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Global Lead, Water Security, The Nature
Conservancy





Investing in Nature 投资自然

IWRA Conference, Beijing, September 2023



Ecological Integrity
生态完整性

Photo: © Nick Hall

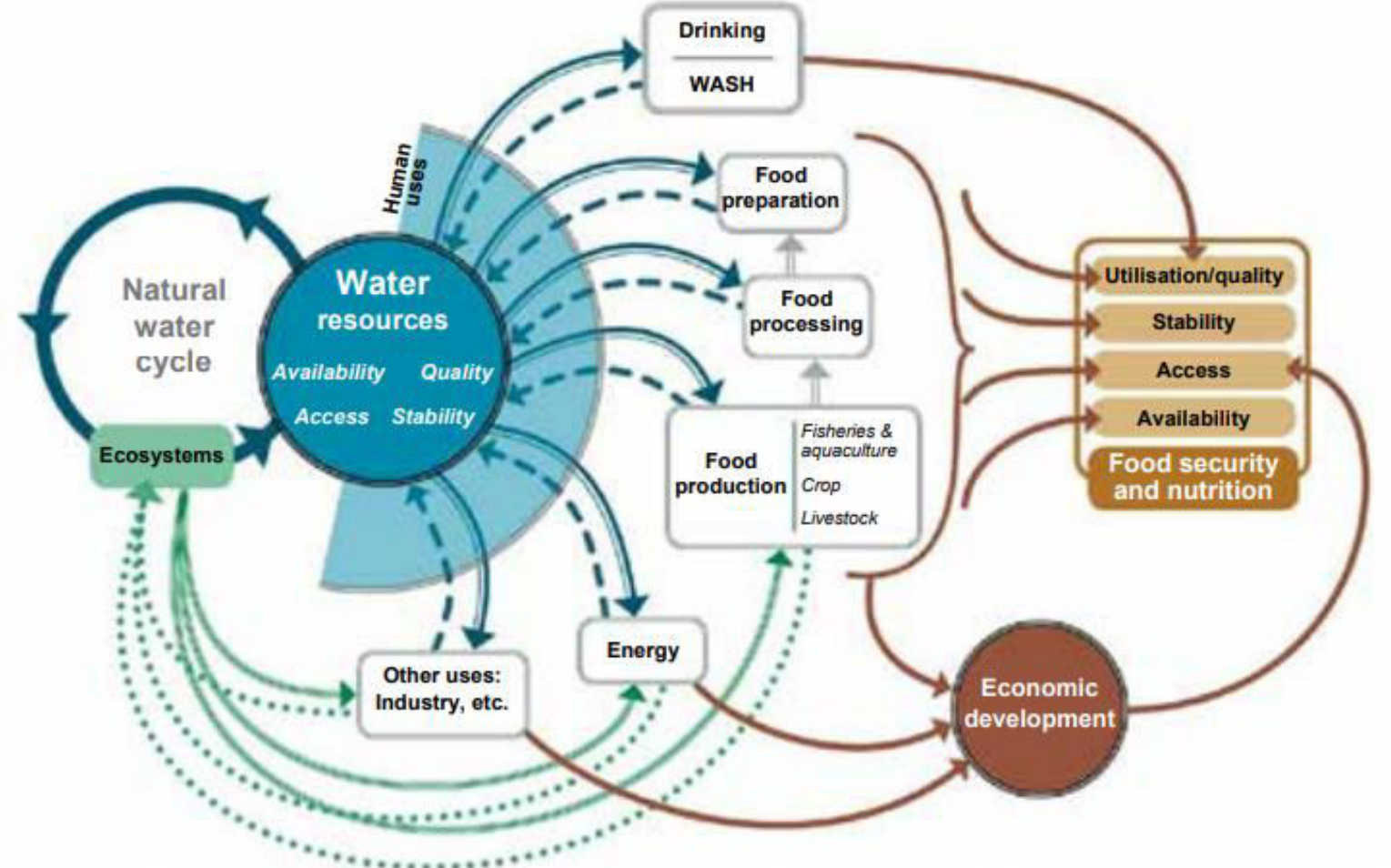


Water Security
水安全

Photo: © Ami Vitale

Ecological Systems Sustain Water Systems

生态系统维持水系统



Source: The What, How and Why of the World Water Crisis, 2023, Global Commission on the Economics of Water



