

# REMARKS FOR POOLED MONITORING FORUM

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File Name

# ROLE OF SCIENCE IN REGULATORY PERMITTING

1. Various scientific studies testing assumptions of compensatory mitigation
2. Mostly “snapshot in time” studies
3. National Academy of Science report (2001: Compensating for Wetland Losses Under the Clean Water Act)
4. 2008 Mitigation Rule (33 CFR Part 332) effort to bring mitigation practices “up to date” by incorporating latest scientific consensus



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# COMPENSATORY MITIGATION CHALLENGES

- Site selection
- Performance standards:
  - Will mitigation project be successful? How do we define success?
- Will associated impacts be “offset”?
  - Role of distance
- Process efficiency (limited review time)
- Mitigation design
- Habitat conversion
- Competing priorities:
  - Wildlife values vs. flood control vs. disease vectors vs. cost
- Real estate protections
- Long-term management
- Etc.



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# HOW DO WE LEARN?

- Existing Impact and Mitigation Information:
  - Format: Delineation reports, Mitigation plans, Monitoring reports
  - Difficult to access
  - Very difficult to aggregate and analyze as data for patterns
  - Formal academic studies generally limited in spatial and temporal scope (“snapshots”)



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# HOW SHOULD WE LEARN?

- Suding 2011:
  - “Given...difficulties in accessing monitoring data, **cross-project analyses** that evaluate the factors and techniques that lead to success are rare.”
  - “...[large numbers of] restoration projects occur annually..., [yet] knowledge of restoration success is hindered by the general **lack of assessment and transfer of information** concerning project outcomes.”
  - “Without **comprehensive project assessment**, science will have only a limited ability to inform practice”
  - “A small investment in **networks**... will lead to huge returns in planning for future projects.”
- Bronner et. al., 2013:
  - Recommended **agency-university partnerships** for enhanced monitoring to provide lessons learned
  - **Publicly-accessible mitigation database** (e.g., distance from impacted site, performance criteria, monitoring data, and evaluation methods)



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# EXAMPLES FROM CALIFORNIA

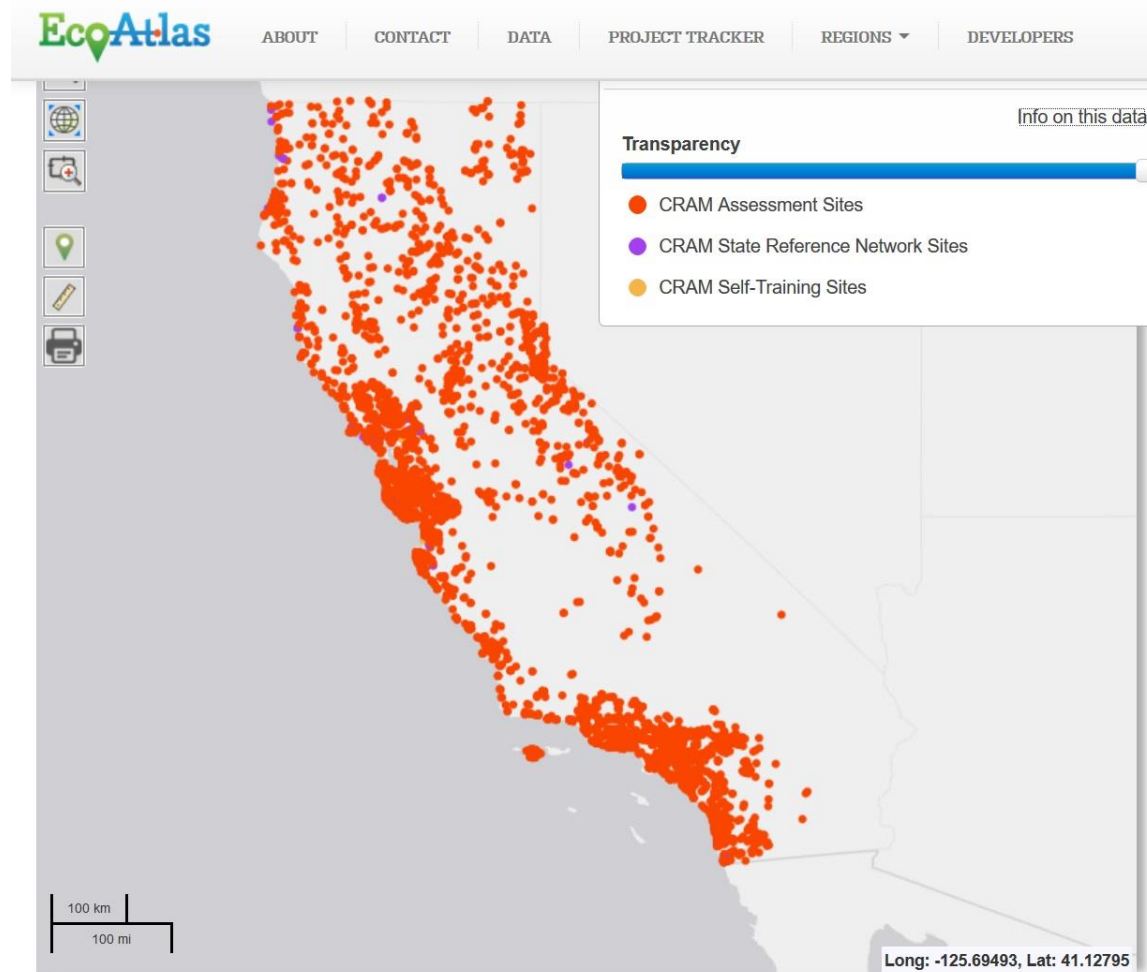
- Standardized assessment protocols:
  - California Rapid Assessment Method (CRAM)
  - Corps South Pacific Division: Uniform Performance Standards
  - Allow useful comparisons across projects, within watershed, over time
- Greater information accessibility:
  - eCRAM (online data submittal, reference network, reports)
  - SFEI: Watershed profile work. Tools to identify priorities quantitatively
  - Analyses for range of scales (intra-site to surrounding landscape to watershed)
- Targeted questions:
  - SCCWRP: Fong, Stein and Ambrose 2017: Development of Restoration Performance Curves (may lead to trajectory-based performance standards)
- Big Picture:
  - California State of the State's Wetlands reports (1998, 2010)
  - What is baseline? Probabilistic wetlands survey
  - What is trend in aquatic resource extent and health statewide?



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# CALIFORNIA'S ECOATLAS PLATFORM (eCRAM)



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# HOW CAN WE LEVERAGE SCIENCE TO MAKE BETTER MITIGATION DECISIONS?

- Greater partnership between state and federal agencies and academia for data sharing and analysis:
  - Data-Centric Approach: make Regulatory process analysis-friendly (electronic, numeric)
  - How are mitigation sites performing in aggregate (as a dataset)?
  - How are mitigation practices (designs, performance standards, etc.) performing across dataset?
  - Academia in more integrated QA/QC role with regular feedback into Regulatory process, rather than isolated "snapshot" studies
  - Get actionable information to regulators more quickly (unpublished data sharing, white papers)



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# CLOSING THOUGHTS

- Pooled Monitoring Forum is clearly on its way to providing tangible products for regulators.
- Regardless of whether a project is mitigation- or TMDL-related, I believe any type of restoration can benefit from these concepts.
- I look forward to greater collaboration between the Corps Regulatory Program and others working to improve the environmental permitting process



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