



Natural Capital Science and Policy for an Ecological Civilization in China

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Stanford University



natural
capital

P R O J E C T



Five Pillars of National Development in the Chinese Constitution

Economic
Political
Cultural
Societal
Ecological



Elements of Transformation to an Ecological Civilization

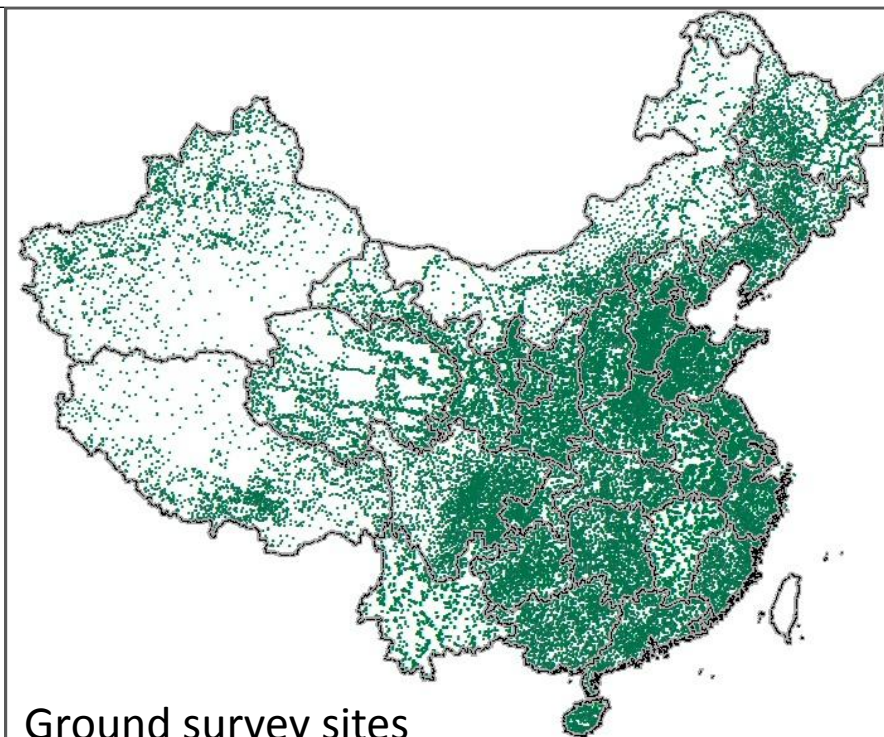
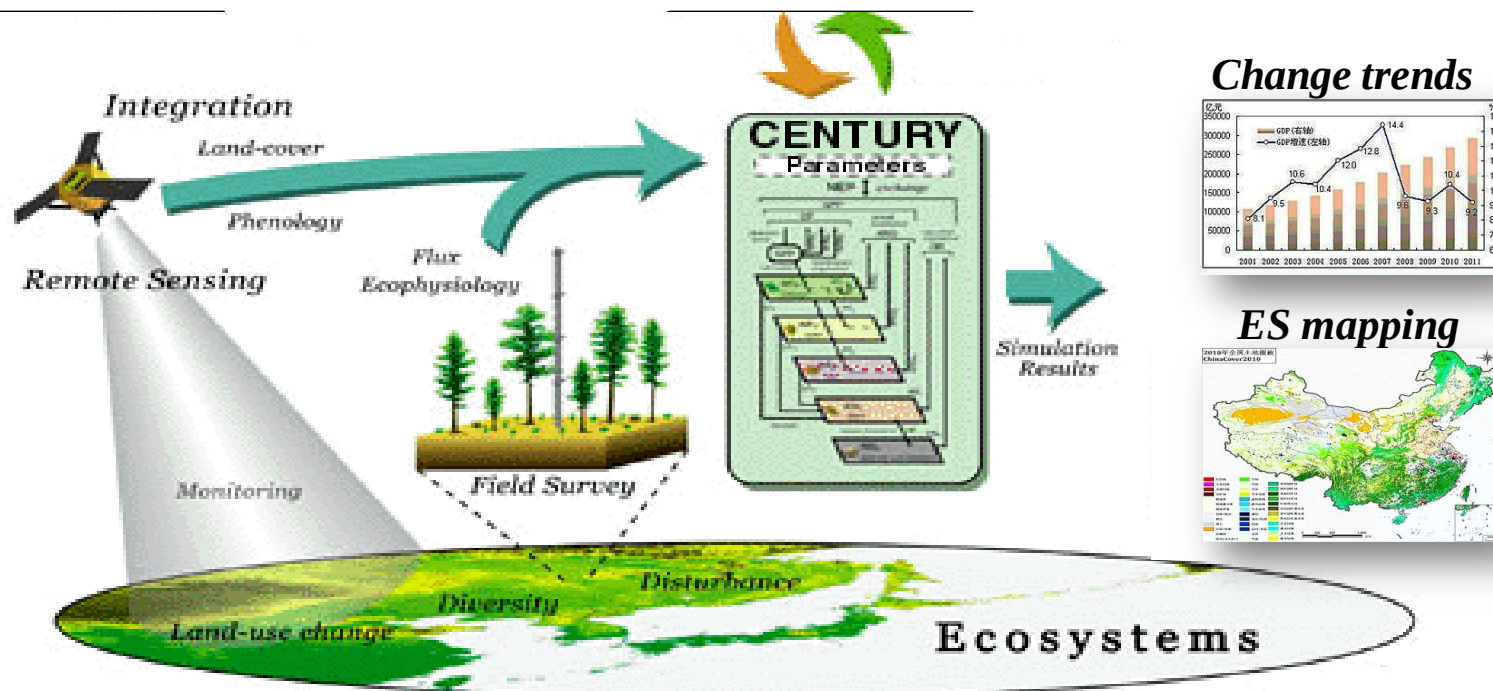
- 1. China Ecosystem Assessment**
2. Land Zoning
3. Ecological Development Strategy
4. Gross Ecosystem Product
5. Building capacity of Belt-and-Road Initiative Countries