40%
watersheds degraded

40%
的流域已退化




37%
of rivers remain free-flowing

37%
的河流自由流淌



32%
of watersheds suffer severe water shortages

32%
的流域严重缺水

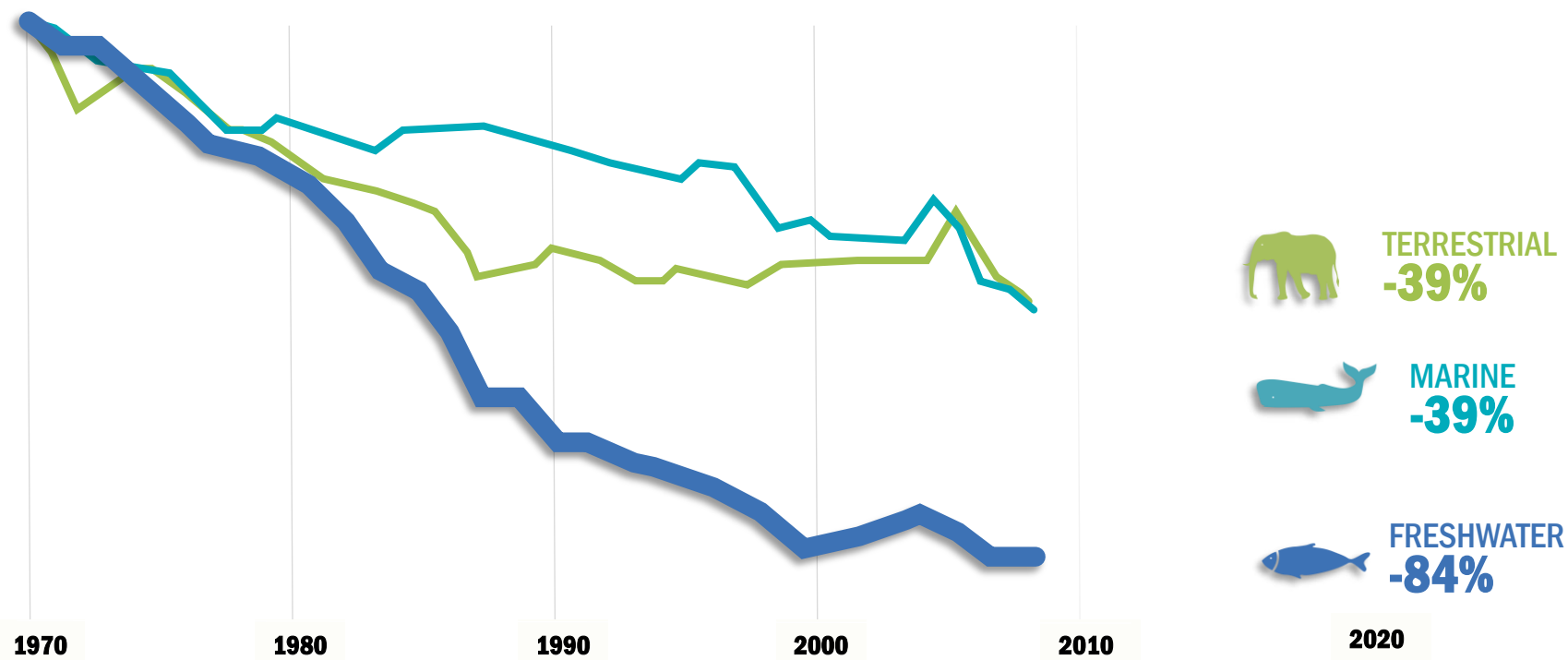


87%
of global wetlands have been lost in the past 300 years

在过去300年中
全球87%的湿地已经消失

Freshwater Biodiversity Population Decline is Greater than other Biomes

淡水生物多样性种群下降幅度大于其他生物



Source: WWF, Living Planet Index – D, 2014

We envision that water systems can be managed to be regenerative and restorative to nature 我们设想可以对水系统进行管理，使其再生并恢复自然

The challenges



What we strive for



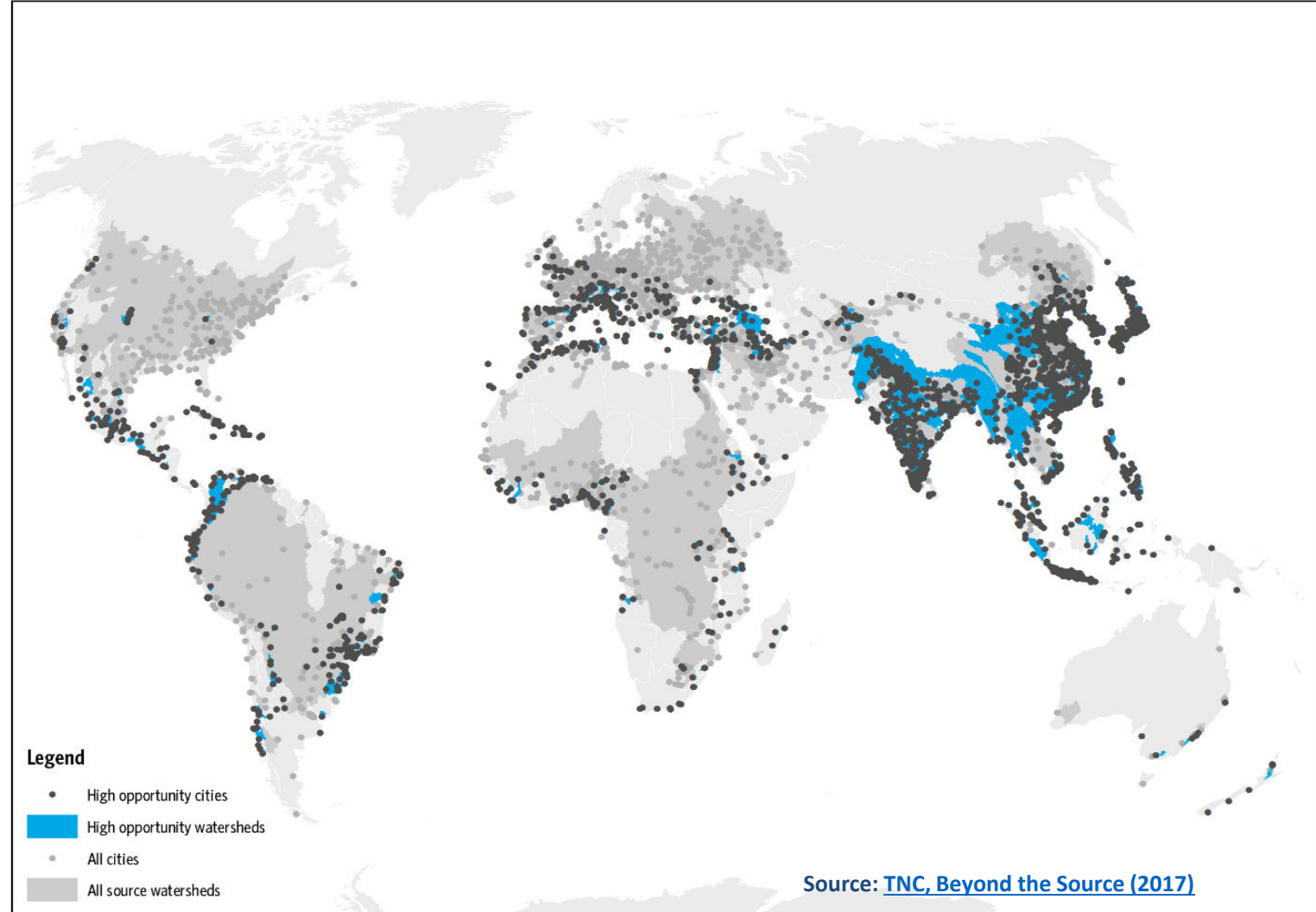
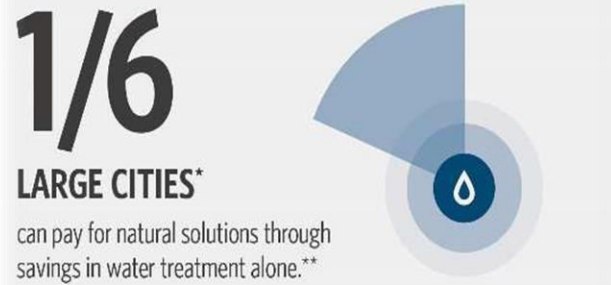
NBS to improve water quality: a global opportunity

NBS改善水质：全球机遇

- 1000 cities could generate a positive ROI
1000个城市可以产生正投资回报率
- Half of all cities for less than \$2/person/year
一半城市的人均年收入低于2美元

How can nature help?

