Making Floodplain Restoration “Normal”

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American Rivers

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PROTECTING WILD RIVERS
Ensuring our last wild rivers continue to run free.

RESTORING DAMAGED RIVERS
Revitalizing rivers by removing dams and restoring floodplains.

CONSERVING CLEAN WATER
Helping communities use water wisely to stretch supplies and protect rivers.
Rivers Flood

Floods drive natural processes and ecosystem functions that sustain rivers and floodplains.
<table>
<thead>
<tr>
<th>Water Resources</th>
<th>Biologic Resources</th>
<th>Societal Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Flood and Erosion Control</strong></td>
<td><strong>Biologic Productivity</strong></td>
<td><strong>Harvest of Wild and Cultivated Products</strong></td>
</tr>
<tr>
<td>- Provides flood storage and conveyance</td>
<td>- Supports high rate of plant growth</td>
<td>- Enhancement of agricultural lands</td>
</tr>
<tr>
<td>- Reduces flood velocities</td>
<td>- Maintains biodiversity</td>
<td>- Provides sites for aquaculture</td>
</tr>
<tr>
<td>- Reduces peak floods</td>
<td>- Maintains integrity of ecosystem</td>
<td>- Restores and enhances forest lands</td>
</tr>
<tr>
<td>- Reduces sedimentation</td>
<td></td>
<td><strong>Recreational Opportunities</strong></td>
</tr>
<tr>
<td><strong>Water Quality Maintenance</strong></td>
<td><strong>Fish and Wildlife Habitats</strong></td>
<td>- Provides areas of active and passive use</td>
</tr>
<tr>
<td>- Filters nutrients and impurities from runoff</td>
<td>- Provides breeding and feeding grounds</td>
<td>- Provides open spaces</td>
</tr>
<tr>
<td>- Processes organic wastes</td>
<td>- Provides and enhances waterfowl habitat</td>
<td>- Provides aesthetic pleasure</td>
</tr>
<tr>
<td>- Moderates temperature fluctuations</td>
<td>- Protects habitats for rare, threatened or endangered species</td>
<td><strong>Areas for Scientific Study/Education</strong></td>
</tr>
<tr>
<td><strong>Groundwater Recharge</strong></td>
<td></td>
<td>- Cultural resources (historical/archaeological)</td>
</tr>
<tr>
<td>- Promotes infiltration and aquifer recharge</td>
<td></td>
<td>- Opportunities for environmental, biological, or other studies</td>
</tr>
<tr>
<td>- Reduces frequency and duration of low flows</td>
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</table>

List adapted from The Natural and Beneficial Functions of Floodplains, Report to Congress 2002

Natural and Beneficial Functions of Floodplains
American Rivers has led a national movement to remove dams.
Movement building: We followed a deliberate plan based on social marketing principles.
Innovation diffusion model indicates that we need to build lots of partners rather than go it alone.

**Basic Techniques:**

- Make dam removal "normal"
- Deliver message well (use local voices)
- Achieve small commitments to build greater momentum (People believe that they do dam removal)
To make something “normal”, show that everyone is doing it.

“Show people what you want them to believe you are” - Don McGhee, manager of Bon Jovi
We made dam removal “normal” by publicizing how often it was being done.
Make friends and repeat the core message: nag, nudge, and inspire. Give locals the tools to carry the message.
Identify what is preventing hundreds of projects from getting done. Break down those factors.

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<th>Develop Landowner Incentives</th>
<th>Identify and Direct Funding</th>
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<td>Clarify and Guide Regulations</td>
<td>Train Project Managers</td>
<td>Build Momentum: Complete Projects</td>
</tr>
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Building a Floodplain Restoration Movement in the Upper Mississippi River Basin
The Case for Floodplain Restoration in the UMRB

Distribution of levees on mainstem rivers:

- 3% North of Lock and Dam 13
- 50% from Pool 14 through Mel Price
- 80% in open river
- 60% of lower 160 miles of IL River

Source: USACE, 2000, Habitats Need Assessment
“Agricultural development in many places relied on installation of measures to improve drainage and reduce inundation of flood-prone lands. Local farmers banded together to construct ditches and channelize streams. In addition, earthen levees were constructed along streams and rivers, often comprising the material dug out of ditches with little to no engineering design, to exclude flood waters and allow crop production on frequently flooded fields. **To this day the amount, location and condition of agricultural levees across the UMRB are poorly documented, although there are nearly 5,000 known drainage districts in Illinois, Iowa, and Wisconsin.**”

