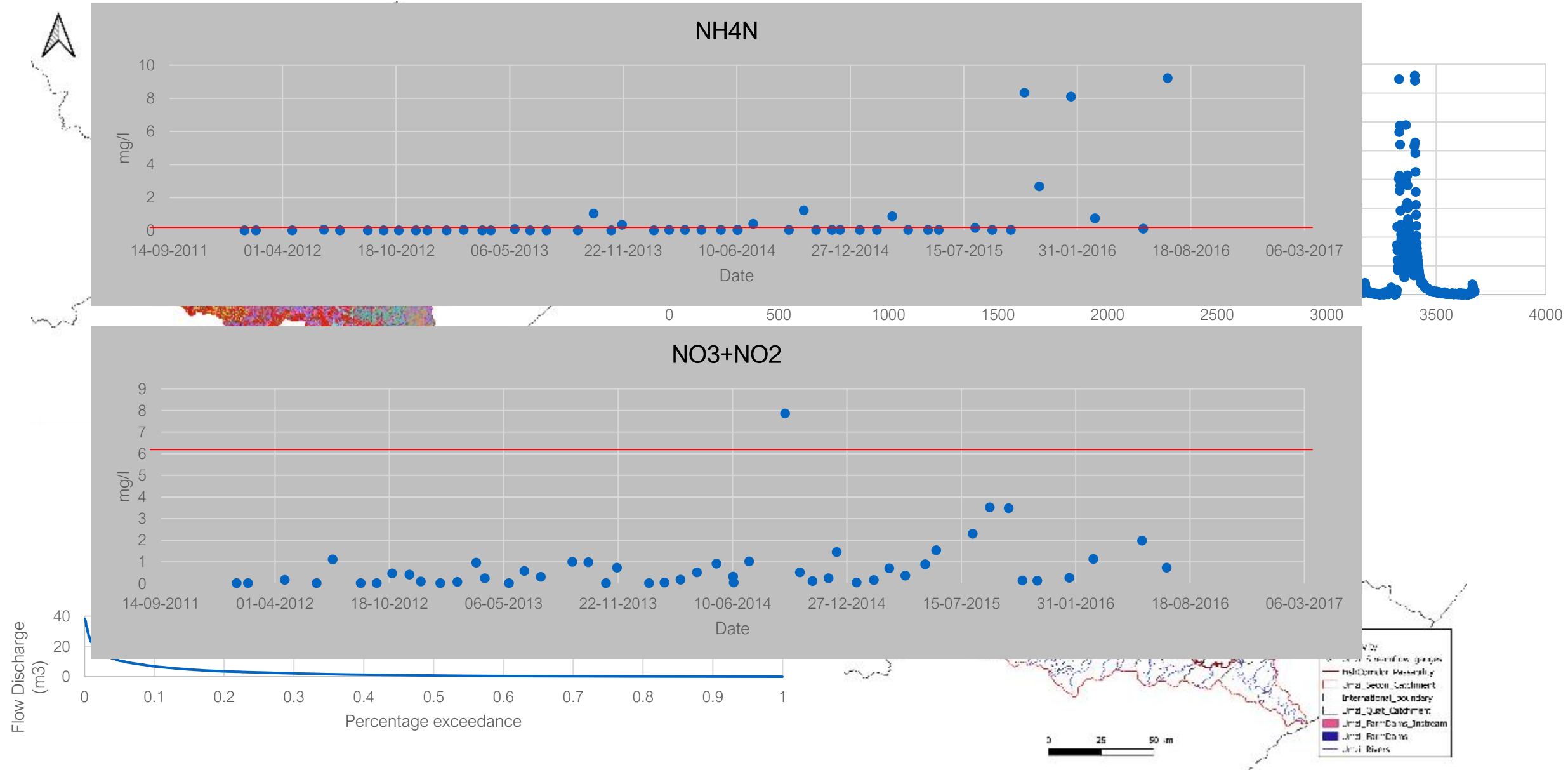
- ✓ Not intended for use by a single person or organization
- ✓ Designed to engage multiple stakeholders – from river basin organizations and water utilities, to regional and national ministries, corporations and NGOs – in a particular basin or region
- ✓ Working together, users can evaluate scenarios, understand the trade-offs of certain decisions, prioritize actions and communicate about basin health with a broad audience.

TIMELINE

April
2020



What has happened?



Focus on Ecosystems

Freshwater Health Index Tool 1.2.19254.1 [UMZIMVUBU_21.9.2020]

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Ecosystem Vitality

66



Water Quantity

Flow Deviation: DvNF
(0.50)

Groundwater Storage
65 (0.50)

Basin Condition

Channel Modification
89 (0.33)

Connectivity
44 (0.33)

Land Cover Naturalness
77 (0.33)

Biodiversity

Species of Concern
45 (0.50)

Invasive Species
(0.50)

Stakeholder Engagement



ASSESSING GOVERNANCE

- FHI was among the first water assessment tools to include governance indicators. This is routinely cited as one of its most innovative and interesting features.
- Measured through a stakeholder survey, which provides a rich dataset on a range of topics.





THANK YOU!

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