China Ecosystem Assessment

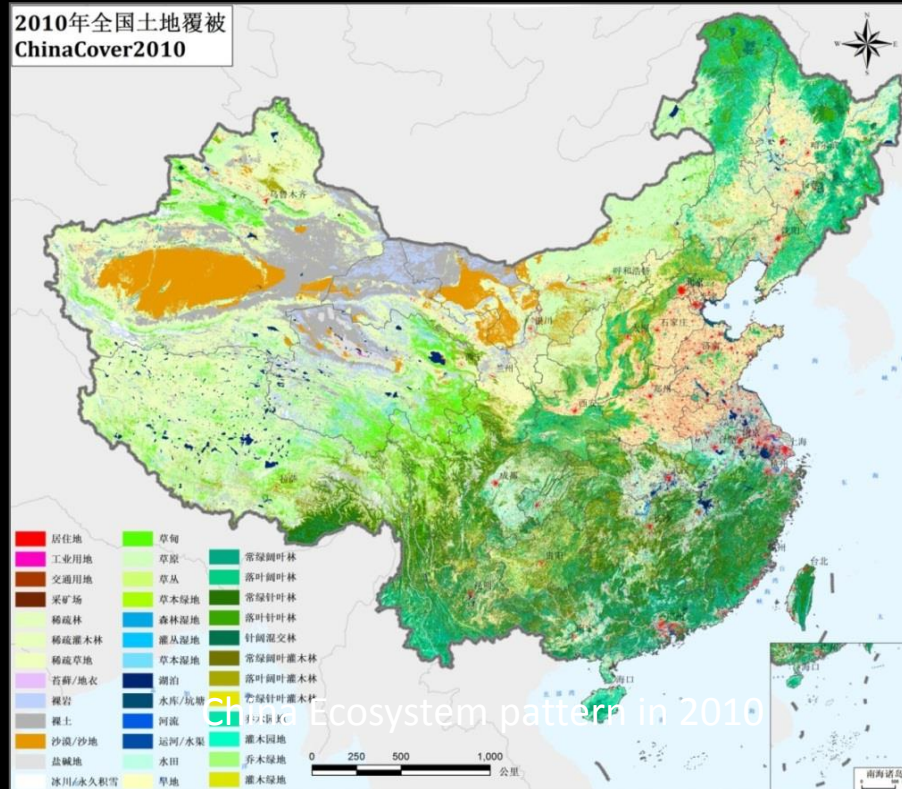
- ✧ Scales: Provincial (31)—Regional—National
- ✧ Remote sensing data: 20,355 images
- ✧ Ground survey sites: 141,500
- ✧ Model and approaches: InVEST

InVEST

integrated valuation of
ecosystem services
and tradeoffs



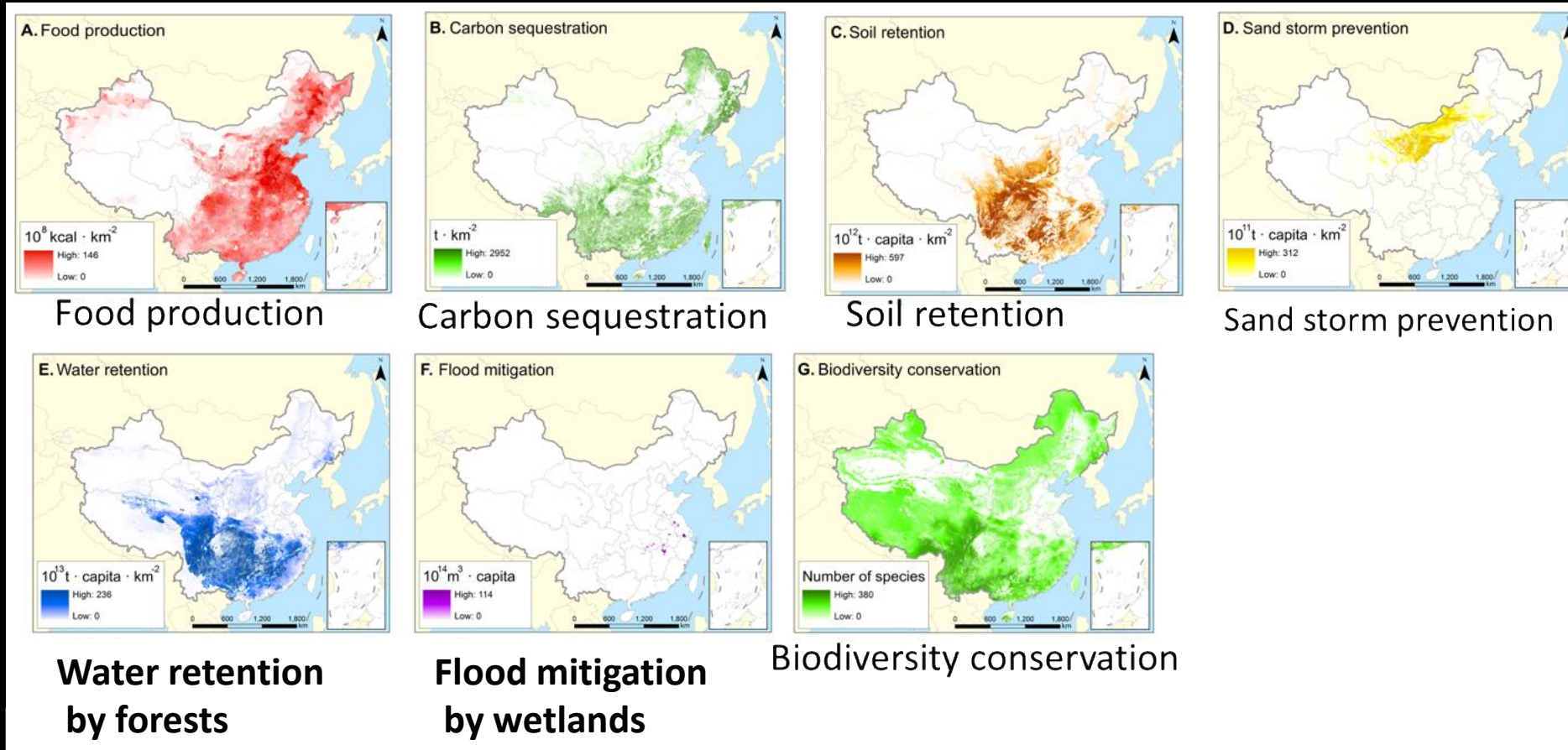
System of Natural Capital Accounts & Quantification of Services