The lands around our water sources serve as vital infrastructure that can meaningfully improve water quality and quantity for cities worldwide



State of knowledge regarding the efficacy of NBS

关于NBS效用的知识状况

WATER SECURITY CHALLENGE	WATER AVAILABILITY		DISASTER RISK	WATER QUALITY		Potential for multiple co-benefits
	Dry season flows	Groundwater recharge	Flood risk	Erosion & sediment	Nutrients & pollutants	
Protection						
1 Targeted habitat protection	✓	✓	✓✓	✓✓	✓	Dark Green
Restoration						
2 Revegetation	✓	✓	✓✓	✓✓	✓	Dark Green
3 Riparian restoration	✓	✓	✓	✓✓	✓✓	Light Green
4 Wetlands restoration	✓	✓	✓✓	✓	✓✓	Dark Green
5 Floodplain restoration	✓	✓	✓✓	✓✓	✓	Dark Green
Management						
6 Agricultural BMPs		✓		✓✓	✓✓	Light Green
7 Ranching BMPs	✓	✓		✓	✓	Light Green
8 Forestry BMPs	✓			✓	✓	Dark Green
9 Fire Management			✓✓	✓✓	✓	Dark Green
Created Habitats						
10 Artificial wetlands	✓	✓	✓	✓	✓✓	Light Green
11 Sustainable Urban Drainage Systems (SuDS)	✓✓	✓	✓✓	✓	✓✓	Light Green

LEGEND	LOW	MEDIUM	HIGH
Magnitude of water security benefit	Light Blue	Medium Blue	Dark Blue
Depth of evidence		✓	✓✓
Potential for multiple co-benefits	Light Green	Medium Green	Dark Green

Challenges 挑战

- Lack of clarity regarding costs and benefits of NBS relative to other investments
与其他投资相比，NBS的成本和收益不明确
- Lack of ability to work beyond jurisdictional boundaries, or to create collective action
缺乏超越管辖范围开展工作或采取集体行动的能力
- Lack of data and evidence of impact
缺乏影响的数据和证据
- Lack of enabling policies or at least, the absence of policy barriers
缺乏扶持政策，或者至少没有政策障碍

Water Funds are location specific mechanisms to deliver Nature-based Solutions

水资源基金是提供基于自然的解决方案的特定地点机制

Water Funds unite public, private and civil society stakeholders around the common goal of contributing to water security through nature-based solutions and sustainable watershed management



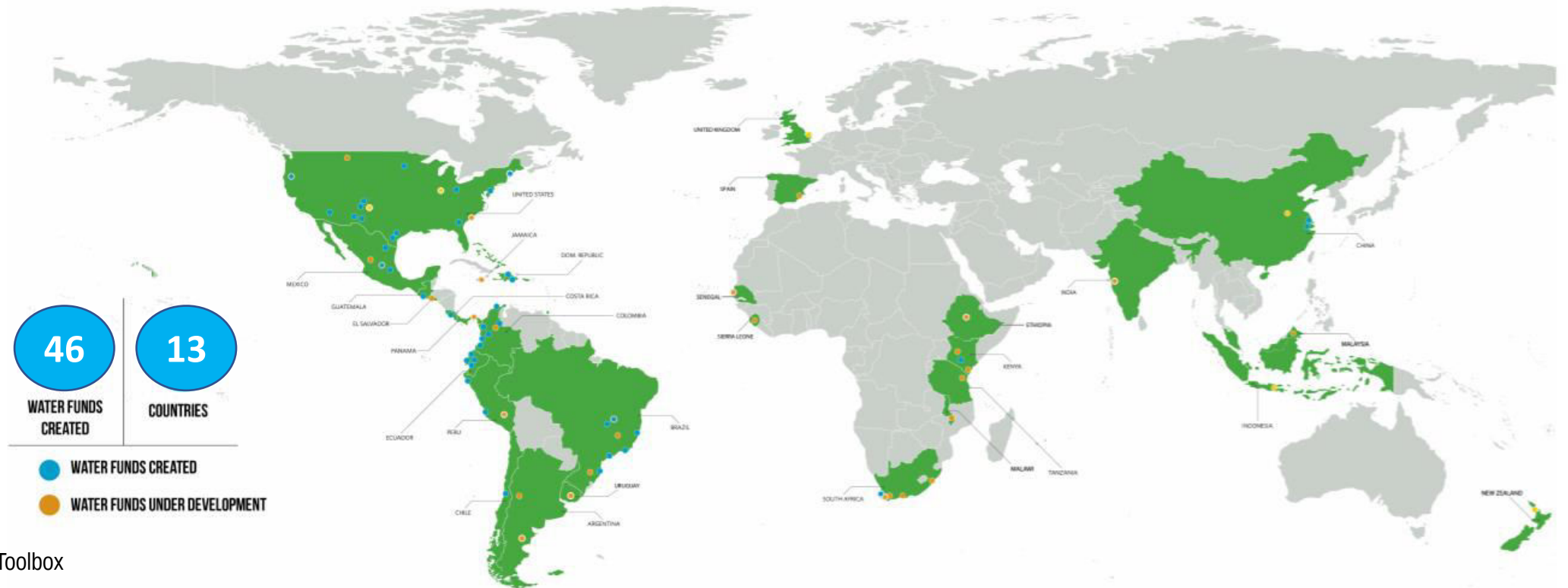
TNC water fund track record touches every region: over 215 partners to create 46 water funds in 13 countries.

