Army Corps of Engineers' New Direction

ER 1105-2-100

Corps Planning Guidance

22 April 2000

"Ecosystem Restoration is one of the primary missions of the Corps of Engineers Civil Works program. The Corps objective in ecosystem restoration is to contribute to national ecosystem restoration."

"Those restoration opportunities that are associated with wetlands, riparian and other floodplain and aquatic systems are most appropriate for Corps involvement."

Environmental Operating Principles

The U.S. Army Corps of Engineers has reaffirmed its commitment to the environment by formalizing a set of "Environmental Operating Principles" applicable to all its decision-making and programs.-- Lt. General Robert Flowers, 2002.

- **Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.**
- **Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.**
- **Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.**
- **Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.**
- **Seeks ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.**
- **Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.**
- **Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.**

Key Points

- Ecosystem Restoration Is One the Corps of Engineers Primary Missions.
- The Corps Has Many Active Authorities And Means To Implement Ecosystem Restoration Projects.
  - Continuing Authorities Program (CAP)
  - General Investigations (GI)

Key Points

- **Continuing Authorities Program (CAP)**
  - a process by which the Corps a can respond to a variety of water resource problems without a specific Congressional authorization for each project. This decreases the amount of time required to budget, develop, and approve a potential project for construction.
    - Water Resources Development Act
    - Rivers and Harbors Act
    - Flood Control Act
  - Many projects completed or in progress in all Districts
  - BUT, current moratorium on most funding

Corps Study Authorities under CAP To Support Ecosystem Restoration

- **Continuing Authorities Program (CAP)**
  - Section 1135 - Project Modifications for the Improvement of the Environment
  - Section 206 - Aquatic Ecosystem Restoration
  - Section 204 - Protection, Restoration and Creation of Aquatic and Ecologically Related Habitats in Connection with Dredging for Construction, Operation or Maintenance
  - Section 145 – Placement of dredged material on beaches

Requirements for a CAP Project

- **The project must be complete within itself** and not commit the Corps of Engineers to further construction.
- **The project must be economically justified** (benefits must exceed costs)
- **The project must be environmentally acceptable.** Consideration of the environment is an integral part of the planning of the project. In all cases, the Corps prepares environmental assessments, which are coordinated with federal, state, and local agencies, as well as the general public. When there are significant environmental impacts anticipated, the Corps prepares an environmental impact statement.
- **The sponsor of the project must be willing to assist with the project.** This usually involves providing lands, easements, rights-of-way, relocations, and dredged material placement areas (LERRD)
- **Cost sharing is usually required.** In addition, some projects must be operated and maintained by the local sponsor.

Who Can Use These Authorities?

- **States** 
- **Local governments** 
- **Indian tribes** 
- **Non-profit organizations** 

Monitoring and Adaptive Management

Monitoring Definition

- **Monitoring is the systematic, scientific OBSERVATION of processes including the results of an action, and clear DOCUMENTATION of the data in a manner conducive to further EVALUATION and DECISION-MAKING.**

  - *"Monitoring programs – whether long-term to assess status and trends, or short-term, conducted as part of a management program play a key role in avian conservation." – Jon Bart, USGS*

Types of Large-Scale Avian Monitoring

- Christmas Bird Counts
- Breeding Bird Survey
- Migration Monitoring
- Secretive Marsh Bird Surveys
- Focused T&E Species Surveys
- MAPS (Monitoring Avian Productivity and Survivorship)
- Seasonal surveys (Point Counts; Transects)
- Waterfowl, Shorebird, Raptor, Upland Game Bird Surveys

vs…. More Local Monitoring….

- Single-project monitoring
  - Pre- and post-project data collection
- Regional monitoring (multiple projects?)
- Management-based monitoring

Value of Monitoring

- Evaluate success
- Identify problems
- Identify causes of problems
- Help design management programs

It's difficult to conceive of a single success-story in wildlife management where monitoring has not played a major role.

Coordinated Bird Monitoring (CBM)

Examples of Management Issues

1. Effects of wetland loss and degradation
2. Effects of altering intertidal habitats
3. Effects of sand placement on various bird species
4. Effectiveness of existing disturbance buffers

Effects of Altering Intertidal Habitats

- Background and Description of Management Issue
- Survey Objectives
  - Information needed
  - Study Areas
  - Focal Species
  - Quantitative Objectives
- Methods
  - Bird survey methods
  - Sample size requirements
  - Habitat Variables
  - Sampling plans
- Roles and Responsibilities

What is the Current State of Monitoring in the Corps?

- Typically project-specific
- Monitoring should be linked to project objectives
- Targeted to project outputs
- Directed to need for adaptive management
- Collaborative opportunity

Monitoring Guidance for the Corps

- **ER1105-2-100, (Planning Guidance Notebook), Chapter 3 (page 3-25) 3-5.b.(8)**

- Monitoring and adaptive management.
  - Monitoring may be necessary to determine if the predicted outputs are being achieved.
  - Cost shared post-implementation monitoring will rarely be required. If cost shared post-implementation monitoring is being considered, it must be clearly defined, justified and the period of cost shared monitoring shall not exceed five years following completion of construction.
  - The cost of monitoring included in the total project cost and cost shared with the non-Federal sponsor shall not exceed one percent (1%) of the total first cost of ecosystem restoration features.
  - Some flexibility recognized in Policy

Adaptive Management Definition

- Adaptive Management is an iterative process by which restoration measures or management actions are systematically evaluated and subsequently modified in response to new information. Adaptive management is about systematically trying different actions to achieve a desired outcome. It is not, however, a random trial-and-error process.

- It is the integration of design, management, and subsequent monitoring to systematically test assumptions in order to *adapt* and *learn*

Adaptive Management

- *How can we best understand the conditions at the site where we are working?*
- *What goals should we be trying to accomplish?*
- *What actions should we take to efficiently achieve our goals?*
- *How do we measure success and the extent to which our actions contributed to change?*
- *What can we do to work more effectively in the future?*
- *How can we capture what we have learned so that we don't make the same mistakes again?*
- *How can we share our findings with other practitioners?*

"Adaptive management is grounded in the admission that humans do not know enough to manage ecosystems." – Lee (1999)

What Is Adaptive Management for the Corps??

- **EC 1105-2-409, (Planning in a Cooperative Environment), May 2005**

(5) Monitoring and Adaptive Management – Adaptive management takes into account the uncertainties that exist regarding decisions made to undertake water resources projects and allows decision making and implementation to proceed with the understanding that project performance will be assessed and evaluated, thereby acknowledging that some structural or operational changes to the project may be necessary to achieve the desired results.

What Is Adaptive Management for the Corps ??

- Authority to “tweak” a constructed project
- Means of addressing risk
- Demonstration of partnerships
- Cost shared 65/35 Fed to non-Fed
- NTE 3% of total project cost excluding monitoring costs

Discussion Opportunities –

- How do we develop management-based monitoring?
- Identifying management issues monitoring will help address
- Improving M&AM with limited funding (especially on smaller projects)
- When should cost shared monitoring be proposed?
- What opportunities are available to improve project monitoring?
- Are appropriate methods being used?
- Is monitoring being conducted at the appropriate spatial and temporal scales?
- Examples of successful and/or unsuccessful monitoring approaches?
- How can adaptive management be implemented on Corps projects?