

# Eight Reasons Conservation Planning is Failing in the Sacramento-San Joaquin Delta



Coalition for a Sustainable Delta

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## 1. Research agenda decoupled from needs of resource managers

- **Problem:** research agenda is driven by agency and academic scientists who submit proposals for funding, and agency scientists who make funding decisions without sufficient guidance or input from resource managers.
- **Solution:** engage resource managers (and stakeholders, as appropriate) in the funding processes to assure that research is funded to collect pertinent data and conduct pertinent analyses.

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## 2. Outdated and inadequate monitoring

- **Problem:** the standing monitoring scheme was developed in a piecemeal fashion over decades, and without a focus on data gathering to facilitate empirical analyses that can inform resource management decisions.
- **Solution:** develop a synthetic, integrated monitoring program to address essential uncertainties that challenge policy determinations and resource management.

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## 3. Failure to develop the best scientific information

- **Problem:** proliferation of published material that does not employ rigorous specification of variables, employ appropriate analytical techniques, and involve hypothesis testing but, instead, often relies on observation (including observed correlation) and/or professional judgment.
- **Solution:** support research that builds on available ecological theory, emerges from explicit conceptual models, uses contemporary analytical tools, employs rigorous specification of variables, and involves hypothesis testing.

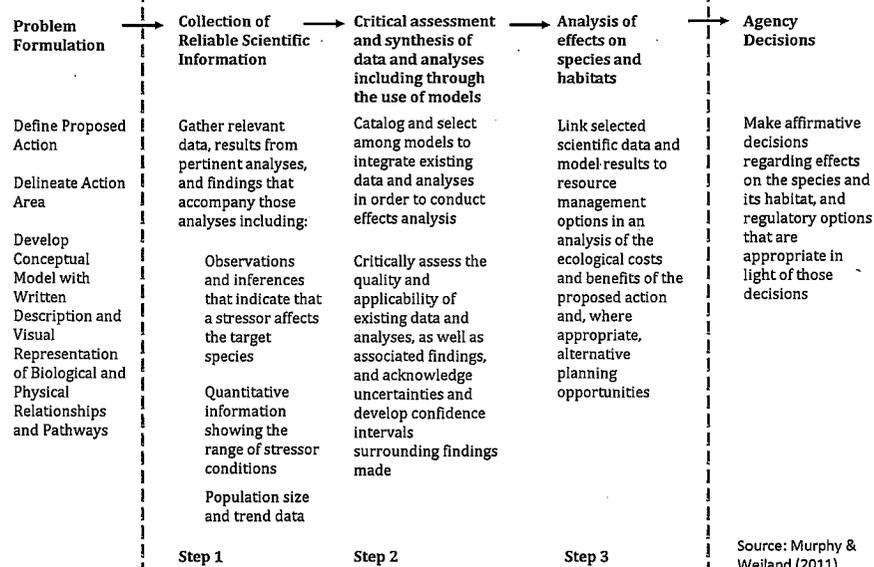
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## 4. Failure to use the best available scientific information

- **Problem:** failure to gather, critically analyze, and synthesize pertinent data and analyses, and apply them in structured approaches to inform resource management.
- **Solution:** conduct structured effects analysis/risk assessment.

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## Effects analysis



Source: Murphy & Weiland (2011)

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## 5. Failed independent scientific review

- **Problem:** reliance on independent scientific review as a primary means of identifying and applying the best available science.
- **Solution:** independent scientific review is not a substitute for identification and application of the best available science by the resource management agencies, but it can improve agency decision-making.

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## Prerequisites for meaningful independent scientific review

- Appropriate scope of review (neither too narrow nor too broad)
- Sufficient time and resources to conduct review
- A protocol for selecting reviewers, that includes a firewall between persons selecting reviewers and persons involved in preparing document subject to review
- Provision of all pertinent documentation to reviewers, including materials developed within the agency, in the academic community, and by stakeholders

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## 6. Improper reliance on staff scientists from the regulatory agencies

- **Problem:** involvement of agency scientists in data gathering and analysis, subsequent effects analysis/risk assessment, making affirmative regulatory determinations, and defending those determinations in litigation.
- **Solution:** separate functions.

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## 7. Absence of adaptive management structure and capacity

- **Problems:** (i) lack of capacity within agencies to carry out adaptive management in a structured synthetic program and (ii) invocation of adaptive management as a default response when there is a lack of information to support a particular management action.
- **Solution:** an initial management action should be based on the best available scientific information; then, adaptive management is built on collection of data and testing of hypotheses to allow adjustments to be made to ongoing management actions.

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## 8. Unwillingness to evaluate all data and analyses on the merits

- **Problem:** dismissal of scientific research generated by scientists who do not have the “correct” return address.
- **Solution:** judge scientific research and scientists on the merits, embrace alternative findings, and pursue falsification.