



中国生态补偿政策研究中心
China Eco-compensation Policy Research Center



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Mitigation Banking in the U.S.

Practice and Conditions

Marlene Tyner-Valencourt, MESM

Mark S. Laska, Ph.D.

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Agenda

- Regulatory Overview: What Protects Natural Resources in the U.S.?
- Definition of Ecosystem and Mitigation Banking
- Overview of U.S. Mitigation Banking Marketplace
- Key Factors for Banking Success in the U.S.
- Framework Applicability to China



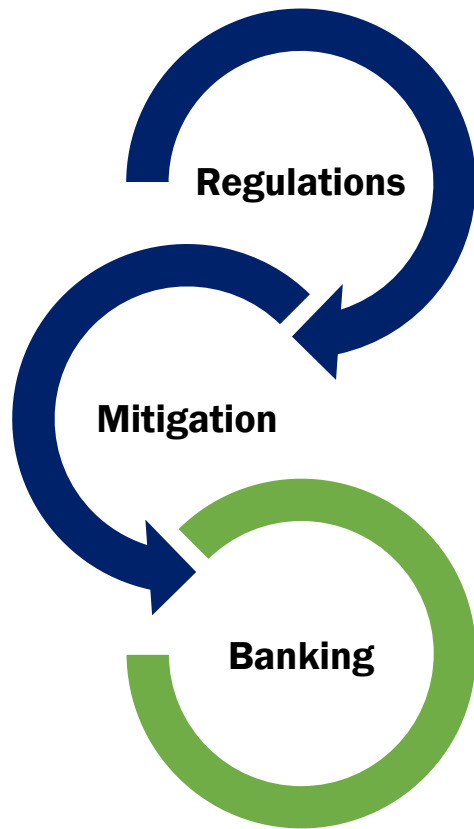
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Regulatory Overview



- Federal and state **regulations** protect habitat in the US:
Clean Water Act, Endangered Species Act, Migratory Bird Act, CERCLA, Oil Pollution Act, etc.
- U.S. regulations allow local, state, and federal agencies to seek **mitigation** for impacts to wetlands, streams, and protected plants, wildlife or habitat.
- This has facilitated “**banking**” of wetland mitigation, conservation and species, water quality, Natural Resource Damage, and stormwater.



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What is Mitigation Banking?

- Mitigation offsets planned impacts from infrastructure projects to nearby, similar ecosystems.
- Ecosystem banking is when credits are produced in advance of planned impacts, by “third parties.” Credits are available to satisfy permitting compliance.
- Credits from habitat restoration, creation or preservation, by a private investor, allows regulators a single point of liability and buyers reliable access to compliance.



