

Proposed State Water Resources Control Board Desalination Policy

**Tom Luster
California Coastal Commission
January 2013**

What I'll Cover:

Two Areas of Concern

- **Assessing Intake Effects –**
 - Extensive.
 - Not adequately addressed using AEL.
- **Mitigation Fee –**
 - No need to replace existing mitigation approach.
 - As proposed, would create substantial under-mitigation for impacts.

Intake Effects Are:

Extensive:

- *Spatially:* State's OTC plants resulted in APFs of ~11,000 acres along several hundred miles of shoreline. Potential desal impacts are similar.
- *Biologically:* Dozens/hundreds of affected species.

Largely Avoidable: through comprehensive evaluation of best site, design, technology, and mitigation measures.

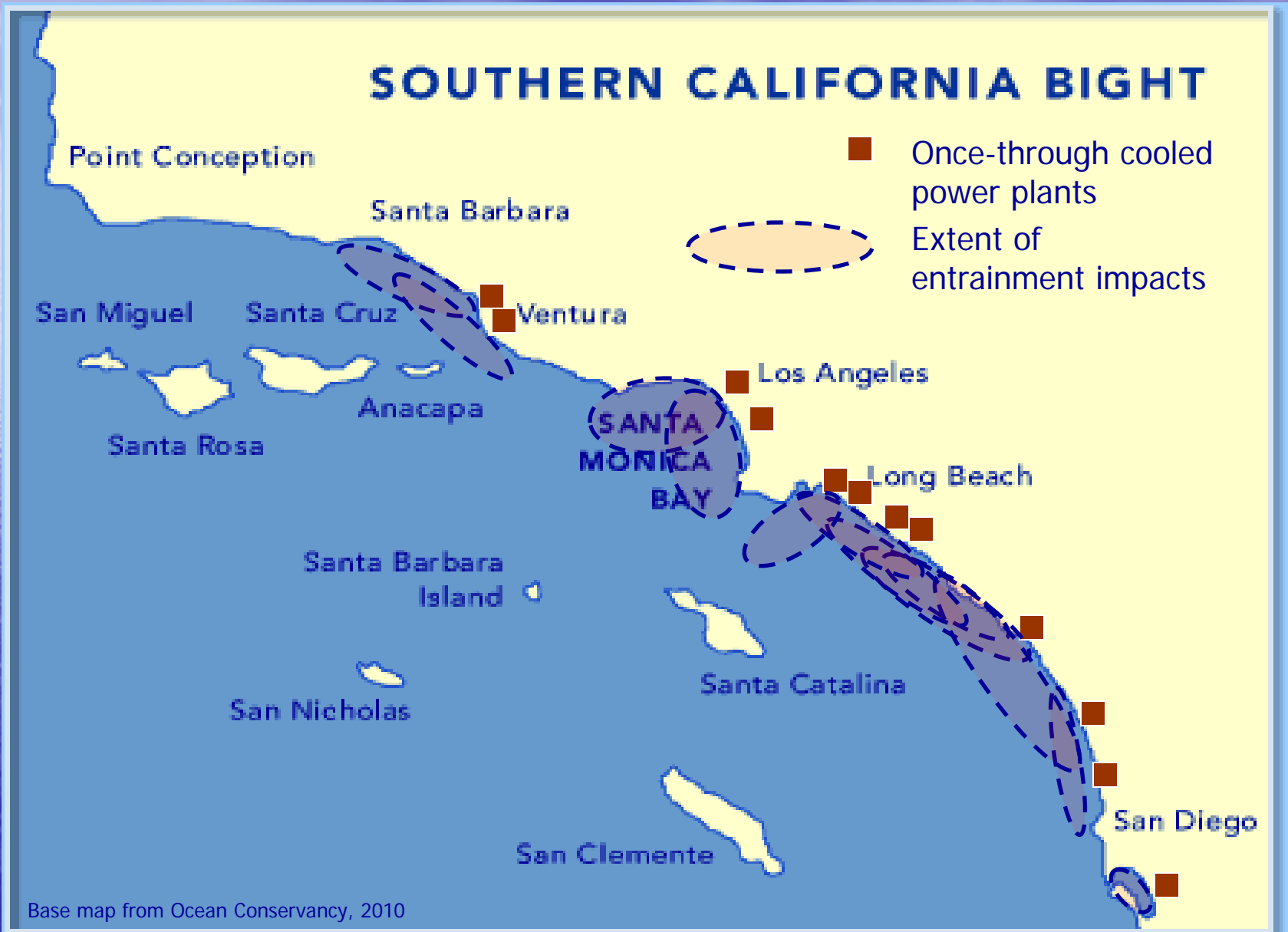