Ecosystem types	Percentages (%)
Grassland	30.0
Forests	20.2
Cropland	19.2
Desert	13.5
Shrubs	7.3
Wetland	3.8
Urban	2.7
Others	3.3

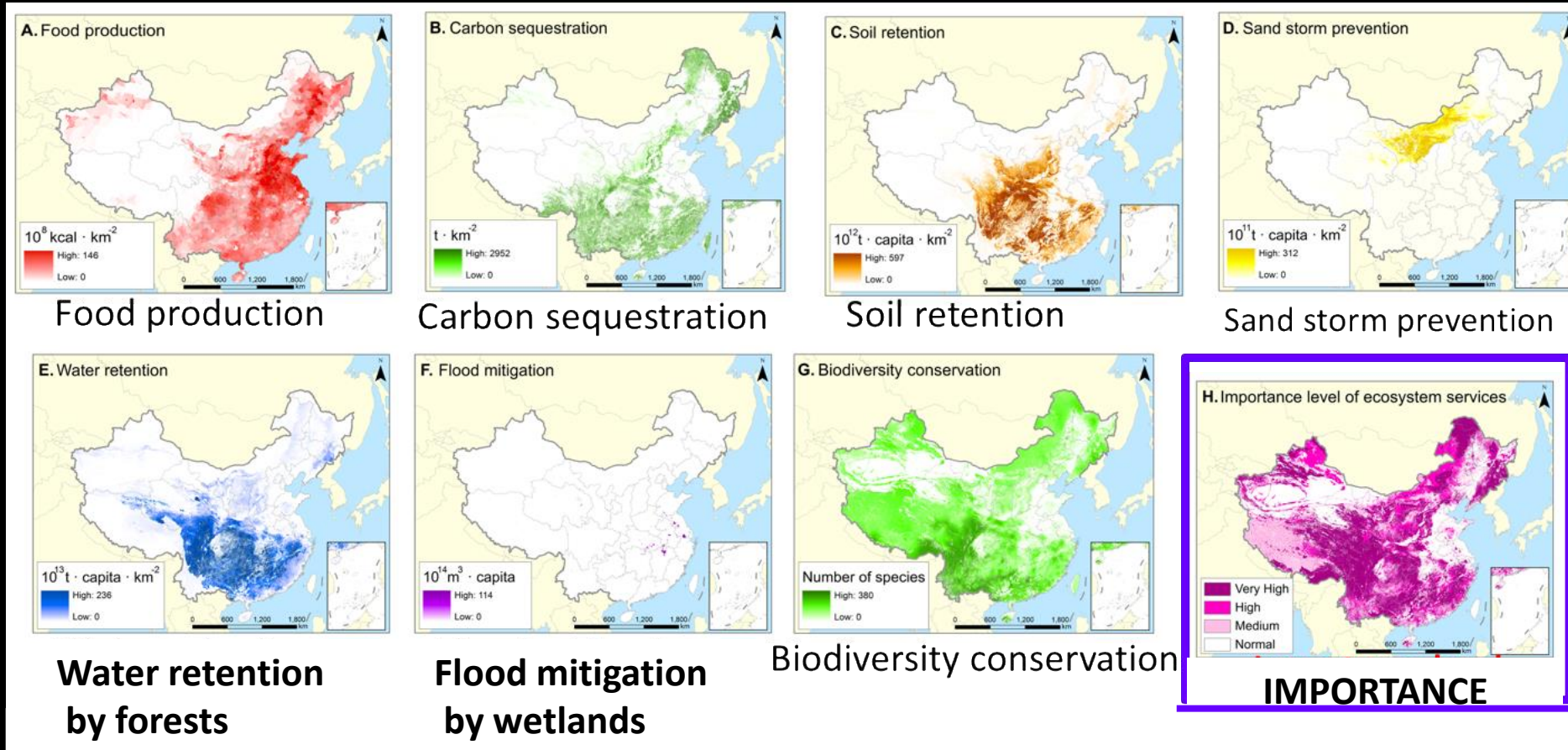
(Ouyang et al
2016 *Science*)

System of Natural Capital Accounts & Quantification of Services



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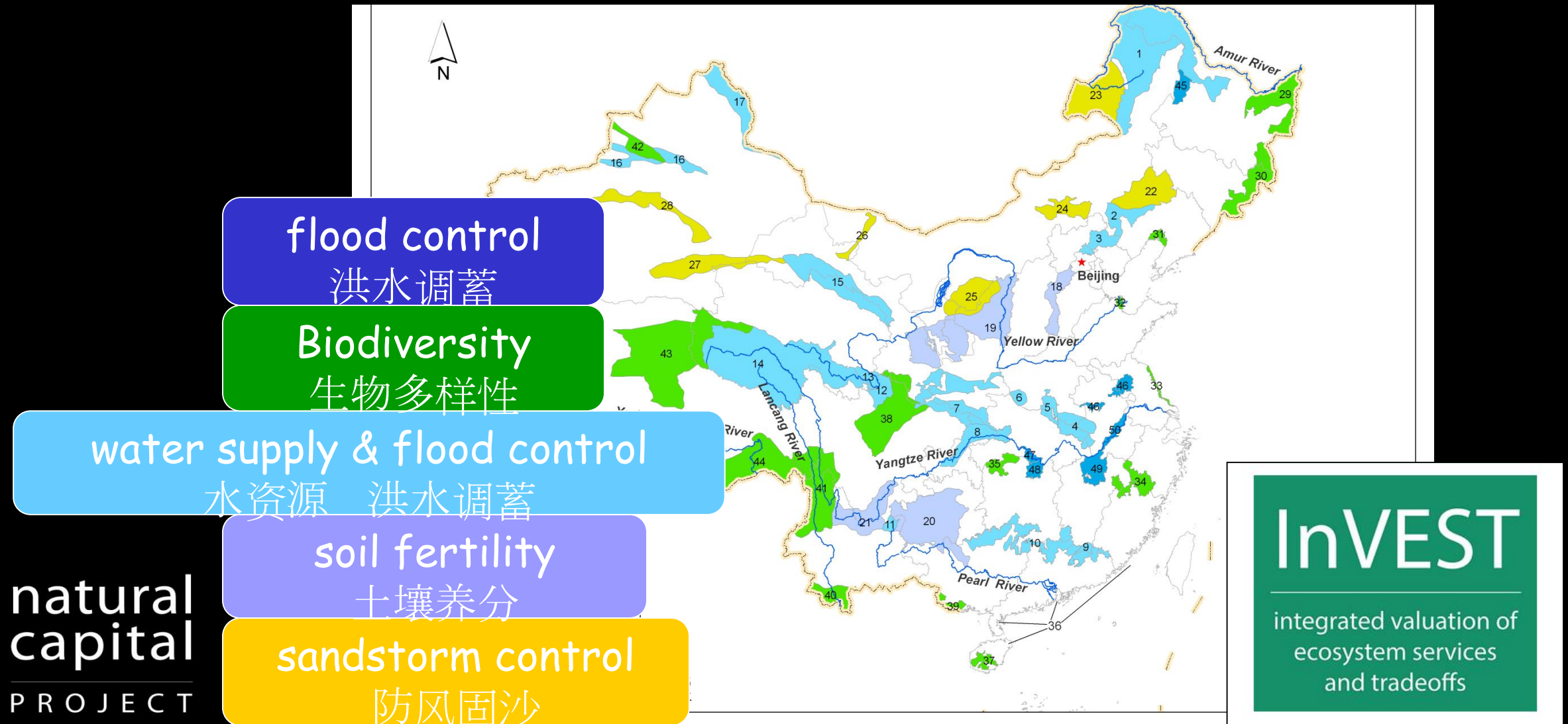
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Building an Ecological Civilization

