



THE FRESHWATER HEALTH INDEX

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CONSERVATION
INTERNATIONAL



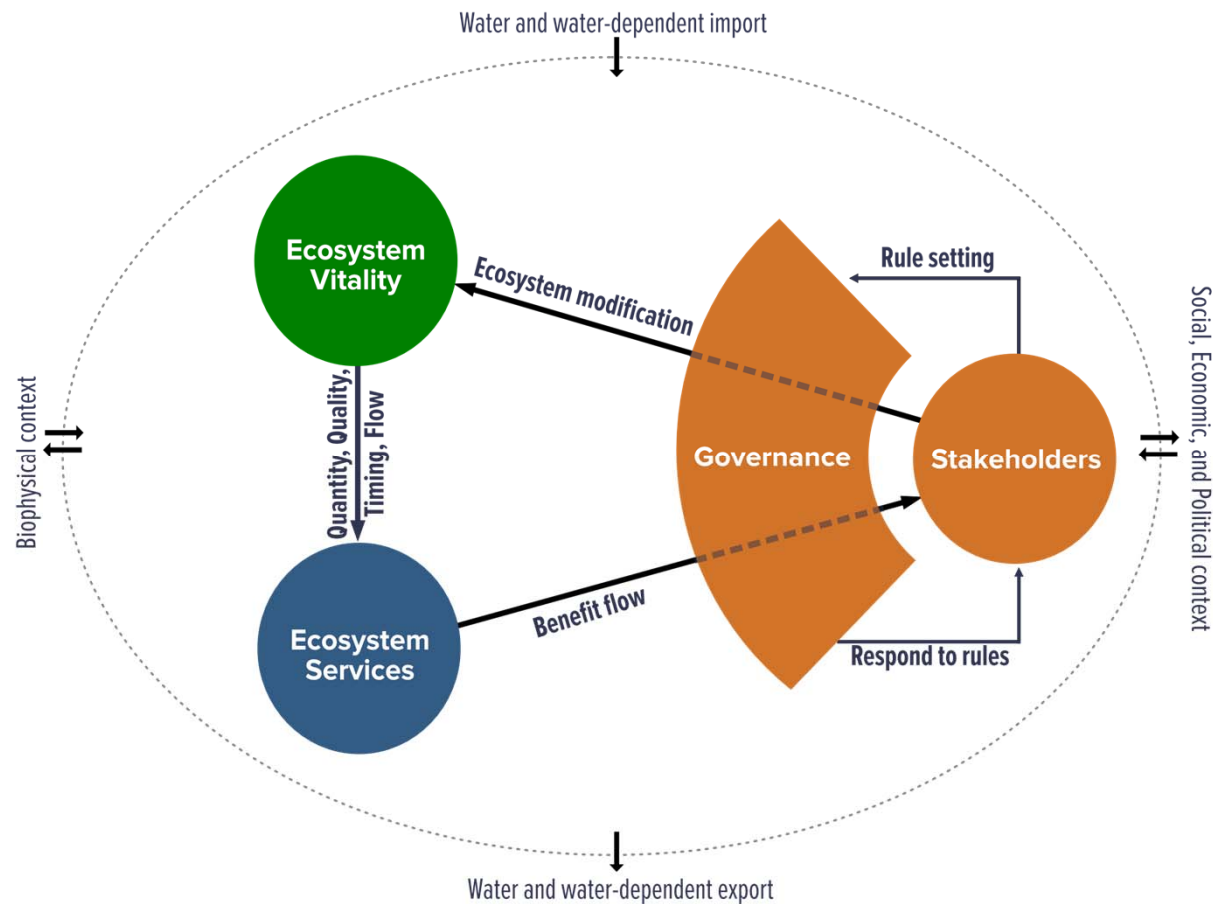
FRESHWATER HEALTH INDEX



Measures catchment health by making clear connections between the ecosystem and the benefits it provides to people