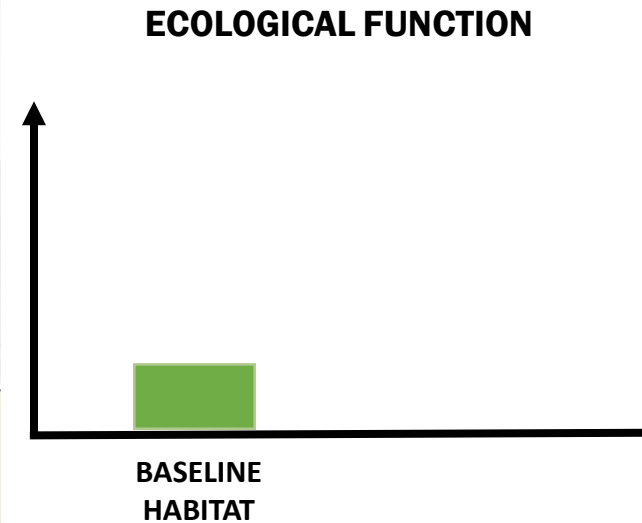
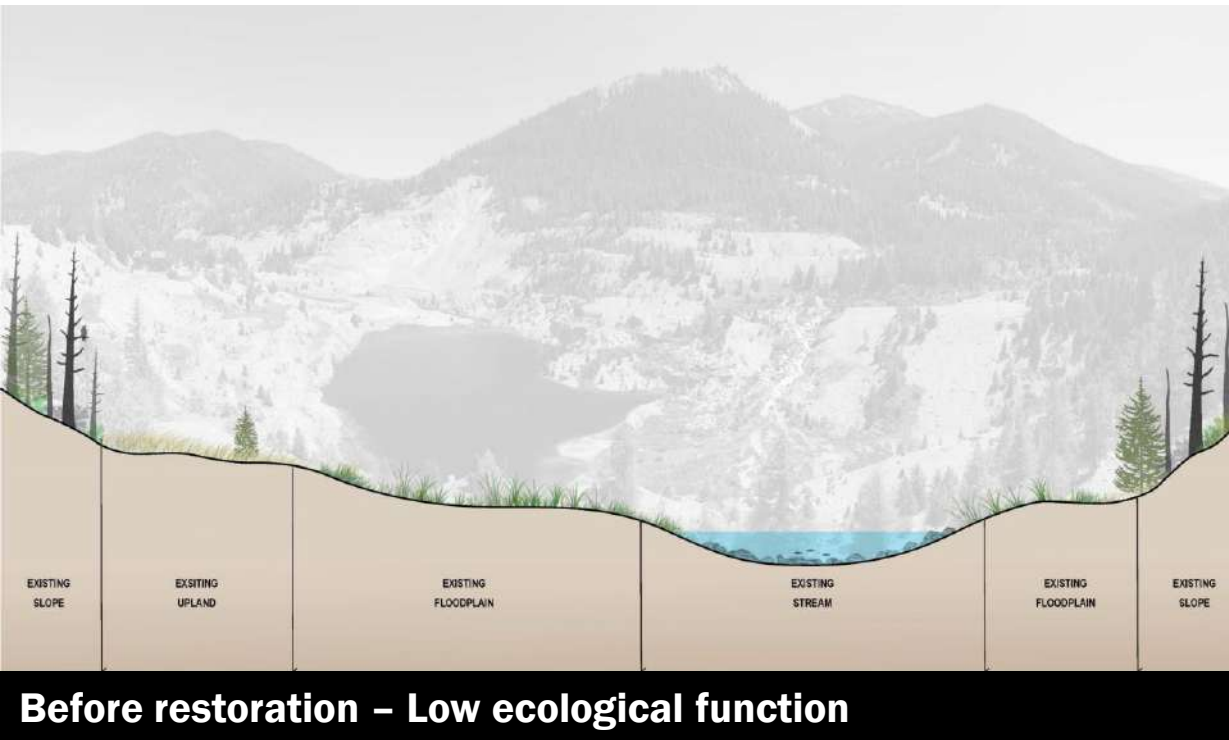
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What is an Ecosystem Credit?



