Corps of Engineers Perspective on Stream and Riparian Management in Hawaii

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Ecology, Restoration, and Management of Hawaiian Stream and Riparian Systems

- New Corps Policies and Regulations
- Need for Watershed Approach in Hawaii
- Upcoming Honolulu District Projects
- Opportunities in Watershed Approaches
- Challenges with Watershed Approaches

A Watershed Perspective (ER1105-2-100)

Civil works planning **should incorporate a watershed perspective**, whether that planning involves a project feasibility study or a more comprehensive watershed study. Such planning should be accomplished within the context of an understanding and appreciation of the impacts of considered actions on **other natural and human resources** in the watershed. In carrying out planning activities, we should **encourage the active participation** of **all interested groups** and use the full spectrum of technical disciplines in activities and decision making. We also should take into account" the **interconnectedness of water and land resources** (a systems approach); the **dynamic nature** of the economy and the environment; and the **variability** of social interests over time. Specifically, civil works planning should consider the **sustainability of future watershed resources**, specifically taking into account environmental quality, economic development and social well-being.

Environmental Operating Principles (ER 1105-2-404)

- **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.

Environmental Operating Principles (ER 1105-2-404)

- 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.

12 Actions for Change

1. Employ ***integrated, comprehensive and systems-based*** approach.
2. Employ ***risk-based concepts*** in planning, design, construction, operations, and major maintenance.
3. Continuously ***reassess and update*** policy for program development, planning guidance, design and construction standards.
4. Employ dynamic independent review.
5. Employ ***adaptive planning*** and engineering systems.
6. Focus on ***sustainability***.

12 Actions for Change

7. Review and inspect completed works.
8. Assess and modify organizational behavior.
9. Effectively communicate risk.
10. Establish public involvement risk reduction strategies.
11. Manage and enhance technical expertise and professionalism.
12. *Invest in research*.

Corps/EPA Compensatory Mitigation Rule (33 CFR Parts 325 and 332)

- Mitigation *location* should be driven by assessment of *Watershed needs*.
- Mitigation *objectives* should address *watershed needs*.
- *Measurable & enforceable performance standards* needed to show success.
- Regular *monitoring* to confirm success achieved.
- Mitigation needs to be based on *aquatic ecosystem science*.
- *Science-based assessment procedures* needed to evaluate extent of potential impact and success of compensation measures.
- *Promote* the use of existing *mitigation banks*.
- More predictable process for establishing *new mitigation banks*.

Need for Watershed Approach in Hawaii

All actions on our islands are closely connected – everything runs downhill.

- Corals directly affected by sedimentation and freshwater runoff in streams.
- With developed watersheds – flood risk management needs to include actions outside the stream channels.
- Water supply is a concern on all islands.
- All our activities impact water quality

We do not have the luxury of space to have one solution for any one problem.

Hanalei Bay Reef Wall, 2006

Upcoming Honolulu District Projects

- Ala Wai Canal Project
- West Maui Watershed Project
- Cental Oahu Watershed Plan
- Wailupe Stream Flood Risk Management
- Kuliouou Stream Flood Risk Management
- Kawai Nui Marsh Restoration
- Mokuhinia/Mokuula Ecosystem Restoration

Photo courtesy of AWWA

Opportunities in Watershed Approaches

- Implementing Watershed Approaches provides the opportunity to:
  - Identify the root cause versus just the symptom
  - “Leverage” projects between funding sources (non-government, local, state and federal) to address root causes.
  - Better engage the Community defining priorities and needs in the watershed.

Challenges to Watershed Approaches

- It is not a quick fix – all stakeholders must commit to the long-term planning to obtain the long-term benefits.
- While stakeholders may have varying objectives – all must work together for a common goal.
- The paradigm shift to adaptive management and changing baselines is not easy.

Summary

- The Corps is committed to systematic watershed approaches for managing our nations water resources.
- Communities are integral in defining the problems, challenges, opportunities and priorities in a watershed.
- Watershed approaches require active involvement of many stakeholders.

Mahalo!