TNC与超过215个合作伙伴在13个国家创建了46个水基金。

Outcomes include over **530,000 hectares of land under improved management** and an estimated **100,000 people with increased place-based economic opportunity**. We have received **300+** requests pending to help invest in nature-based solutions for water security from corporations, governments, utilities and financiers.

超过**53万公顷**土地的管理得到了改善，估计有**10万人**获得了更多的地方经济机会。

我们已经收到了**300多份**企业、政府、公用事业公司和金融家提出的帮助投资于基于自然的水安全解决方案的请求。

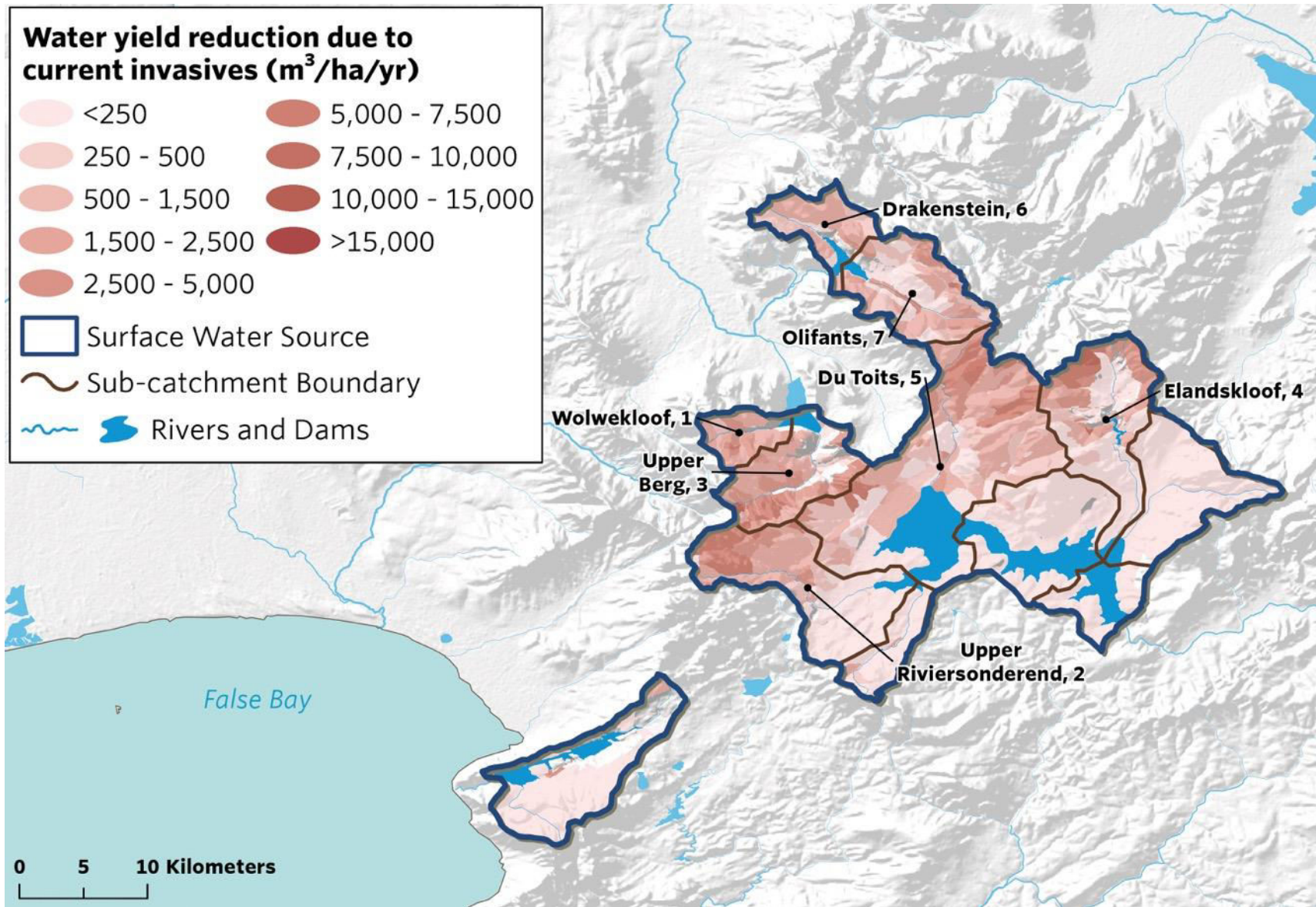


Cape Town | Unique Biodiversity is Threatened by Alien Plant Invasions
开普敦 | 独特的生物多样性受到外来植物入侵的威胁



