
Mitigation That Works

Initial Summary of Previous Efforts

Studies of Mitigation Effectiveness

In Washington:

- Ecology
- King County
- WSDOT
- Shared Strategy for Puget Sound
- Transportation Performance Audit Board
- WDFW

Nationally:

- National Research Council
- Environmental Law Institute
- California Water Resources Control Board
- New England Corps of Engineers
- North Carolina DOT
- Many others

Approaches

- No uniform or standardized assessment methods
- Most studies involved records review, field assessment and/or interviews
- A few studies include independent assessment of functions
- Studies focus on wetlands (& streams); studies on habitat/species mitigation are scant
- Most studies evaluated projects built in 1990s (prior to recent guidance & recent regulatory changes)

Two Common ‘Tests’

- Did the mitigation satisfy the permit conditions?
- Did the mitigation replace ecological functions?

Some Findings - Washington

- Generally more success with acreage replacement and permit compliance than with meeting performance standards
 - 93% implemented
 - 55% according to plan
 - 35% meet performance standards
 - 29% achieved all ecologically relevant standards

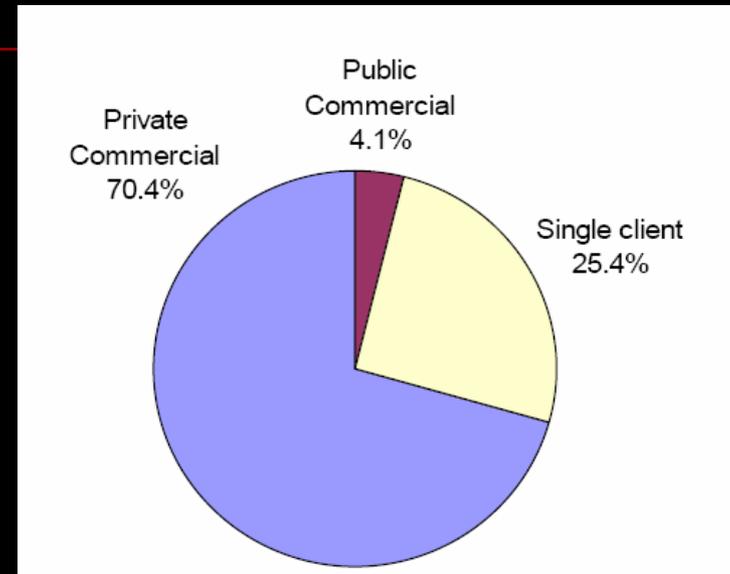
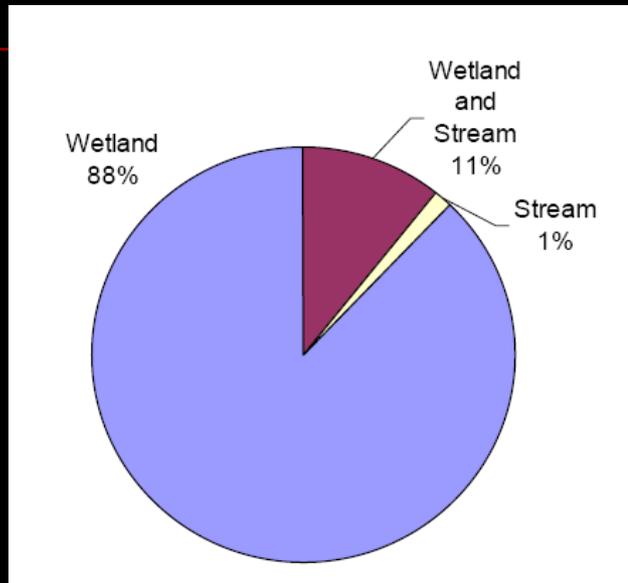
Some Findings - Nationally

- CA - 46% fully complied with all permit conditions; average percent-met score was 73%. 72% met or exceeded acreage requirements (overall ratio of 1.9:1)
- New England - 67% meet permit conditions; 17% were functional replacements for the impacted wetlands
- NRC found permit compliance success was 3-100%; ecological equivalency ranged from 0-67%

Transportation Projects

- WSDOT successfully provided 92% of required mitigation area; 47% of mitigation sites attained or exceeded their required wetland acreage
- WSDOT effectively replaced lower rated wetlands with wetlands of higher value

Banking - Nationally



According to Ecology's *"Freshwater Wetlands in Washington State Volume 1: A Synthesis of the Science"* only one study has examined the effectiveness of mitigation banks. Brown and Lant (1999) examined 68 banks established by the beginning of 1996. The study found that although 74% of the individual banks achieve no-net-loss of acreage, overall, wetland banks were projected to result in a net loss of 21,328 acres of wetlands nationally.

In-Lieu Fee (ILF)

- ILF is not being carried out according to existing recommendations and guidance
- Shortcomings may be due to program structure and policy, rather than the method
- No existing ecological, empirical, field-based research to know if ILF replaces lost functions
- Fundamental questions are whether risks can be managed and can outweigh potential benefits

Factors Affecting Success

- Site selection
- Design – hydrology, plant species
- Sites not constructed according to plan
- Poor site preparation/soil preparation
- Performance standards don't match site design
- Performance standards not realistic
- Lack of agency follow up

Challenges to Determining Success

- Inconsistent record keeping makes compliance tracking difficult
- Performance measures are not standardized - wide variation in clarity, attainability, attributes, etc.
- Difficult to account for succession/ temporal changes

Recommendations

- Submit 'as-built' drawings
- Require clear, meaningful and measurable performance standards
- Require monitoring reports
- Prioritize permit follow-up
- Develop an effective tracking system
- Commit to enforcing permit compliance

More Recommendations

- Promote watershed-based mitigation
- Develop mitigation screening tools
- Prevent funding interruptions (for WSDOT projects)
- Use alternative tools to create market incentives, consolidate mitigation, address watershed-scale issues

Responses

- New Guidance – Ecology’s Wetland Mitigation in Washington State
- Corps RGL on Mitigation Monitoring Requirements
- Critical Area Ordinance updates at local level
- Agency-sponsored watershed characterizations (e.g., Birch Bay)
- Office of Regulatory Assistance Clark County effort

What's Next?

- Review additional studies
- Review *DRAFT* summaries
- Track follow up on previous recommendations
- Focus on key questions/issues of concern to Forum?