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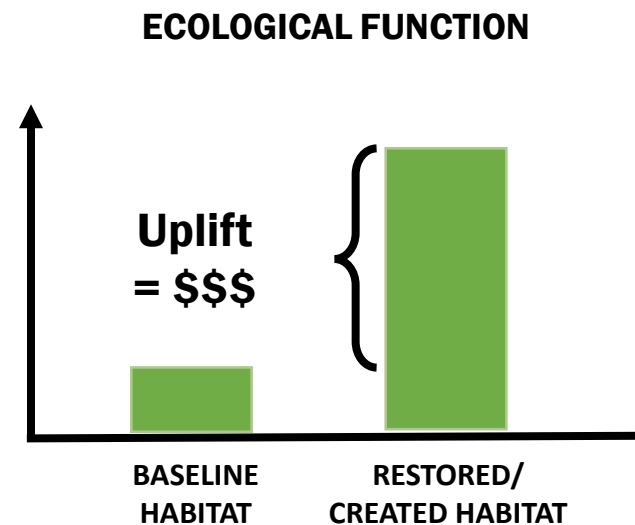
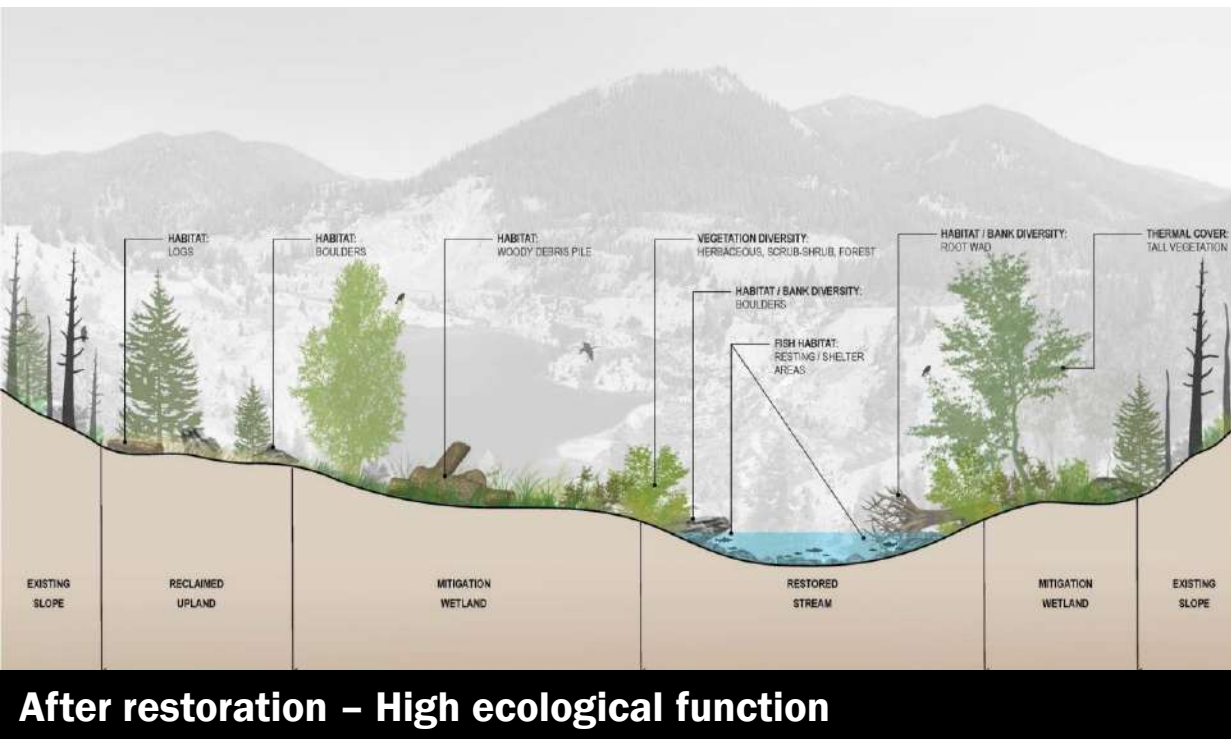


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What is an Ecosystem Credit?



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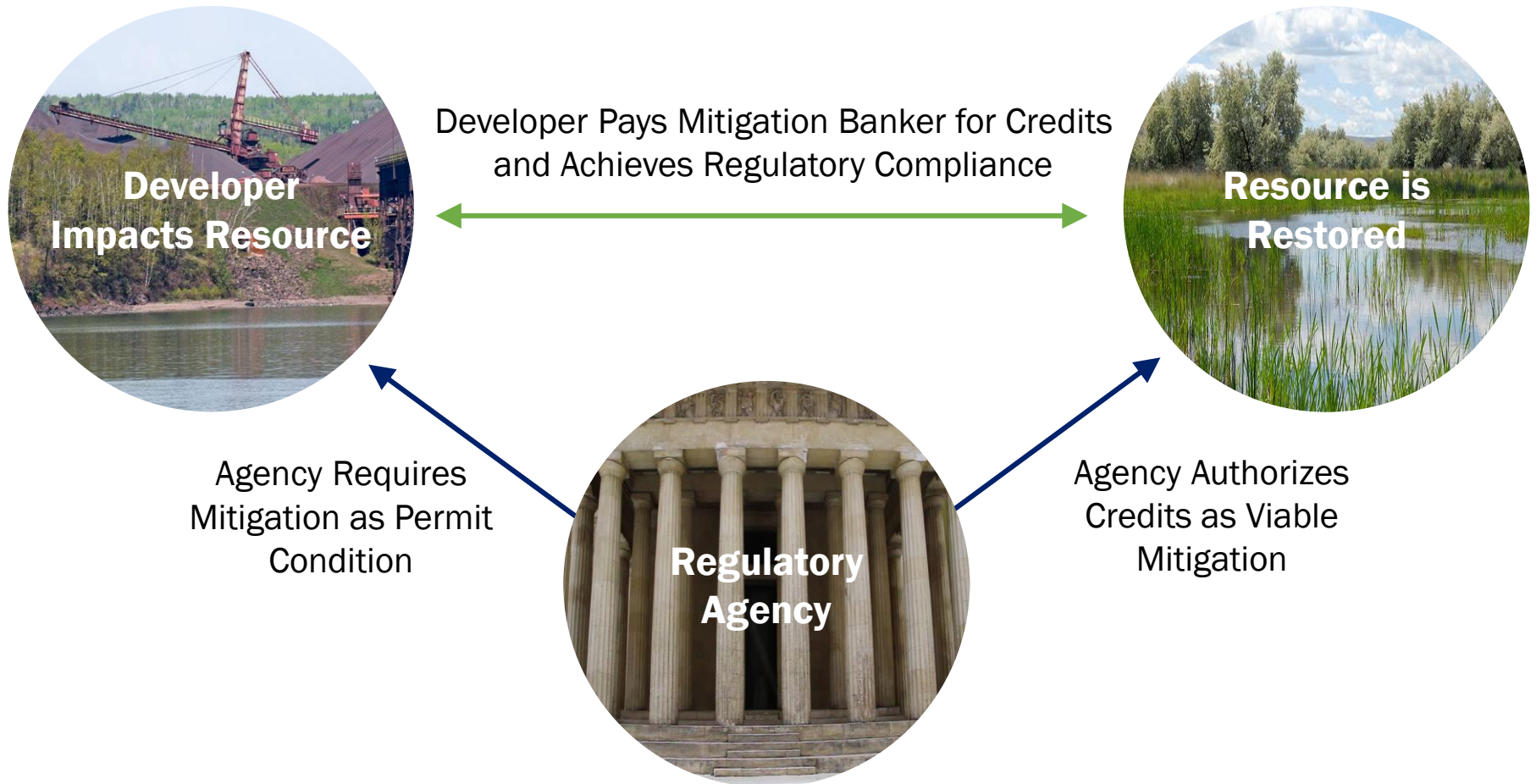