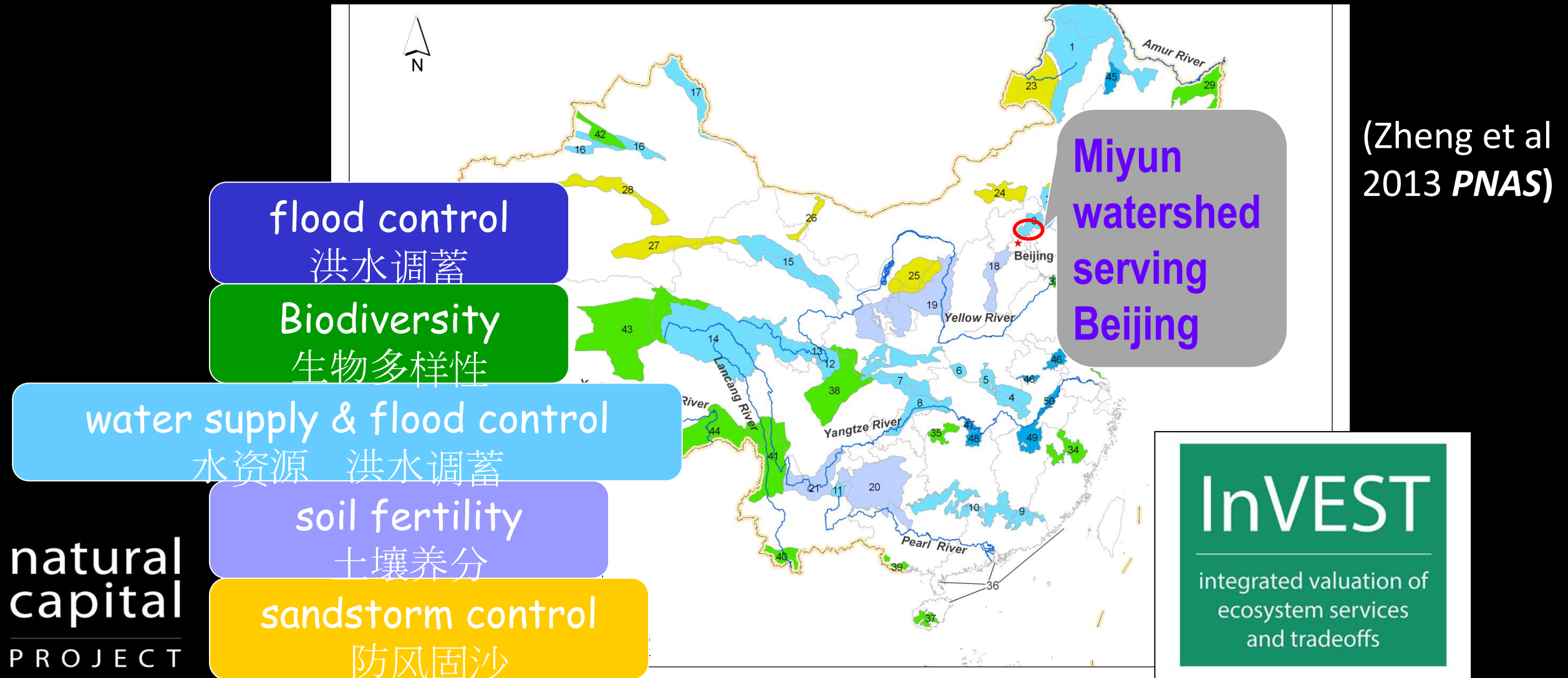


1. Where and how much to protect?
2. How to secure nature and livelihoods?
3. How to move beyond GDP?