THE FHI CONCEPTUAL MODEL



FRESHWATER HEALTH INDEX

- Turns data into knowledge
- Scores between 0-100
- Flexible indicator calculation
- Can use a variety of data sources (more on this tomorrow)



ECOSYSTEM VITALITY

Water Quantity

- Deviation from natural flow
- Change in groundwater

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

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WHERE WE HAVE BEEN WORKING



CONSULTATION

- Stakeholders group established from the IUCN Bridge Network
- FHI provided a common indicator framework
- Government, academic and NGO representatives
- Participated in three workshops and undertook the Governance & Stakeholders survey and weighting exercise

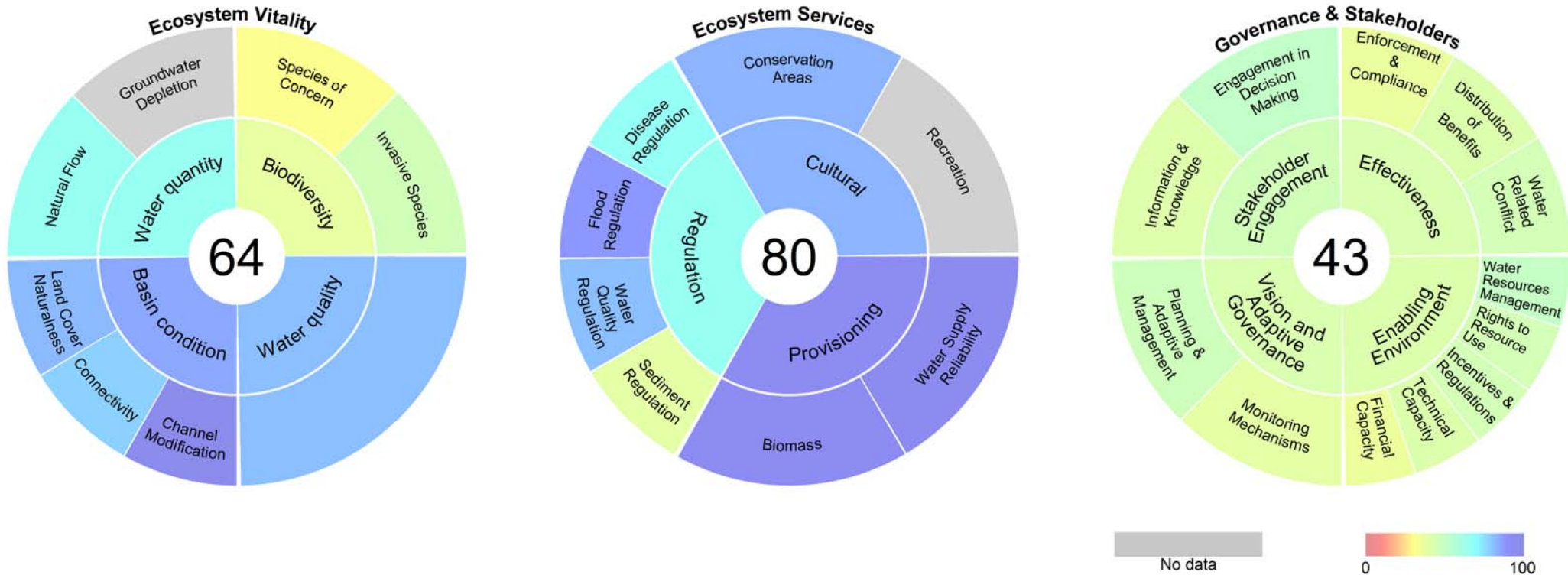


SESAN, SREPOK & SEKONG RIVER BASIN

- 78,650 km²
- 3.4 million people, 24% in poverty
- 14 critically endangered or endangered fish species
- Important for migratory fish
- 10% Mekong River Basin area
- 25% flow
- 15% sediment