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Credit Sales Transaction



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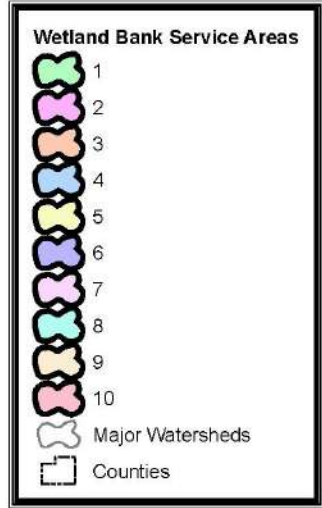


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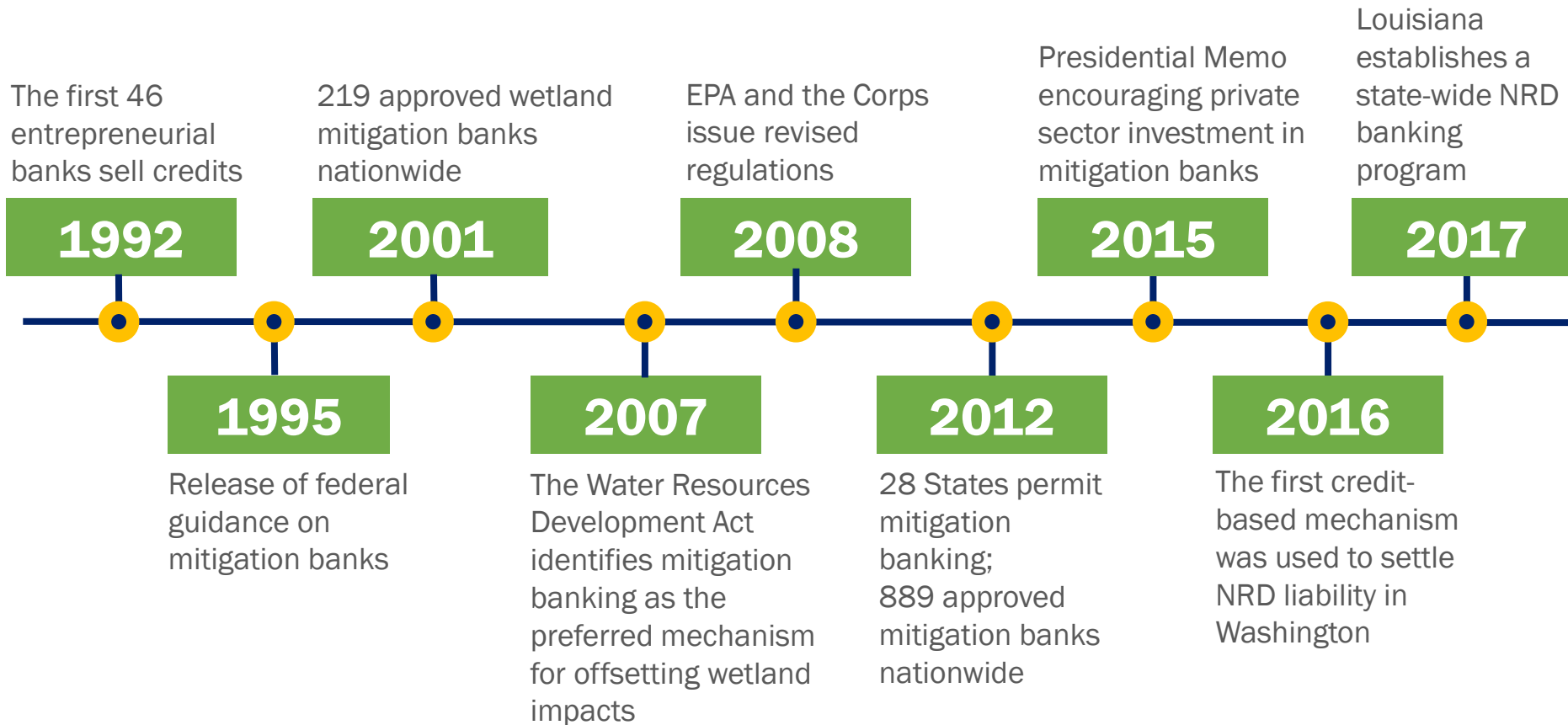