Cape Town | 55 Billion Liters of Water a Year is Lost to Alien Plant Invasion

开普敦 | 外来植物入侵导致每年损失550亿升水

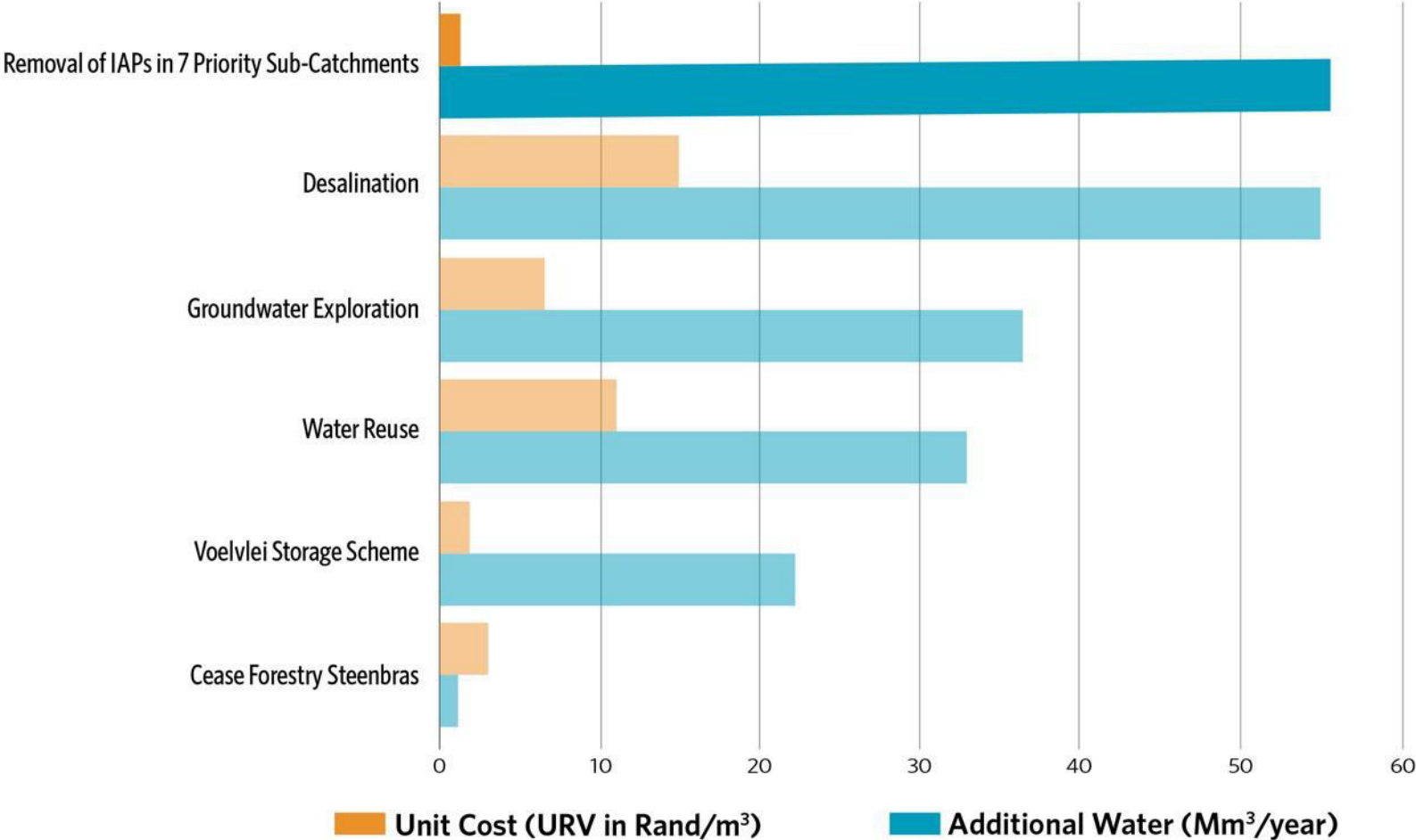


Two-Thirds of Sub-Catchments are Invaded by Alien Plants

Cape Town | Alien Plant Invaded Landscapes Increase Risks Of Devastating Wildfires
开普敦 | 外来植物入侵景观增加了毁灭性野火的风险