FHI ASSESSMENT - DECEMBER 2016

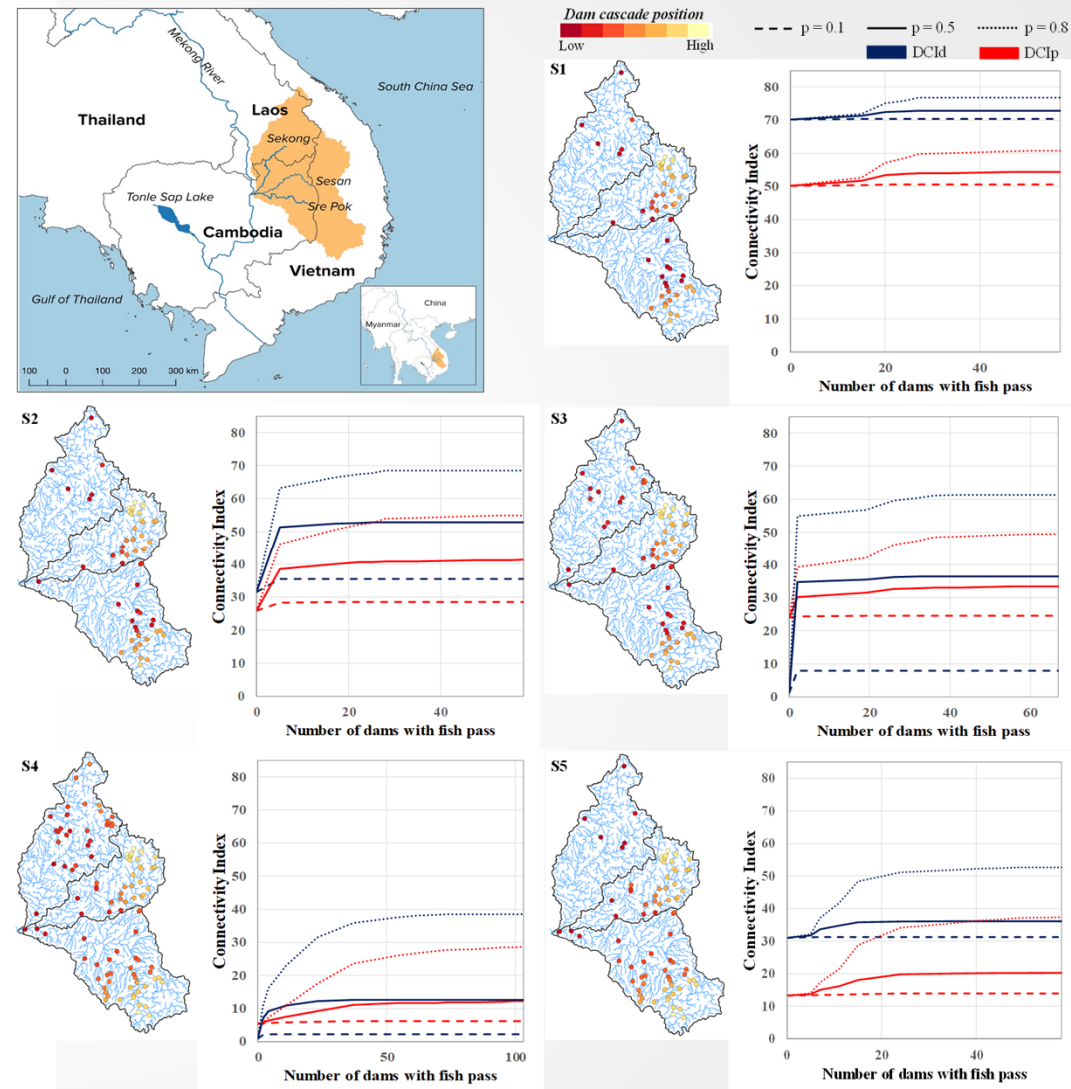


Functioning ecosystem that is showing signs of stress. Ecosystem providing desired services. Limited capacity to respond to rapid change.