- Implementing Nonstructural Solutions for Flood Management in the Upper Mississippi River Basin, Montgomery and Associates, prepared for American Rivers
The Case for Floodplain Restoration in the UMRB

Maquoketa River, IA

<table>
<thead>
<tr>
<th>State</th>
<th>Bottomland: 100-Year Flood Zone</th>
<th>Cropland in Bottomland¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois</td>
<td>2.36</td>
<td>1.20</td>
</tr>
<tr>
<td>Iowa</td>
<td>6.95</td>
<td>2.82</td>
</tr>
<tr>
<td>Minnesota</td>
<td>2.31</td>
<td>0.34</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>2.01</td>
<td>0.58</td>
</tr>
<tr>
<td>Total</td>
<td>13.60</td>
<td>4.92</td>
</tr>
</tbody>
</table>

¹ Includes corn, soybeans, winter wheat

Example sizes of existing floodplain restoration sites:

- Maquoketa: 300 acres
- Emiquon: 8,000 acres
- Lost Mound: 10,000 acres
- Reno Bottoms: 14,500 acres
- Mollicity: 16,000 acres

Source: Hey et al (2009)
The Case for Floodplain Restoration in the UMRB

List adapted from The Natural and Beneficial Functions of Floodplains, Report to Congress 2002
Workshop: Building Capacity for Floodplain Restoration in the Upper Mississippi River Basin

• Organized by:

• Supported by:

• Goal: Lay the groundwork for a regional movement to advance floodplain restoration.

• What changes are needed for more floodplain restoration projects to be implemented in the Upper Mississippi River basin over the next 25 years?
Attendees

- Bluestem Communications
- The Nature Conservancy
- The Wetlands Initiative
- USGS- Upper Midwest Environmental Science Center
- Prairie Rivers Network
- WI DNR
- Blue Heron Associates, LCC
- Association of State Wetland Managers
- Environmental Law & Policy Center
- Nicolet Island Coalition
- Midwest Environmental Advocates
- Mississippi Park Connection

- Iowa Rivers Revival
- Washington University School of Law
- University of Minnesota
- USFWS
- Center for Planning Excellence
- IL State Water Survey
- Upper Miss River Basin Association
- The Conservation Fund
- New Ground, Inc.
- USACE
- Iowa Environmental Council
- Audubon
- Ducks Unlimited

The Case for Floodplain Restoration in the UMRB
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<td>Manage Projects</td>
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What We Heard: Fostering and Providing Leadership

- There is a need for a concerted effort to advance the practice of floodplain restoration in the UMR basin.
- No new coalition - work with existing coalitions
- Need a dedicated leader (with funding!)
- Focus on helping practitioners get projects done.
- Establish topical/watershed/state working groups
What We Heard: Working With Landowners

• Many different types of landowners- farmers, communities, levee districts, agencies, etc.
• Need to 1) understand needs and motivations and 2) build trust.
• Incentives:
  • Use/improve existing $ incentives within state and federal programs (e.g., NRCS, FEMA, state nutrient strategies)
  • Need to better understand non-$ incentives
What We Heard: Cultivating Funding

- Use existing sources first
- Direct $$ to projects
  - regional guide
  - track project development and funding opportunities.
  - NGO-agency partnerships
- Reduce funding barriers
- Define the business case for FPR in the region.
- Address policy barriers:
  - Plan/fund multiple-benefit projects
  - Facilitate projects post-disaster;
  - Insurance (flood and crop) encourages floodplain development and cultivation.
  - Increasing the use and availability of agricultural flood easements.
- Educate practitioners/partners on policy issues:
  - levee and drainage district laws
  - local and state policies
  - Multiple-objective watershed planning
What We Heard: Train Project Managers

- Project Managers must know how to do it all.
- There are a good number of project managers in the basin, but more are needed.
- Project Managers need:
  - A support network to communicate and share experiences
  - Regionally focused training taught by current project managers
What We Heard: Building Momentum

- Effective communications on FPR.
  - Improved messaging for region
  - Understand needs of key audiences
  - Messengers that aren’t enviros
- Support projects
  - Mechanism to host/distribute tools, messages, case studies
  - Map of completed projects.
  - List of potential projects
- Celebrate successes!
What Comes Next?

YEAR 1:
1) Establish the UMR Floodplain Restoration Collaborative structure
2) Develop a long-term strategic plan, using a theory of change approach.
3) Initiate work on high priority tasks:
   a) Listserv
   b) UMR focused library of FPR info
   c) Identifying existing tools
   d) Recruit additional partners
   e) Common messaging
   f) Integrate/collaborate with existing coalitions