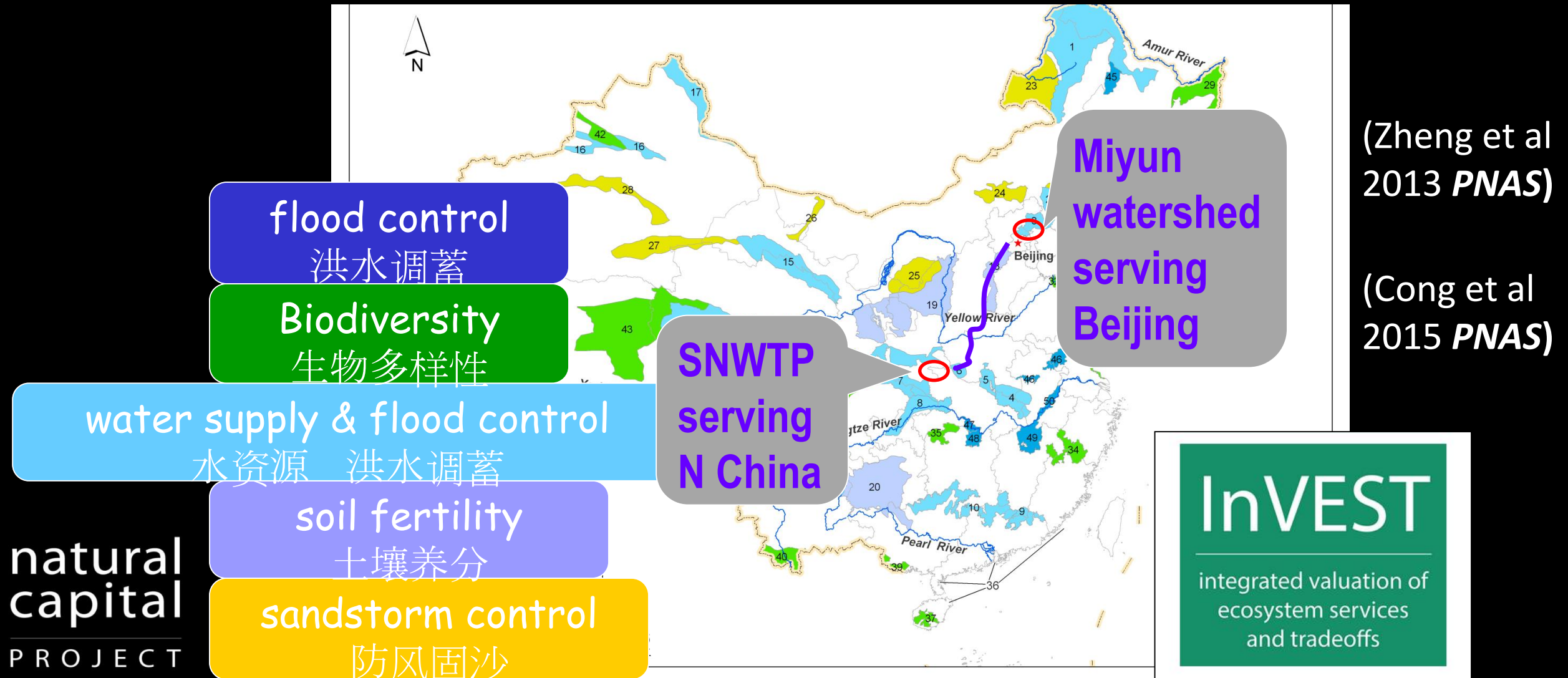
Initial Ecosystem Function Conservation Areas



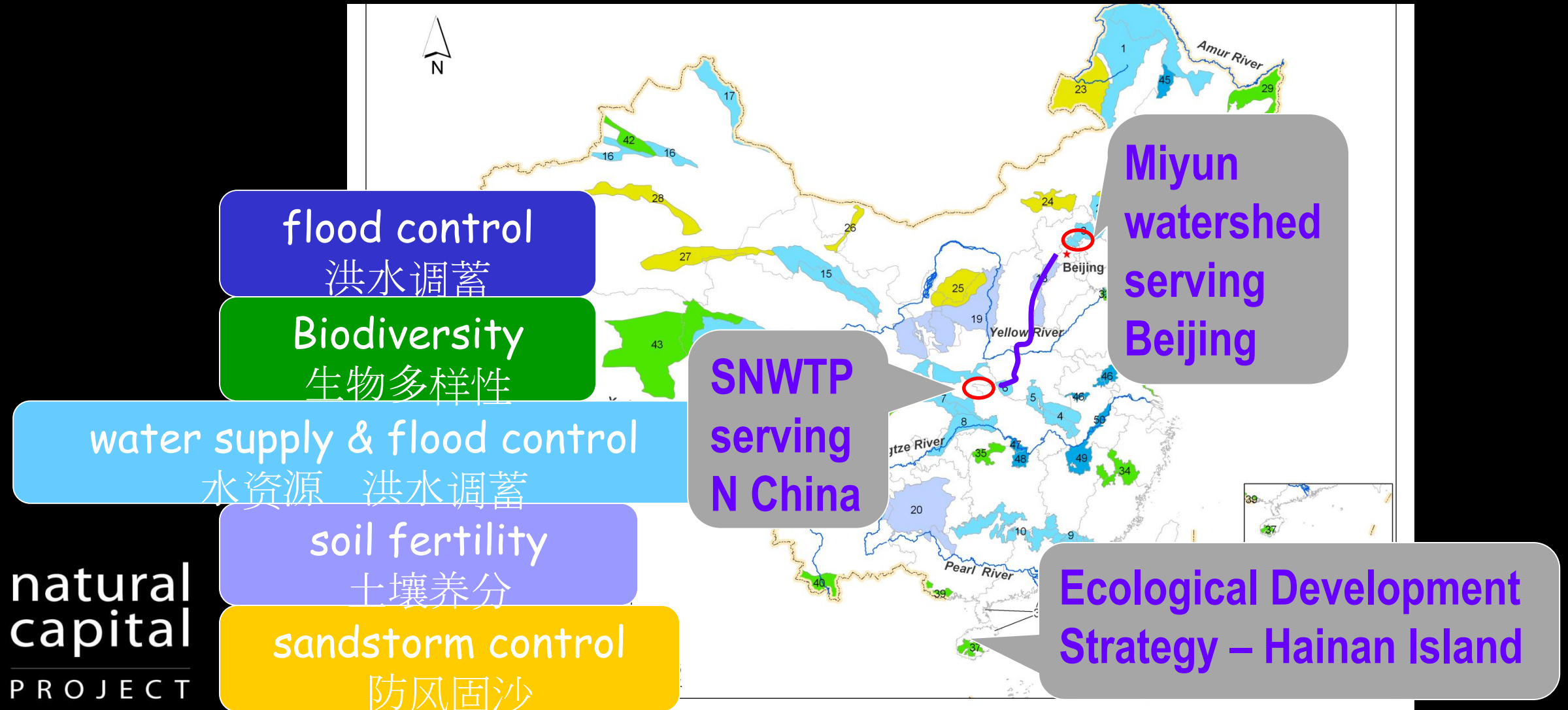
Demonstrations: Zoning, Other Policy & Finance