FISH PASSAGE SCENARIOS

- Scenario assessment of a range of dam development scenarios and passability
- Read all about it in Shaad et al (2018)*



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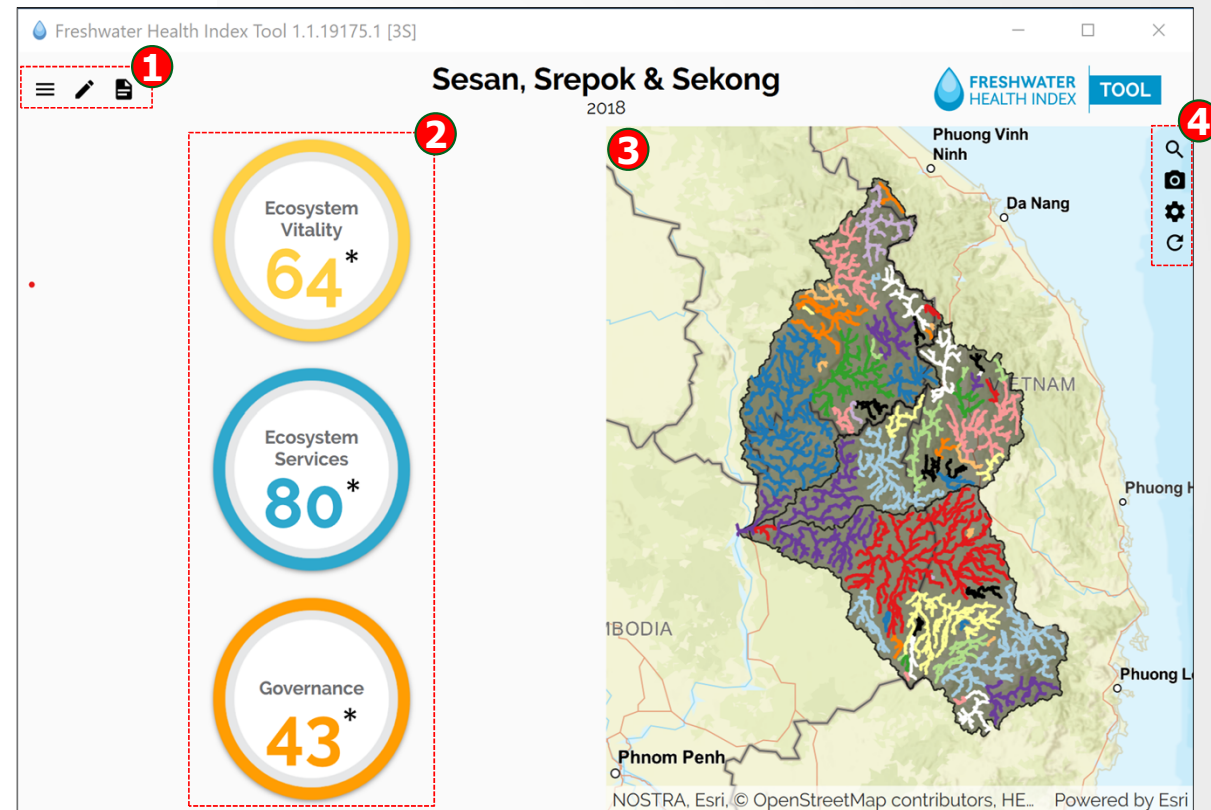
APPLICATIONS AND IMPLEMENTATION SHORT COURSE

- March 2018, National University of Laos Vientiane
- May 2018, Cambodian National Mekong Committee, Phnom Penh
- November 2018, Centre for Water Resource Monitoring and Forecast, Hanoi