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- Geographic limits of mitigation bank market
- Based on hydrologic, biological, and political boundaries
- Factors affected:
 - Credit pricing
 - Competition
 - Project locations



History of Banking in the U.S.



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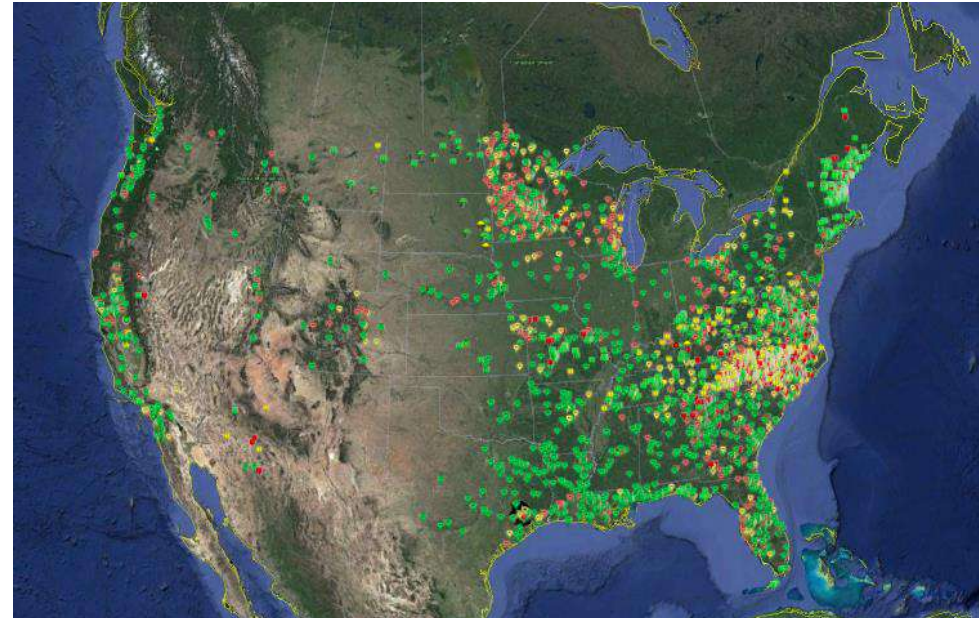
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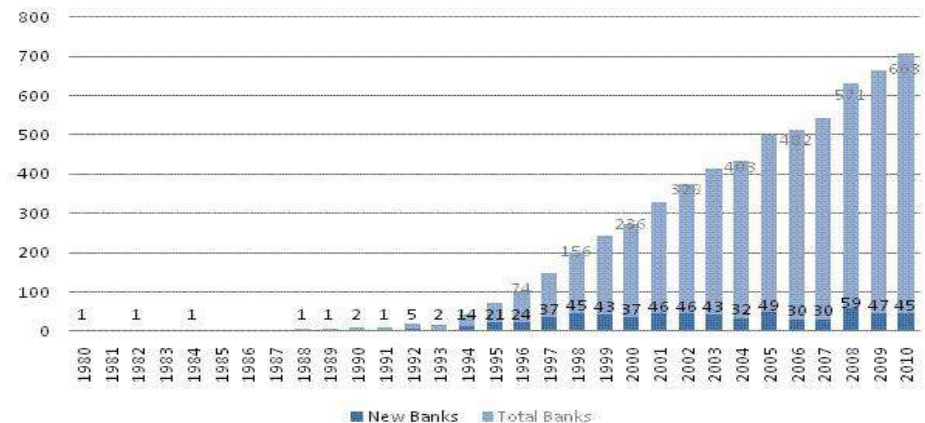
U.S. Ecosystem Banking Marketplace

