Floodplain Mitigation Banking: Oregon Dips Its Toe in the Water

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Overview

- Oregon Biological Opinion
- Mitigation Banking 101
- Floodplain Function Mitigation Bank
- Development & Implementation in Oregon
Oregon Biological Opinion

Released April 14, 2016

Reasonable and Prudent Alternative:
What steps could FEMA take within its existing authorities to bring NFIP implementation into compliance with ESA?
Oregon Biological Opinion

1. Notify communities
2. Limit development, require mitigation
3. Improve hazard mapping
4. Create incentives for better management
5. Collect data on impacts of development, mitigation
6. Compliance and enforcement
Potential benefits of implementation:

- Public safety and floodplain function
- Economic sustainability, climate resilience
- Driver to quantify and value floodplain benefits
- Incidental take coverage for communities
BiOp Implementation

Potential *barriers* to implementation:

- FEMA authorities
- Community capacity – staffing, technical and decision support, policy
- Intersection with OR land use policies
- Legislative and political pushback
Floodplain Managers’ Toolkit in Oregon

Willamette Partnership funded by NRCS

More integrated approach to planning that addresses NFIP and other regulatory requirements

• Quantification tools for floodplain functions
• Template ordinances, planning processes, and permitting tools
• Piloting and outreach to communities.

Supports multi-credit mitigation banking for floodplain function
Mitigation Banking 101

Mitigation: effort to reduce loss of life and property by lessening the impact of disasters (fema.gov)

Compensatory Mitigation: restoration, establishment, enhancement, and/or preservation of environmental resources specifically for offsetting authorized impacts (epa.gov)

- **Mitigation Hierarchy:** Avoid, Minimize, then Mitigate

- **Mitigation Standard:** “Replacement of Function & Value” or “Net Benefit”
Mitigation Banking 101

Conservation or Mitigation Bank:

A parcel of land managed to restore and/or preserve certain ecological conditions (e.g. habitat, presence of endangered species, ecological function) for a specific period of time.

In exchange, a bank operator can sell credits for mitigating impacts of projects.
Mitigation Banking 101

Advantages

For the ecosystem:
- Protection/restoration of larger, more functional ecosystems
- Restoration with land protection & stewardship
- Ecological benefits in advance of impacts

For buyers:
- Lower costs (economies of scale) & cost certainty
- “One stop” permit compliance
- Decreased permitting time
Floodplain Mitigation Standards:

- Demonstrate avoidance & minimization
- Mitigate loss of flood storage, hyporheic function, water quality, hydrologic process, vegetation and habitat forming processes
- Benefit same species and populations
- Occur prior to or concurrent with loss of habitat function
- In-kind and on-site mitigation preferred
- Use of an NMFS-approved conservation bank or in-lieu fee program as alternative
Mitigation Banking 101

Components:

- Credit Types: Quantification of ecological functions
- Actors: Bankers, buyers, administrators
- Service Area: Geography within which transactions take place
- Credit Cost: land acquisition, restoration & maintenance
- Administration: Agreements and Rules of Operation
- Tracking and Accounting: Meeting replacement or net benefit standard?
Floodplain Mitigation Banking
Floodplain Mitigation Banking

Floodplain Functions & Credit Types:
- Flood storage
- Water quality
- Fish habitat
Floodplain Mitigation Banking

Mitigation Bank

NFIP Communities
Private Bankers
Developers
Administrators

United States Map

Graph with upward trend
Floodplain Mitigation Banking

Mitigation Bank

Hydraulic Reach

in

Mitigation Banking

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Floodplain Mitigation Banking

Mitigation Bank

Cost of credits
1. Acquisition
2. Restoration
3. Maintenance & monitoring
Mitigation Banking Instrument

Requirements for:

- Eligibility
- Timing
- Stewardship

Floodplain Mitigation Banking
## Floodplain Functions in Oregon

<table>
<thead>
<tr>
<th>Floodplain Function</th>
<th>Regulatory Driver</th>
<th>Quantification or Crediting Tool</th>
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</thead>
<tbody>
<tr>
<td>Flood storage</td>
<td>ESA (BiOp)</td>
<td>In development</td>
</tr>
<tr>
<td>Fish habitat</td>
<td>ESA (BiOp)</td>
<td>In development</td>
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<td></td>
<td>ODFW Fish Passage</td>
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</tr>
<tr>
<td>Water quality</td>
<td>ESA (BiOp)</td>
<td>In development</td>
</tr>
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<td>WQ Standards (TMDL)</td>
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<tr>
<td>Stream function</td>
<td>Clean Water Act 404 Removal-Fill</td>
<td>✓ OR Stream Function Assessment Method</td>
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<tr>
<td>Wetland function</td>
<td>Clean Water Act 404 Removal-Fill</td>
<td>✓ OR Rapid Wetland Assessment Protocol</td>
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</tbody>
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Cosumnes Floodplain Mitigation Bank

Established in 2009

472-acre site approved to provide:

- Essential fish habitat mitigation credits
- Wetland mitigation credits
- Riparian forest and shrub scrub habitat credits
Cosumnes Floodplain Mitigation Bank

Service area:
Sacramento County and portions of Sutter, El Dorado, Amador, Calaveras, Contra Costa, San Joaquin, Alameda, Solano, Placer and Yolo counties

View/download Service Area (PDF)
Cosumnes Floodplain Mitigation Bank

- **Floodplain Mosaic Wetlands**
  Mitigated Habitats: Riparian Forest, Riparian Woodland, Riparian Scrub, Scrub Shrub Wetland, Semi-permanent Wetland, Perennial Emergent Marsh, Seasonal Wetland, Seasonal Swales, Tidal Freshwater Marsh

- **Floodplain Riparian Habitat**
  Mitigated Habitats: Waters of the US (Non-wetland): Riparian Scrub, Riparian Woodland, Riparian Forest

- **Shaded Riverine Aquatic Habitat**
Mitigation Banking
Ingredients of Success

Strong scientific basis – quantification tools linked to credible conservation measures

Delivers verifiable & durable conservation outcomes

Meets regulatory requirements

Site level restoration linked to landscape/watershed scale analysis

Model/example for OR, WA and others
Questions?

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