Demonstrations: Zoning, Other Policy & Finance

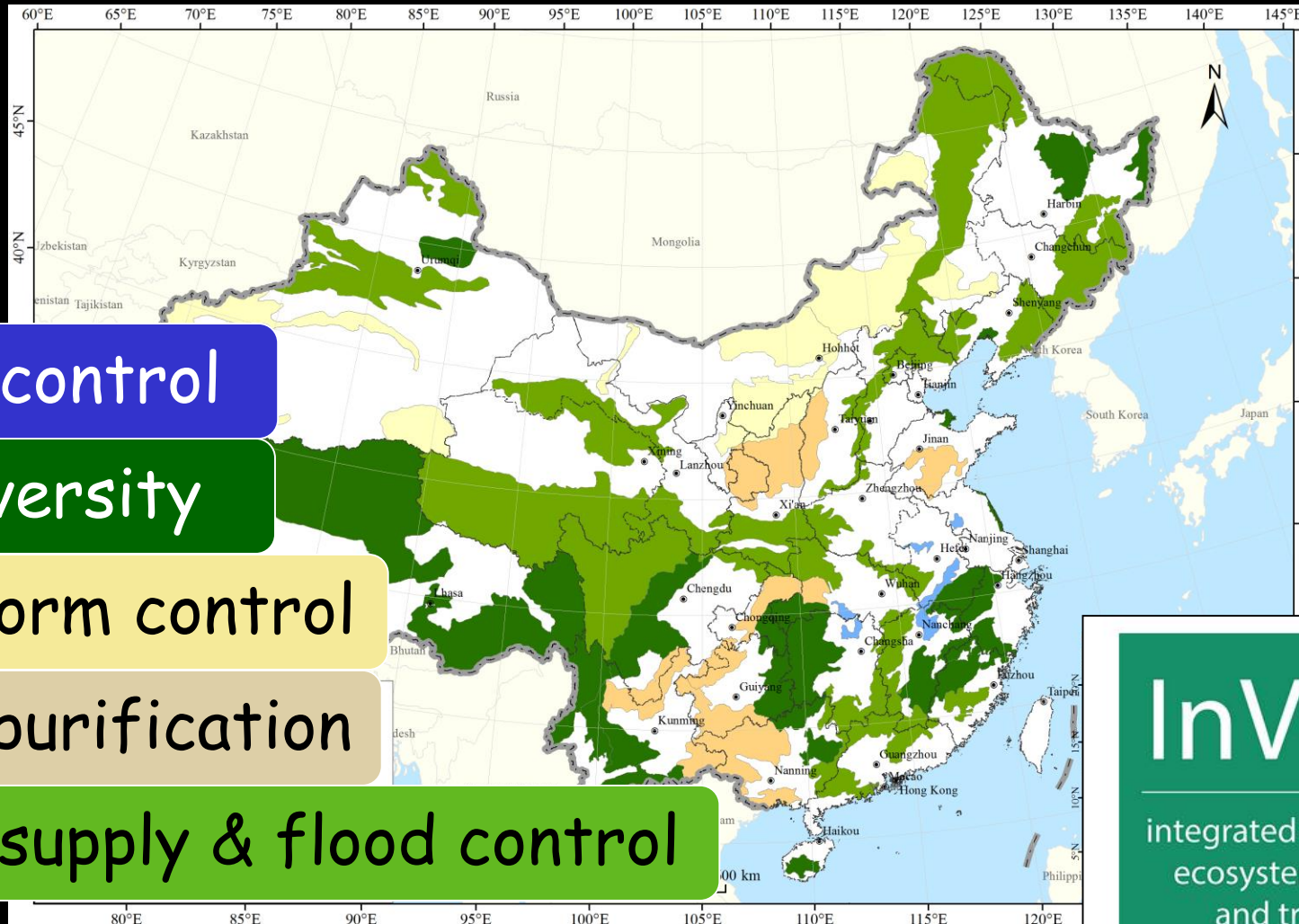


Demonstrations: Zoning, Other Policy & Finance



Scaling across China:

EFCAs now span 49% of land area



flood control

biodiversity

sandstorm control

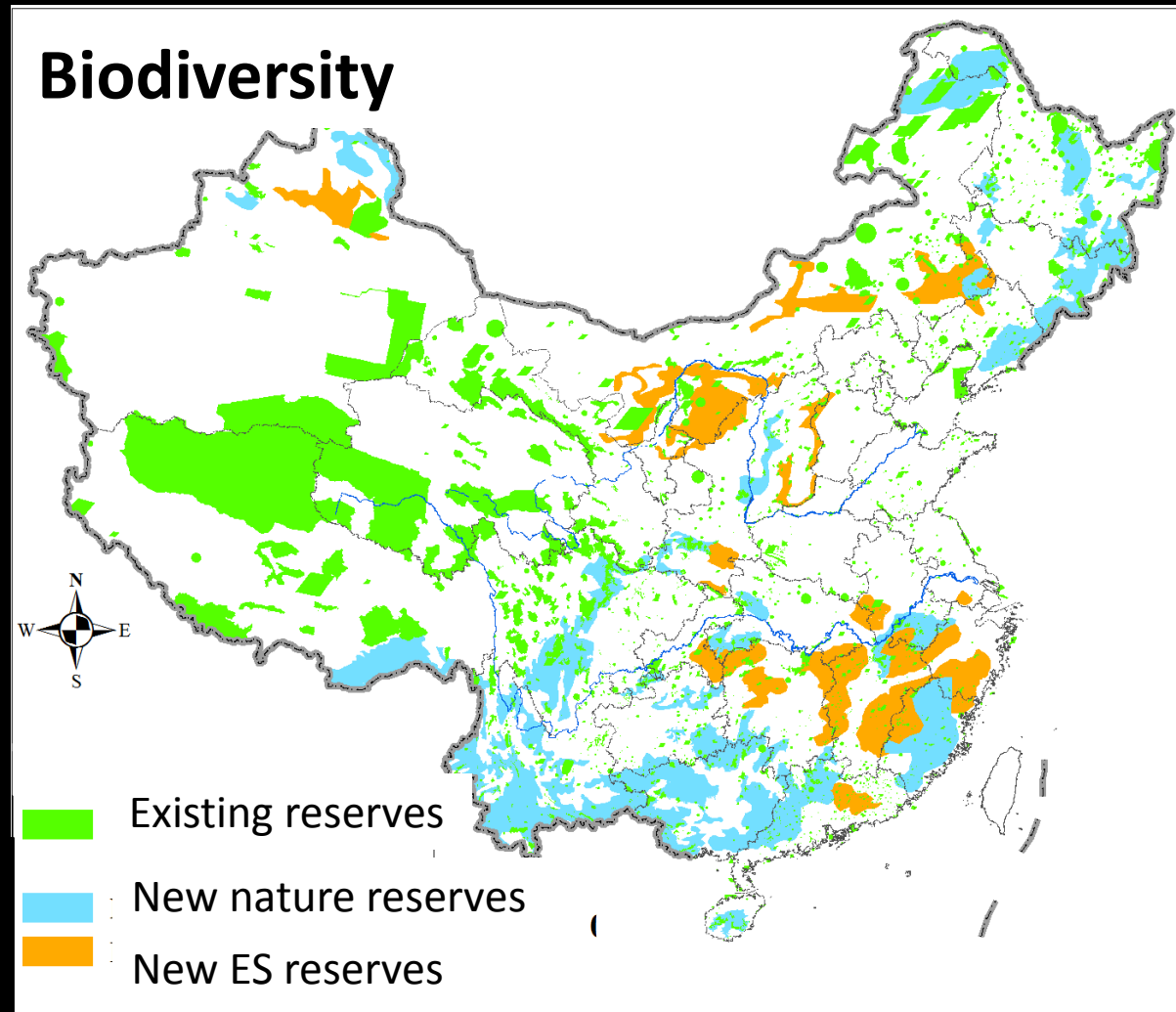
water purification

water supply & flood control

InVEST

integrated valuation of
ecosystem services
and tradeoffs

New National Park System



(Xu et al
2017 *PNAS*)



Demonstrations: *inclusive green growth*



Demonstrations: Co-developing Urban InVEST to green cities





Elements of Transformation to an Ecological Civilization

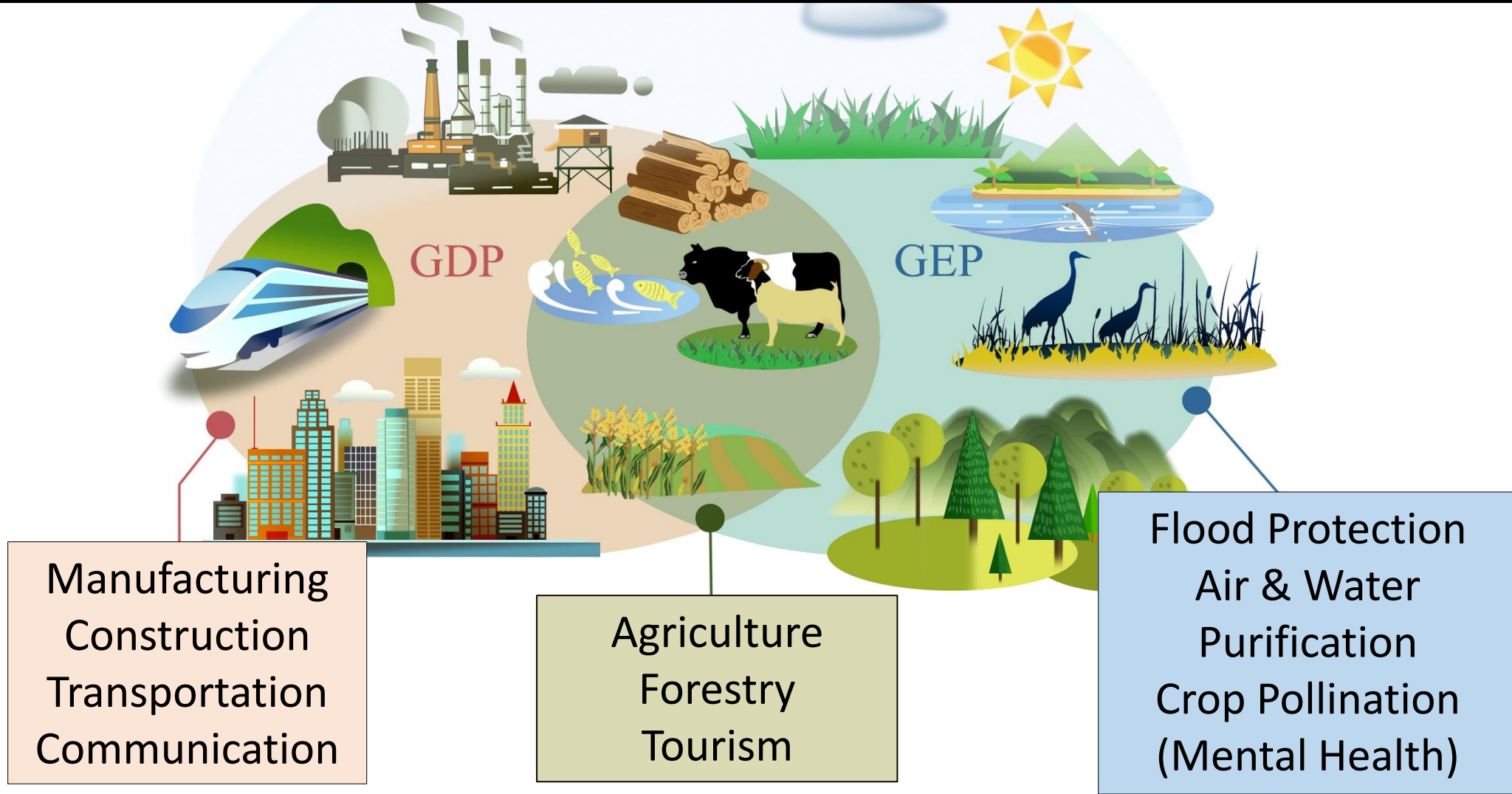
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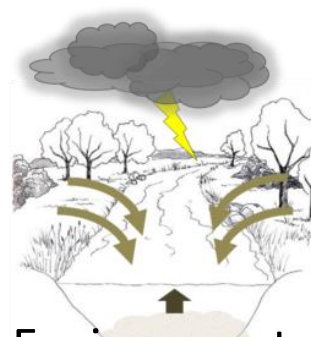
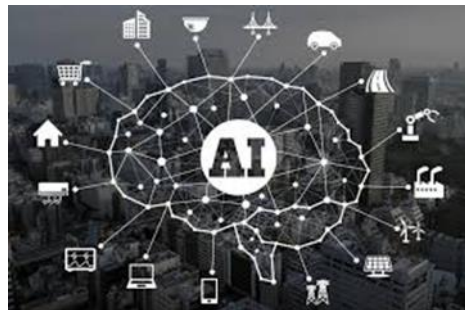