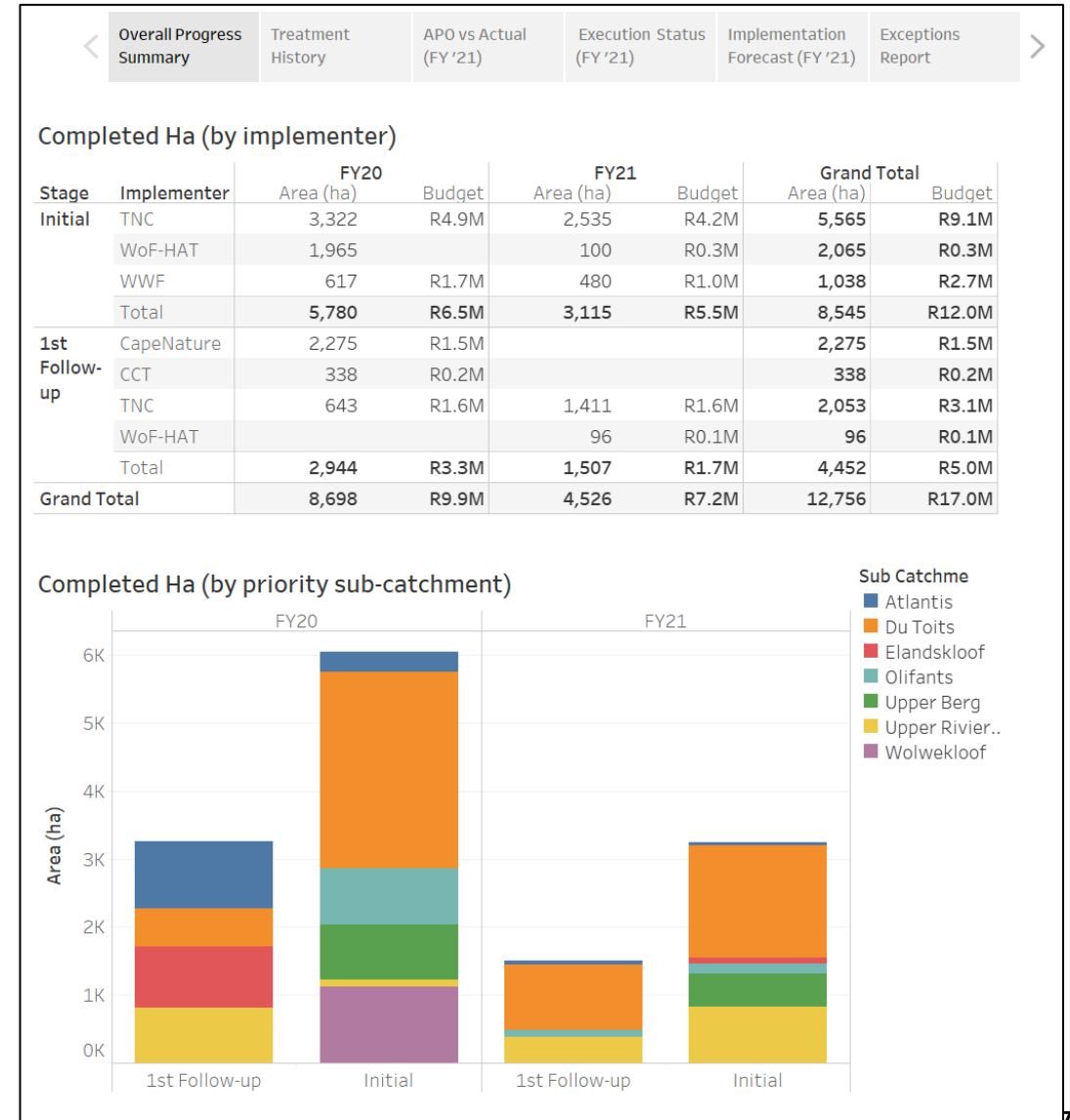
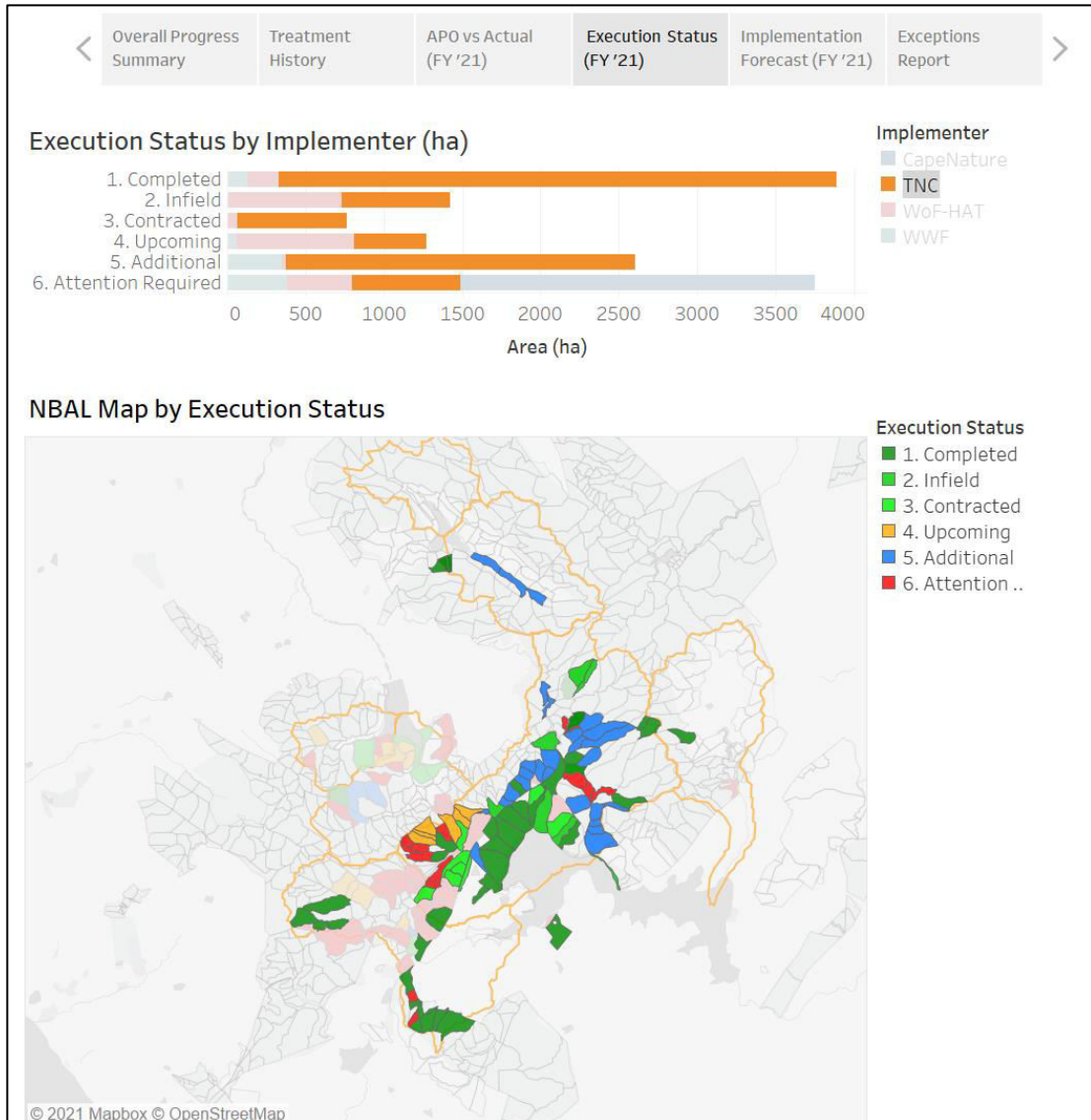


CATCHMENT RESTORATION INCREASES WATER SUPPLY AT THE LOWEST UNIT COST



Greater Cape Town Water Fund | Shared purpose, multiple parties

大开普敦水基金 | 共同目标, 多方参与



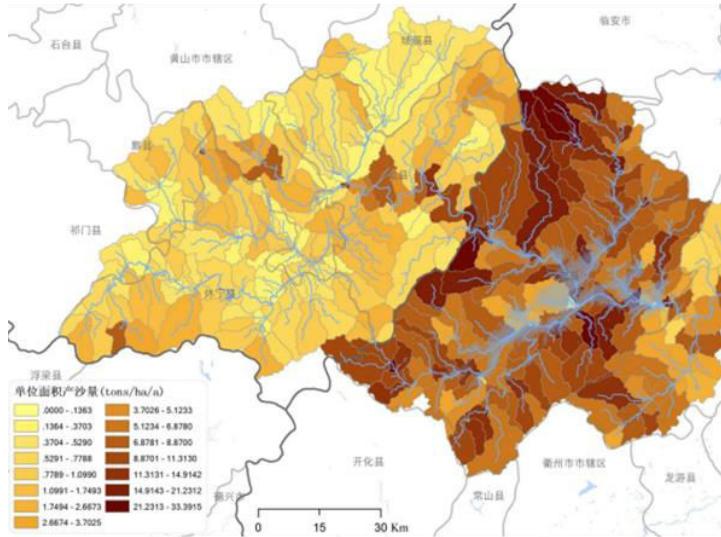
Qiandao Lake | Regenerative Practices to Maintain Balance
千岛湖 | 保持平衡的再生实践



