Healthy Wetlands, Healthy Watersheds

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Association of State Wetland Managers

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Association of State Wetland Managers
Members’ Webinar
Healthy Wetlands as Part of Healthy Watersheds

- Provide essential ecosystem services
- Roles for wetland protection, restoration, enhancement and creation in improving overall watershed health
- Roles for both traditional and innovative projects
- Increasing use of hybrid system

Photos in this presentation are from Wikimedia Commons
“Looking Under the Hood” of Successful Wetland Integration Efforts

Planning
- Identify diverse examples that include a range of approaches to integration
- Include those that are low level → high level effort

Analysis
- Identify any common factors that project staff attribute to the success of the integration effort
- Document what barriers commonly get in the way of integration

Peer-to-Peer Sharing
- Share lessons learned and practices that can help states and tribes create opportunities for and/or strengthen integration efforts
Association of State Wetland Managers’

HWHW Project

Key Project Elements

- Formation of a National Project Workgroup
- Development of eight state program integration case studies
- Development of nine watershed project integration case studies
- White paper presenting findings and including case study documentation
- Delivery of 6 webinars
- Online web resource on watershed/wetland integration
  - All project materials
  - Links to external watershed project planning resource
- Additional resource on considerations for measures of integration value

Funded by: EPA Wetland Program Development Grant and the McKnight Foundation
Selection Criteria for HWHW Case Studies

- **State wetland programs** actively integrating with one or more additional resource management programs operating within their state.

- **Watershed projects** including wetland; involving multiple partners; at least 50 acres in size; addressing a regional or statewide watershed issue; designed to achieve multiple benefits

- Demonstrable direct or indirect impacts of integration on planning/implementation
- Outcomes documented using formal or informal performance measures.
- Preference for ability to provide cost-benefit insights
# HWHW Case Study Products

<table>
<thead>
<tr>
<th>State Program Integration Case Studies</th>
<th>Watershed Project Case Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ 4-5 page case study document</td>
<td>▶ 1-page summary factsheet with supporting data sheet</td>
</tr>
<tr>
<td>▶ White paper includes comparative analysis on:</td>
<td>▶ White paper includes comparative analysis on:</td>
</tr>
<tr>
<td>▶ Description/characteristics</td>
<td>▶ Description/characteristics</td>
</tr>
<tr>
<td>▶ Needs/challenges addressed</td>
<td>▶ Needs/challenges addressed</td>
</tr>
<tr>
<td>▶ Barriers to integration</td>
<td>▶ Barriers to integration</td>
</tr>
<tr>
<td>▶ <strong>Type of integration</strong> activities</td>
<td>▶ <strong>Techniques</strong> used</td>
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<tr>
<td>▶ Length of project</td>
<td>▶ Length of project</td>
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<tr>
<td>▶ Benefits</td>
<td>▶ Benefits</td>
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<tr>
<td>▶ <strong>CBA considerations</strong></td>
<td>▶ <strong>CBA findings</strong> and considerations</td>
</tr>
<tr>
<td>▶ Types of partnerships</td>
<td>▶ Types of partnerships</td>
</tr>
<tr>
<td>▶ Policy and financial supports</td>
<td>▶ Policy supports</td>
</tr>
<tr>
<td>▶ Lessons learned</td>
<td>▶ Lessons learned</td>
</tr>
</tbody>
</table>
### State Program Integration Case Studies

**Distribution and Integration Need Addressed**

<table>
<thead>
<tr>
<th>State</th>
<th>Type of Wetland Program Integration (Integration Need Addressed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri</td>
<td>Cross-Agency Planning to Include Wetlands</td>
</tr>
<tr>
<td>Nebraska</td>
<td>Wetland Restoration as Part of Basin Rehabilitation for Fisheries</td>
</tr>
<tr>
<td>Minnesota</td>
<td>Wetlands in Watershed Planning: Minnesota’s One Watershed, One Plan</td>
</tr>
<tr>
<td>New Mexico</td>
<td>Wetlands Integrated into NPS Planning and 319 Projects</td>
</tr>
<tr>
<td>Minnesota</td>
<td>Groundwater Appropriations and Surface Water Permitting</td>
</tr>
<tr>
<td>Vermont</td>
<td>Wetland Restoration as Part of TMDL/319 Work</td>
</tr>
<tr>
<td>Vermont</td>
<td>Statewide Integrated Water Quality Monitoring Program</td>
</tr>
<tr>
<td>Indiana</td>
<td>Stormwater-Wetland Joint Permitting</td>
</tr>
</tbody>
</table>