- 1992 = 46 mitigation banks
- 2001 = 219 banks
- 2012 = 900 banks
- 2018 = ~3,365 ecosystem/mitigation banks
- \$3.6 billion in mitigation credits sold in 2016, 18% increase in volume of wetland/stream credits sold since 2010 (Forest Trends 2017)



Rate of Wetland and Stream Mitigation Bank Establishment*

Source: Ecosystem Marketplace website



*Note: Graph represents active and sold out banks with known date of establishment (there are an additional 48 active and sold out banks without dates).



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Key U.S. Industry Success Factors

1. Strong regulatory protection
2. Regional development
3. Systematic habitat classification
4. Limited suitable land
5. Economical credit generation
6. Civil society & stakeholders
7. Training
8. Investor capital



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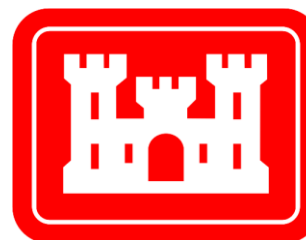


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Key U.S. Industry Success Factors

1. Strong regulatory protection

- **Protect:** Several statutes protect natural resources and require mitigation for impacts
- **Enforce:** Strong legal system enforces existing laws and regulations



Example: Clean Water Act

- Requires 'no net loss' of wetlands
- Permittees must:
 - Avoid impacting wetlands
 - Minimize unavoidable impacts
 - Provide compensatory restoration



Key U.S. Industry Success Factors

2. Regional development

Conversion of habitat to development from projects such as:

Real Estate

Transportation

Shipping and Terminals

Waterfront Development

Energy and Mining

Infrastructure



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Key U.S. Industry Success Factors

3. Systematic habitat classification

National classification system for wetlands, streams, habitats, and protected species



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Key U.S. Industry Success Factors

4. Limited suitable land

Need degraded habitat in order to complete habitat creation, restoration, enhancement, or preservation projects to generate uplift

Limited land increases credit value



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Key U.S. Industry Success Factors

5. Economical credit generation

The cost of credit production is lower than the sale price, allowing a return on investment



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Key U.S. Industry Success Factors

6. Civil Society & Stakeholders

Strong advocates for habitat preservation hold entities accountable for environmental damage

The Nature
Conservancy



Audubon



SIERRA
CLUB



Land Trust Alliance
Together, conserving the places you love



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Key U.S. Industry Success Factors

7. Training

Manpower, training and transfer of knowledge to create, maintain and monitor ecological improvements



A multibillion dollar green industry has evolved that now employs over 250,000 people in the U.S.



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Key U.S. Industry Success Factors

8. Investor capital

Investors are willing to take the risk on mitigation banks now that the model has proven successful.



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Mitigation Banking and Private Investment

Main Investment Consideration – *Economic Viability*

- What is the return on the investment?
- Is there a market for selling credits at a profit?



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Banking Framework in China: Are the Pieces Here?

1. Strong regulatory protection
2. Regional development
3. Systematic habitat classification
4. Limited suitable land
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6. Civil society & stakeholders
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8. Investor capital



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mlaska@greatecology.com

Marlene Tyner-Valencourt, MESM

mtyner@greatecology.com

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