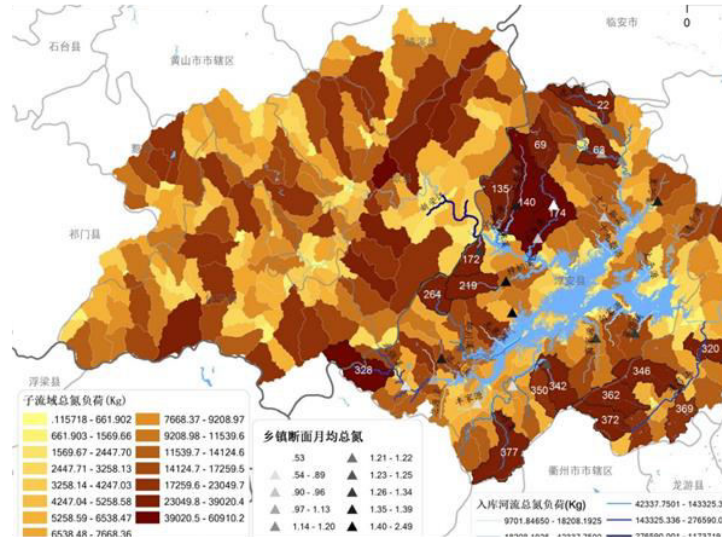
Zhejiang Qiandao Lake (China): Nonpoint source pollution threatens water source quality

浙江千岛湖：面源污染威胁水源质量

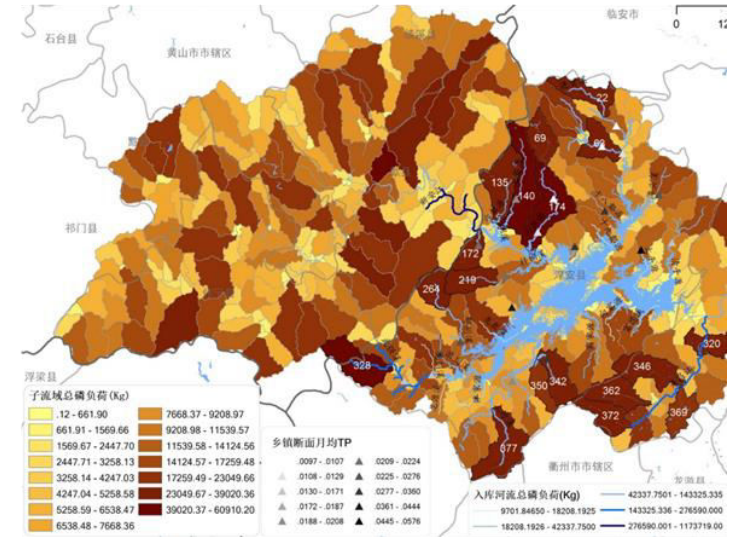
Qiandao Lake Sub-basin sediment yield in unit area



Qiandao Lake Sub-basin Nitrogen load

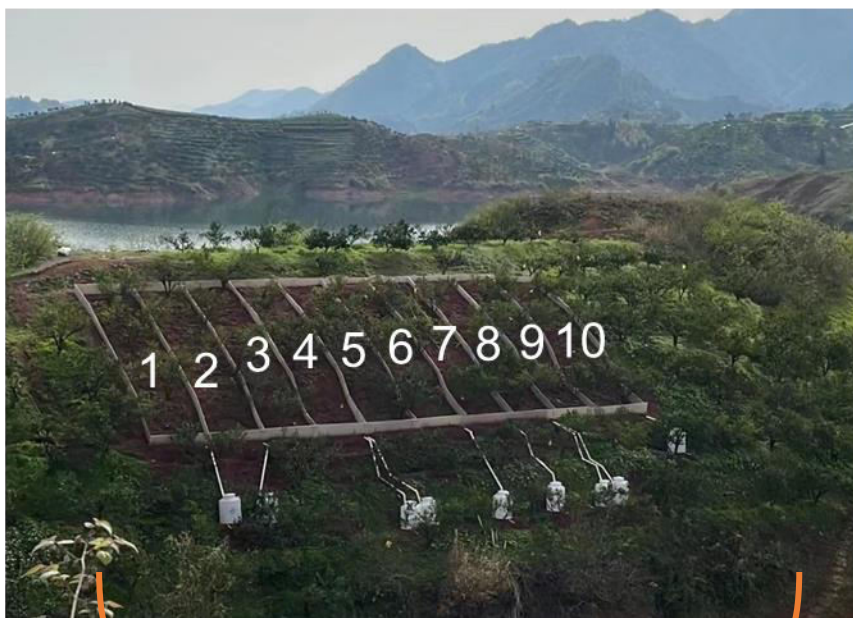


Qiandao Lake Sub-basin Phosphorus load



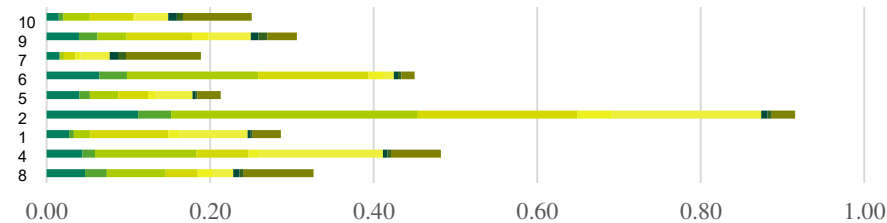
Watershed Analysis conducted by the World Bank and TNC
由世界银行和TNC进行的流域分析

Example: (Citrus) Orchard

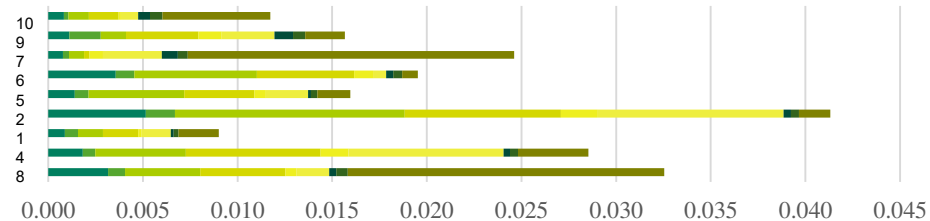


1. Hedgerows (vetiver)
2. Hedgerows (broadleaf paspalum)
3. Abandoned cell
4. Blank control
5. Groundcover (Astragalus sinicus + Medicago falcata)
6. Groundcover (Lolium multiflorum L.+ Medicago falcata)
7. Groundcover (Lolium multiflorum L. + Vicia villosa Roth var.)
8. No fertilization
9. Groundcover(Astragalus sinicus) + Hedgegrows (vetiver)
10. conditioner