*Increasing level of integration*
State Integration
Case Study Findings

- Wetlands frequently not the driver
- Wetlands often not the priority
- Wetlands get in on the fringe
- Add value to other projects and initiatives
- Look for places to add on wetlands
- Importance of policy and administrative supports to create context for integration to occur (some, not all)
Distribution of Watershed Integration Projects

- Iowa (Beaver Creek Watershed) 11k acres
- Oregon (Johnson Creek Watershed)
- Maryland (Anacostia Watershed)
- Florida (Upper St. John’s River Basin)
- Minnesota (Vermillion River Watershed)
- Texas (Lewisville Lake Watershed)
- New Mexico (Jemez River Watershed)
- Washington State (Yakima River Basin)
- New York/New Jersey/ Pennsylvania/ Delaware (Delaware River Basin) 8m acres
Needs and Challenges Addressed

- **Diverse motivations** for conducting watershed-level projects
- **Highly social element** to all the projects, with many reasons for coming together to jointly work on issues with the potential to be contentious
- All involved **transboundary** considerations and coordination
- Required **multiple levels and types of access** to achieve their goals
- Most **included education/outreach component**

Addressing water conflicts, identifying high runoff areas/pollutant contributors, addressing flooding/drought conditions, analyzing trends, unpacking equity issues, community building, etc.
Basic Characteristics of Case Study Projects

<table>
<thead>
<tr>
<th>Watershed Size</th>
<th>Length of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>5/9 more than 10-year projects</td>
</tr>
<tr>
<td>Large (4)</td>
<td>Watershed work is a time-intensive and lengthy endeavor</td>
</tr>
<tr>
<td>Medium (3)</td>
<td></td>
</tr>
<tr>
<td>Small (2)</td>
<td></td>
</tr>
</tbody>
</table>

Watershed size appears to not be an indicator of:
- Benefits measured or achieved
- The number of partners engaged in the work
Case Study Project Characteristics

Types of Projects

- Restoration: 8
- Creation: 3
- Enhancement: 8
- Protection: 8

Settings

- Urban: 7
- Rural: 8
- Inland: 9
- Coastal: 1
Project Partnerships: Who is at the table?

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Government</td>
<td>9</td>
</tr>
<tr>
<td>Regional Government</td>
<td>9</td>
</tr>
<tr>
<td>NPOs</td>
<td>7</td>
</tr>
<tr>
<td>Federal Government</td>
<td>6</td>
</tr>
<tr>
<td>Local Government</td>
<td>6</td>
</tr>
<tr>
<td>Academic Institutions</td>
<td>4</td>
</tr>
<tr>
<td>Tribes</td>
<td>2</td>
</tr>
<tr>
<td>Stakeholder Workgroups</td>
<td>3</td>
</tr>
<tr>
<td>Land Trusts</td>
<td>1</td>
</tr>
</tbody>
</table>
Capturing the Benefits of Integration

- Improved environmental outcomes
  - Improved habitat, water quality, abundance and size of species, biodiversity
  - Increased water quality, reduced impairment
- Flood/drought control and improved hydrologic conditions
- Improved restoration potential and ability to more accurately identify high need areas for protection or restoration
- Increased use of public resources and recreational activity
Additional Benefits

- Increased ability to achieve agency/watershed goals
  - More efficient and effective shared permitting processes
  - Greater resource sharing → larger quantities/higher quality projects/greater reach/impact
- Increased access to expertise
- Greater efficiency in use of field staff
- Shared learning leading to professional development and career opportunities
- Innovation
- Increased public/stakeholder awareness and appreciation for watershed issues
Making the Economic Case for Integration: Considerations for Identifying Return on Investment

**Costs**
- Start-up and meeting costs
- Staff time reallocation
- *Creation of shared or complementary systems*
- *Cross-training*
- Incentives or paying into shared funds for integrated activities

**Benefits**
- *Environmental outcomes*
- Improved efficiency
- Better products/services
- Increased reach/depth
- Ability to address larger, watershed-level goals
- Increased access to resources
- More buy-in
- Stronger relationships, resiliency
- Increased public awareness of and appreciation for watershed-level work
- Innovation

The importance of BCA timeframe for the realization of benefits
HWHW Project Findings

Common Barriers to Integration

1. Need for programmatic accommodation of integration

2. Regulatory compliance systems not structured for integration activities

3. Challenges of conducting BCA for integration and nature-based solutions

4. Scientific uncertainty
Barriers to Integration

Need for Programmatic Accommodation of Integration

- Organizational/agency mindset
- Rigid structures and policies
- Time required to effectively build collaborations,
- Communications challenges
- Timeline for return on investment
- Underestimation of complexity
- Uncertainty/moving pieces
- Difficulty measuring collaborative action
- Expectations around what can be achieved within existing resources
Barriers to Integration