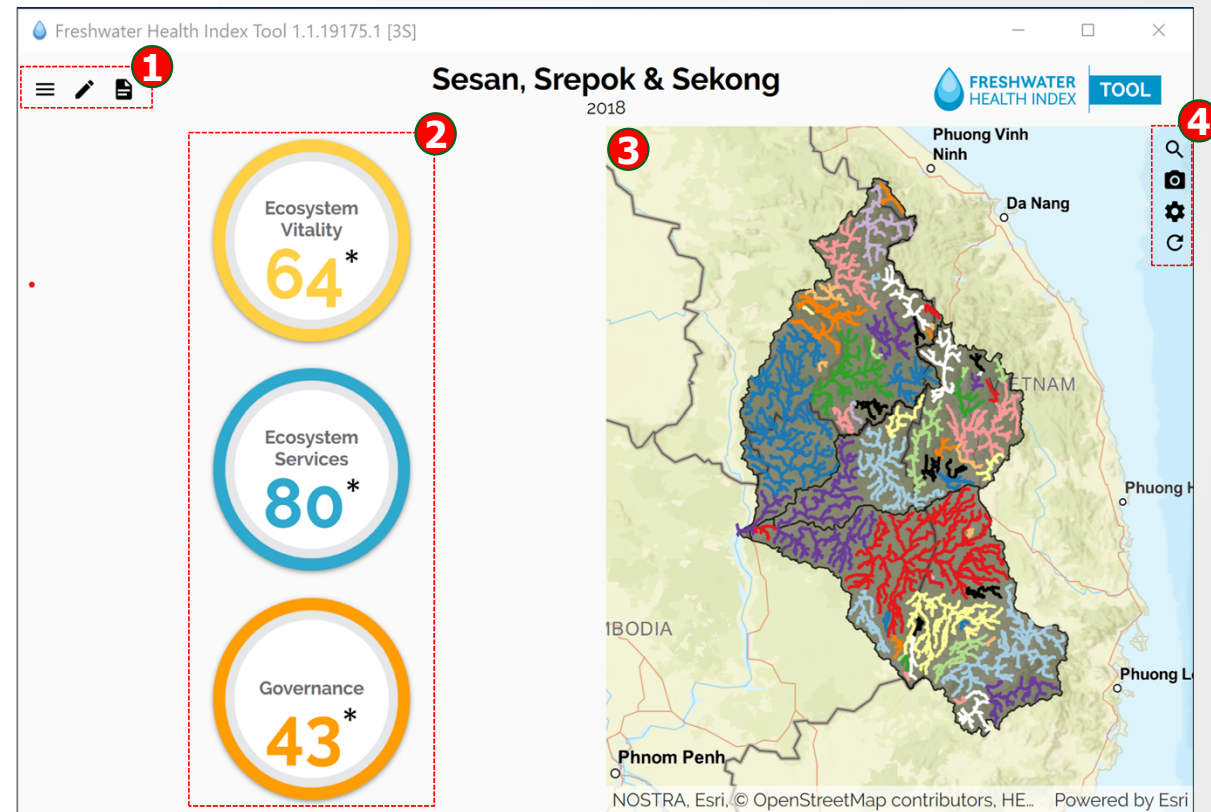
FHI TOOLBOX

- Stand along desktop toolbox
- Calculates a range of indicators
- Aggregates all indicators and provides a final score
- R code is being developed for more options
- Google Earth Engine is also being considered



FHI TOOLBOX

1. Main menu
2. Summary scores
3. GIS panel
4. Panel controls



POLICY RELEVANCE

- Assessed the alignment of the FHI indicators against the governance frameworks of Lao PDR, Cambodia and Viet Nam
- Ecosystem Vitality indicators showed greater alignment than Ecosystem Services
- The FHI is a policy relevant tool



Article

Aligning the Freshwater Health Index Indicator System against the Transboundary Water Governance Framework of Southeast Asia's Sesan, Srepok, and Sekong River Basin

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WORKSHOP SESSION

- Do you see the FHI outputs as potentially relevant for policy and planning?
- Can you identify any sources of data that would be useful for an FHI assessment?
- Where are there major data gaps in undertaking an FHI assessment?
- Interactive demonstration of the FHI toolbox





THANK YOU

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