Watershed Approach to Wetlands Mitigation

5th National Partnership Conference, Nov. 16, 2001
11,500 acre preserve in the headwaters of Kissimmee Chain of Lakes.

Originally a ranch that was extensively logged, drained and grazed.

Restoration of hydrology through ditch filling.

Restoration of natural fire regimes through prescribed burns.
Turning the Tide

1941

1993

1999
Wetlands at DWP:
dark blue, green, and yellow areas have now been restored

Final agency sign - off on the mitigation permits for the original 8,500 ac Walker Ranch obtained Oct. 2011

Disney Wilderness Preserve
Headwaters of the Everglades
First step: 26,000 acres
WRP on 5 ranch Fish-eating Creek marsh
Northern Everglades Working Lands and Conservation Model for Future Conservation Efforts
The Walt Disney Company identified the need for repeated wetland mitigation in their 20 year development plan.

Disney purchased the 8,500 ac Walker Ranch property was slated to become an upscale community of houses, golf courses and a marina.

Greater Orlando Aviation Authority later purchased an additional 3,000 acres.

In 1992 established as a mitigation site. In 2011 project moved from active restoration to perpetual ecological management.
Florida Study of 119 created wetlands permitted as mitigation projects 1985-1990:

- 34% had never been built
- 27% of those that had been built were functional wetlands of the intended type
- Success rate for permits involving freshwater wetlands was 12%
- Mitigation sites not connected to existing natural areas and those creating a wetland in an upland habitat were most likely to fail
Why a Watershed Approach?

- Nationally, $3.8 billion is annually spent on wetland mitigation projects.
- Clean Water Act §404 program supports the conservation and restoration of approximately 50,000 acres of aquatic resources a year.
- Mitigation banks are often sited where land is affordable and credit generation could be maximized.
Why a watershed approach?

National Research Council (2001)

• Wetland functions must be understood within a watershed framework in order to secure the purposes of the Clean Water Act.

• Mitigation should follow the assessment of wetland needs in the watershed and consider the potential for the compensation wetland to persist over time.
Watershed approach

Move from project-by-project review process to more holistic review process

- Improve resource protection
- Increase program efficiency and predictability for the regulated public
- Help manage cumulative impacts
- Better coordination and identification of issues

Supported by advances in technology

- Permit program databases
- Geographic information systems
- Information sharing among agencies and stakeholders
Goals

The Watershed Approach
Other USACE Watershed Approaches

Watershed pilots
Special area management plans (SAMPs)
Advance identification (ADIDs)
Watershed planning

- Civil Works (EC 1105-2-414, Watershed Plans)
  - Regulatory role – participate on watershed planning teams

Sunrise River, MN
Goal of the Watershed Approach

“to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites.”

Virginia Aquatic Resources Trust Fund
(Sponsored by The Nature Conservancy)
Watershed Approach Pilot Projects

- Corps/EPA Pilot:
  - CA
  - CO
  - MD
  - GA
  - TN

- TNC/ELI Pilot:
  - WI

Legend:
- Corps/EPA Pilot
- TNC/ELI Pilot
What is the Watershed Approach?

- A structured consideration of watershed needs
- An analytic process for informing compensatory mitigation decisions

Maine in-lieu fee program
Help guide mitigation decisions

- Identify and prioritize restoration, establishment, and enhancement activities and preservation of existing aquatic resources that are important for maintaining or improving ecological functions of the watershed.
Habitat and biodiversity  Wetlands are home to a large array of plants, animals, and microorganisms.

Water-quality  Wetlands help reduce and attenuate the concentration of many pollutants, including nitrogen, phosphorus, suspended sediment, biochemical oxygen demand, trace metals, trace organics and pathogens.

Flood management/hydrologic support  Wetlands provide flood flow attenuation, base-flow augmentation, and groundwater recharge.
VA Heritage Program Pilot

Pamunkey River, Virginia
National Wetland Inventory

Wetland Type
- Freshwater Forested/Shrub Wetland
- Freshwater Emergent Wetland
- Estuarine and Marine Wetland
- Open Water
100 year floodplains
Hydric Soils
Natural Heritage Priority Areas
State Listed Impaired Waters
Mitigation Priority
Telling the Watershed’s Story

Turning data into information.

Go beyond mitigating for particular impacts to having mitigation projects contribute to larger watershed goals and desired outcomes.

Put simply, what are the watershed ‘needs’?

This conservation and restoration plan may have applicability beyond informing compensatory mitigation decisions.

The plan only informs decisions, it does not make decisions.
• The Environmental Law Institute and The Nature Conservancy have received a grant from U.S. EPA to put together a handbook for state and tribal governments.

• Will use case studies and other work to identify best practices and approaches.

• We are organizing a national panel of experts to help advise the drafting of the handbook.
Planning Considerations

- Habitat requirements of important species
- Habitat loss or conversion trends
- Sources of watershed impairment
- Current and projected development trends
- The requirements of other regulatory and non-regulatory programs
- The protection and maintenance of terrestrial resources
- Locational factors
Data Needs

Current trends in habitat loss or conversion
Cumulative impacts of past development activities
Current development trends
The presence and needs of sensitive species
Site conditions that favor or hinder the success of compensatory mitigation projects
Chronic environmental problems such as flooding or poor water quality