Regulatory compliance systems not structured for integration activities

- Ability to secure/coordinate permits for integrated/nature-based activities
- Staff understanding of documentation required
- Access to needed maps
- Knowledge/capacity to review integration proposals
- Regulatory framework unprepared for gray/green solutions
- Conflicting program interests
- Jurisdictional issues
- Consistency among Corps districts
- Urban ordinances and land use plans

Barriers to Integration

Programmatic

Regulatory

Ability to Conduct BCA Assessment

Scientific Uncertainty

Photo Credit: NPS
Barriers to Integration

Challenges of conducting BCA for integration and nature-based solutions

- Lack of existing BCA on integration/nature-based solutions
- Limited measures (not including ecosystem services or measures of integration)
- Availability of data for use in BCA
- Lack of funding to conduct BCA, esp. in low income communities
- Lack of standardized discount rates for use in nature-based BCA
- Different methodologies for conducting BCA among federal agencies
- Urban/rural differences
Barriers to Integration

Scientific Uncertainty

- Restoration is an evolving field
- Ecosystem variability
- Lack of consensus on performance metrics
- Discomfort with concept of scientific uncertainty
- Resistance to/lack of funding for experimental practices
- Practitioner access to research/information
- More research needed to fill knowledge gaps
Best Practices/ Lessons Learned

- Adopt an integration mindset
- Develop necessary legislative/administrative supports*
- Invest in partnership building
- Start small, build on successes
- Take the time to conduct careful planning (short- and long-term)
- Maintain regular and coordinated communications
- Engage stakeholders early and often
- Identify/secure sustainable funding for life of the integration project
- Secure funding from multiple sources

*Examples of Legislative/Administrative Supports
  - Executive orders
  - House Bills
  - Legislation to approve plans and/or funding
  - Joint powers agreements
  - Resource Management Rules
  - Administrative level agreements
Best Practices/Lessons Learned, Cont.

- Provide formalization and structure to fit the scope of the project
- Develop formal systems for prioritization decisions
- Build-in programmatic adaptability and flexibility
- Invest in creating public understanding
- Manage expectations
- Build in strong evaluation, including integration metrics
- Use formal measures of integration to demonstrate value
### Examples of Other Potential Factors of Success

<table>
<thead>
<tr>
<th>Incorporating Innovation in Delaware, Florida and Minnesota</th>
<th>Stakeholder Engagement: Focus: Saint John’s River Watershed (FL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Partnering with university to provide real-time sensor data to researchers, planners and the public</td>
<td>▶ Comprehensive stakeholder engagement strategy (including all phases: development, implementation and review)</td>
</tr>
<tr>
<td>▶ Semi-structural designs replacing highly structured</td>
<td>▶ Agricultural stakeholder meetings with a Citizen’s Technical Advisory Committee to address ag concerns</td>
</tr>
<tr>
<td>▶ Three-phase restoration design</td>
<td>▶ Recreational public meetings to provide updates to stakeholders about land management, capital projects and recreation data.</td>
</tr>
<tr>
<td>▶ Hydrologic Vegetation Prediction Model</td>
<td>▶ Land Management Review Teams - select groups of natural resource stakeholders working to determine if Land Management Plan objectives were met</td>
</tr>
</tbody>
</table>
**Commonalities:**
State and Project Level Integration Work

- Complex water resource problems with a social component
- **Benefits:** Improved water quality, reduced impairment, recreation/public use, biodiversity, improved habitat. State-level additionally measured more non-environmental benefits
- **Barriers:** Working across boundaries, coordination, watershed mindset, time investment, starting with the right activities to build momentum
- **Lessons Learned:** Start small, create shared goals, develop necessary legislative/administrative supports, careful planning (short- and long-term) - including all phases of the project, identify sustainable sources of funding and staffing, regular and coordinated communications, formalized but flexible structure
- Adaptability/flexibility
- Public outreach/education key
HWHW Project
Project Products on ASWM Website

1. HWHW White Paper
2. State integration case studies (8)
3. One-page watershed project integration intro factsheet (9)
4. Datasheets for each watershed project in the study (9)
5. Capturing the Value of Integration Document (Soon)
6. Links to watershed project planning resources
What’s Next?

- Use of findings to support additional learning and technical assistance
- Continued sharing of case studies
  Recorded presentations on Nebraska and Indiana State Program Integration Case Studies (www.aswm.org)
- Moving into ASWM’s 2-year EPA Wetland Program Development Grant-funded “Urban Waters” Project

As we continue this work, ASWM invites you to share with us:
- Your experiences with integration
- Input into ASWM’s Urban Waters project
- Any case studies you think ASWM should know about
- Examples of Benefit-Cost Analysis Studies
- Partners and presenters
For more information:

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