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Gross Ecosystem Product



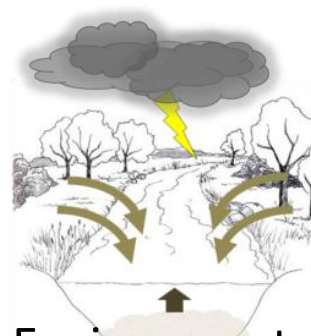
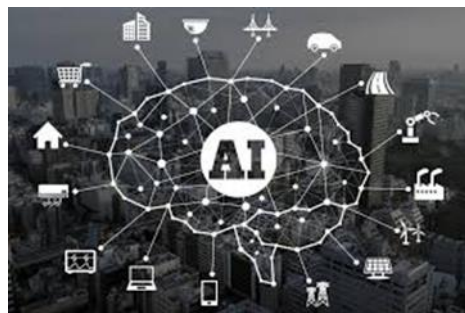


Remote Sensing

Ecological & Environmental Monitoring

Field Surveys

Data



Remote Sensing

Ecological & Environmental Monitoring

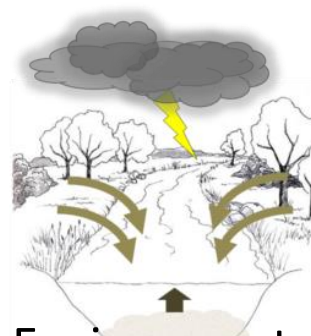
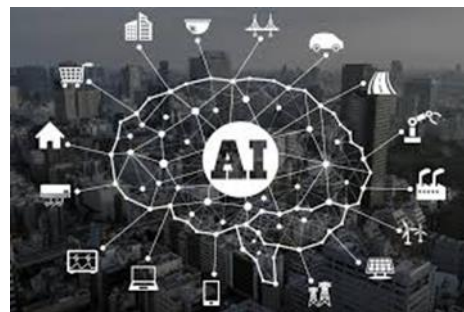
Field Surveys

Data



InVEST

Natural Capital Accounting
Valuation of ecosystem
goods and services



Remote Sensing

Ecological & Environmental Monitoring

Field Surveys

Data



InVEST

Natural Capital Accounting
Valuation of ecosystem
goods and services



GEP

Contribution of
ecosystems to the
economy & society



Financial compensation
among regions



Performance of
policies, leaders,
and investments



Scaling GEP across China: Towns, Counties, Cities, Provinces





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5. **Building capacity of Belt-and-Road Initiative Countries**

China – NDRC & Finance Leaders: Training & exchange at policy and technical levels



Scaling across China's Sphere of Influence: Training Belt & Road Initiative Countries

Xi Pledges New Direction for Belt and Road (CFR 26 April 2019)

More than five thousand delegates from **150 countries**, including 37 world leaders, are in Beijing for a summit on China's BRI.

President Xi Jinping said that he will ... **increase the transparency** of overseas investments.

Xi also **emphasized environmental protection**, saying countries involved in the BRI must “adhere to the concept of openness, greenness, and cleanliness.”

Scaling across China's Sphere of Influence: Training Belt & Road Initiative Countries

Training in Green Development: Mainstreaming the Values of Natural Capital into Policy & Finance

July 30-August 1, 2018, Beijing, China



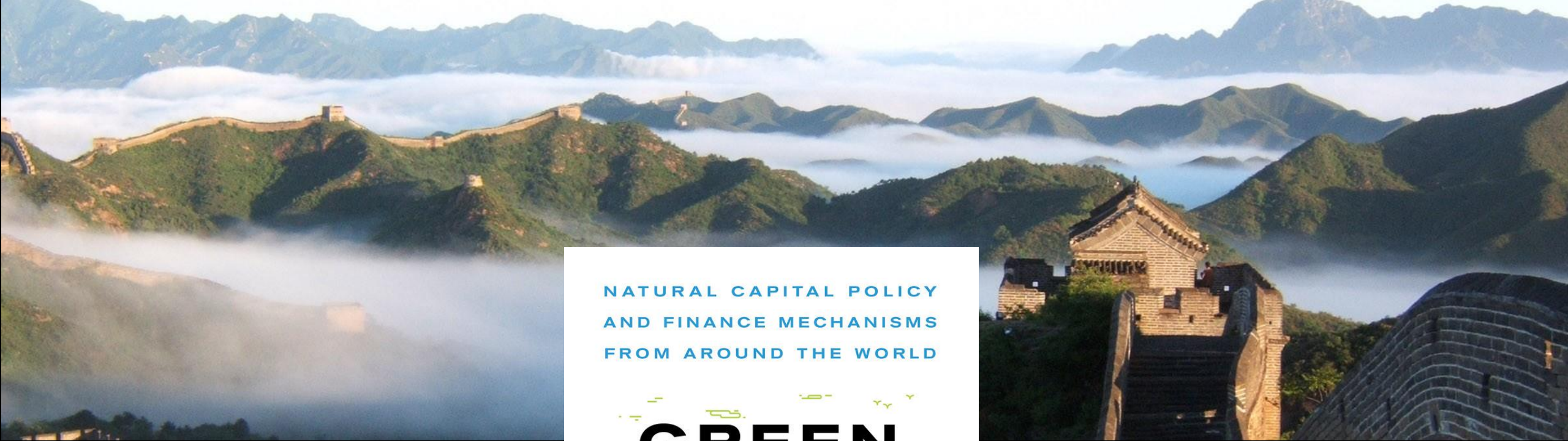
Scaling through global partners: Universal language, framework & methodology



Costa Rica

- Asian Development Bank
- Asian Infrastructure Investment Bank
- InterAmerican Development Bank
- International Standards Organization
- World Bank
- UN System of Environmental Economic Accounting





NATURAL CAPITAL POLICY
AND FINANCE MECHANISMS
FROM AROUND THE WORLD

GREEN GROWTH THAT WORKS

EDITED BY LISA MANDLE, ZHIYUN OUYANG,
JAMES SALZMAN, AND GRETCHEN C. DAILY