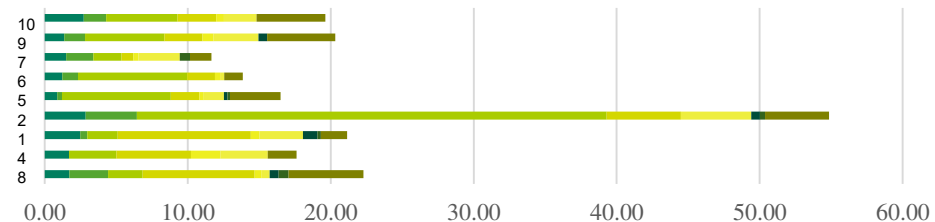
TN 流失量 (kg/ha)



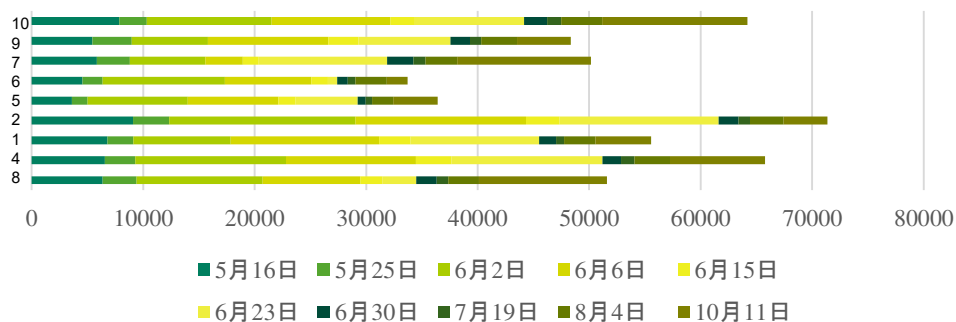
TP流失量 (kg/ha)



sediment (kg/ha)

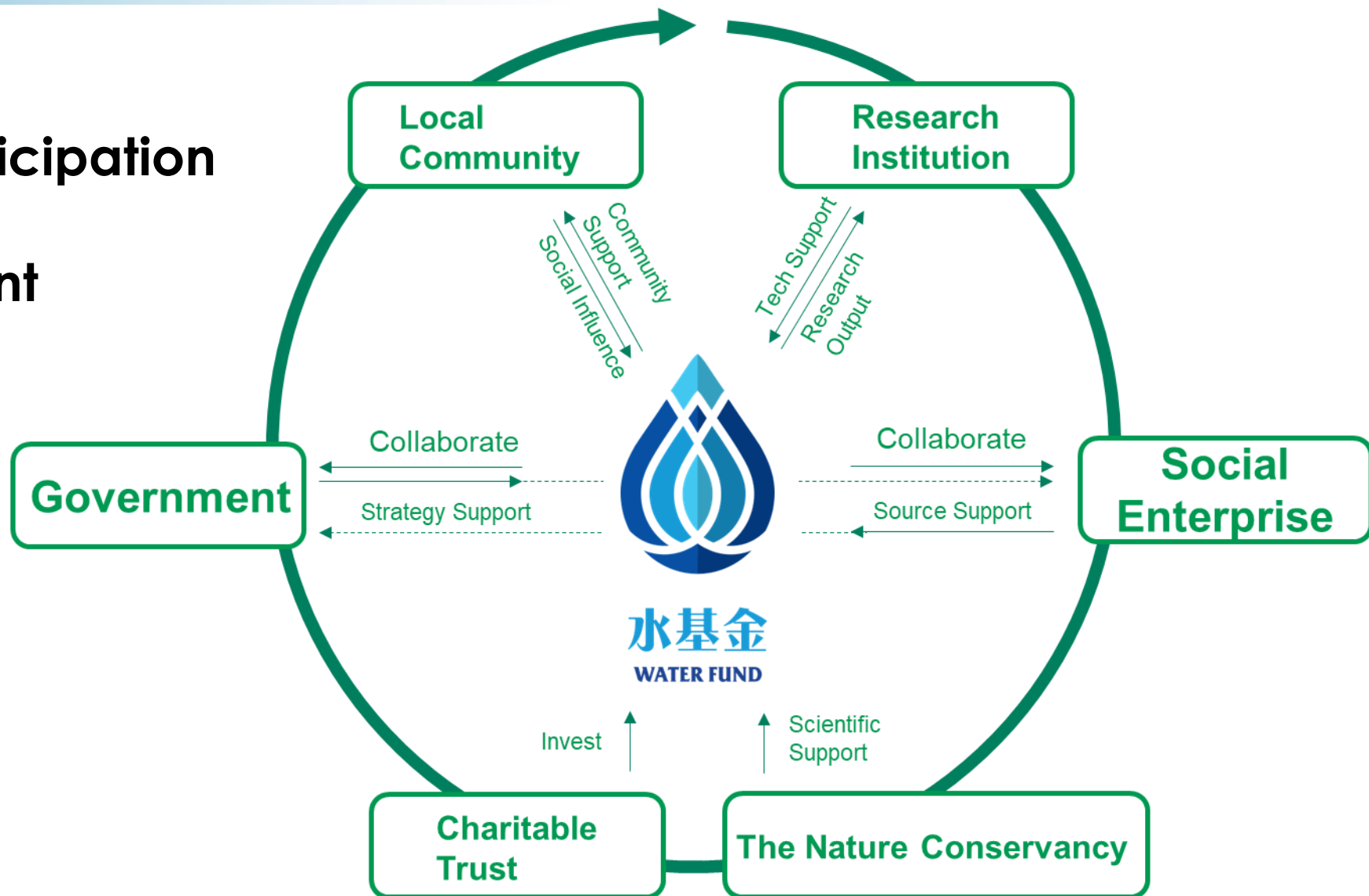


径流量 (L/ha)



Qiandao Lake Water Fund | Shared purpose, multiple parties
千岛湖水基金 | 多方参与, 为同一个目标努力

- Collaborative Participation
- Share Profit
- Benefit Environment
- 协作参与
- 共同受益
- 造福环境



Thank you 谢谢