Spatial Extent of Entrainment



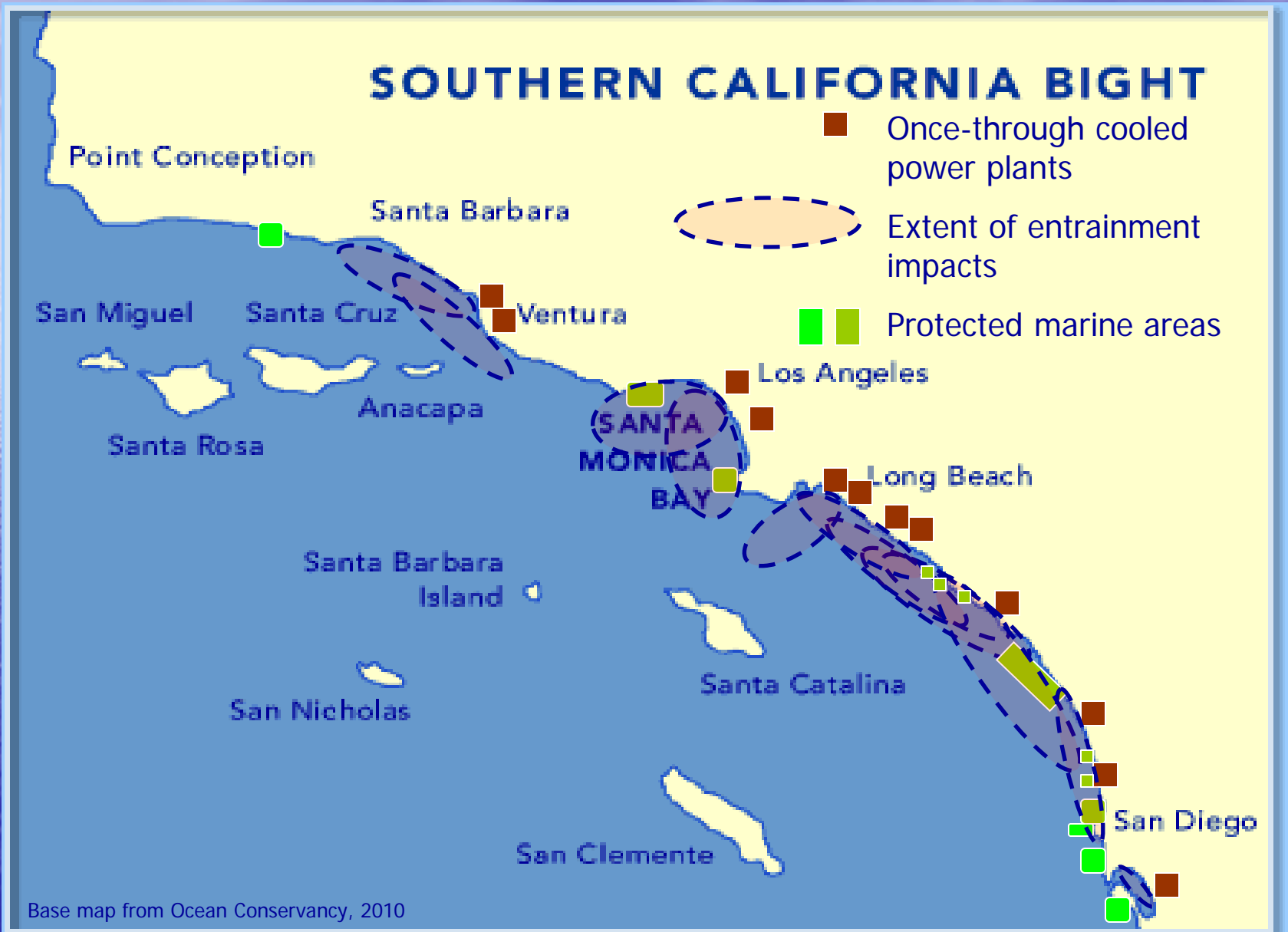
Source Water of Single Intake



Cumulative Entrainment Effects



Add Marine Protected Areas



Impacts: AEL vs. ETM/APF

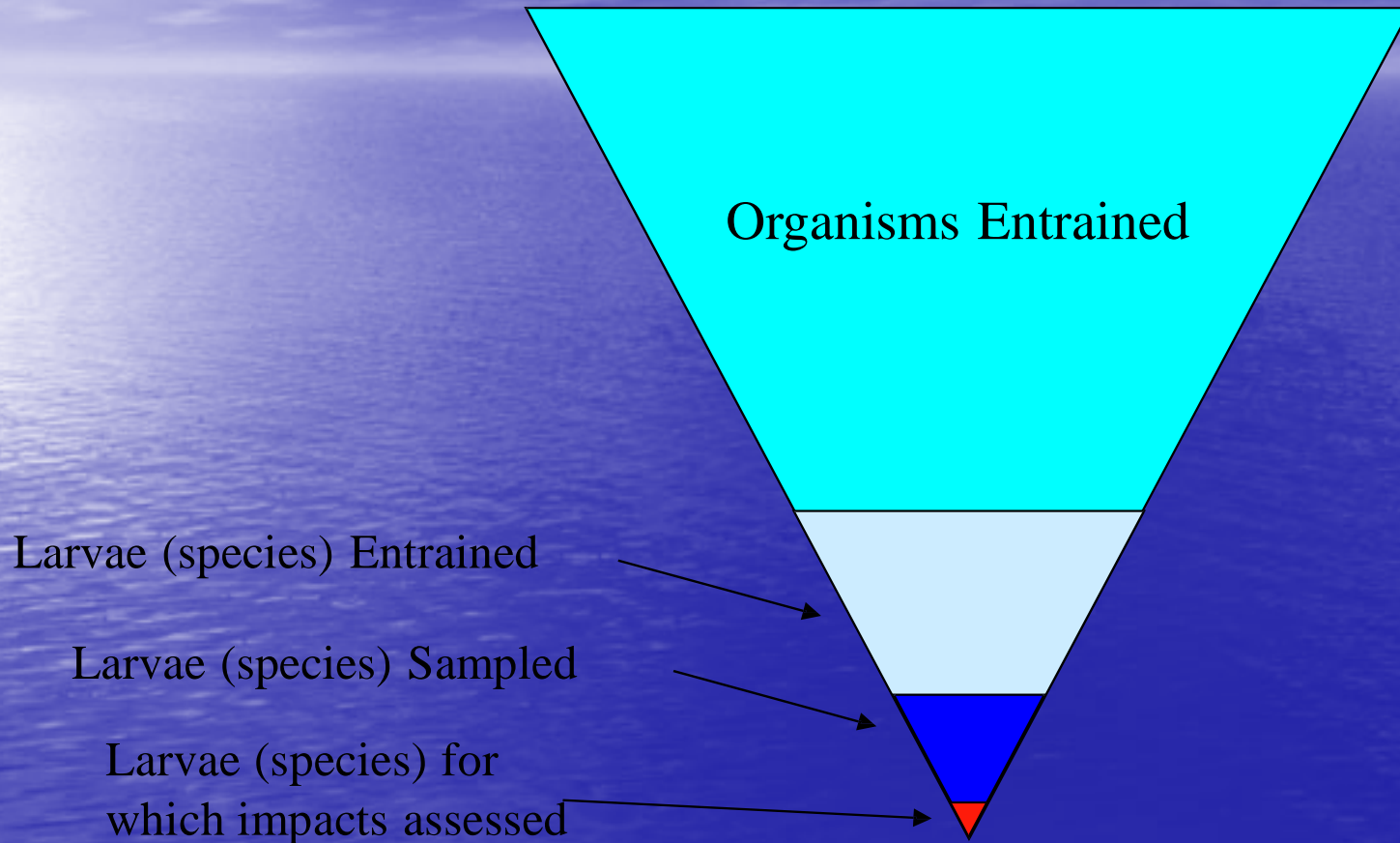
Why not to use AEL:

- Impacts are not limited to adult fish.
- Inadequate species life histories for AEL.
- Result is significant statistical errors.

Why use ETM?

- Includes larger range of intake impacts.
- Allows conversion to “common currency.”
- Successful use in policy and regulations.

Biological Extent of Impacts



From Raimondi, *Variation in Entrainment Impact Estimations Based on Different Measures of Acceptable Uncertainty*, 2011.

Assess Intake Effects Based on Regulatory Requirements

- Porter-Cologne 13142.5(b): Use “best available site, design, technology, and mitigation measures feasible” to “minimize the intake and mortality of all forms of marine life.”
- Coastal Act Section 30230: Use marine environment “in a manner that will sustain the biological productivity of coastal waters...”
- Coastal Act Section 30231: Protect, maintain, and where feasible, restore the “biological productivity” of coastal waters by minimizing the adverse effects of entrainment.

Proposed Mitigation Fee

- While useful for short-term impacts, not appropriate for long-term.
- As proposed, would result in significant under-mitigation of impacts.
- No need for fee to replace successful use of site-specific mitigation.
- Creates conflict with other agency policies and requirements.

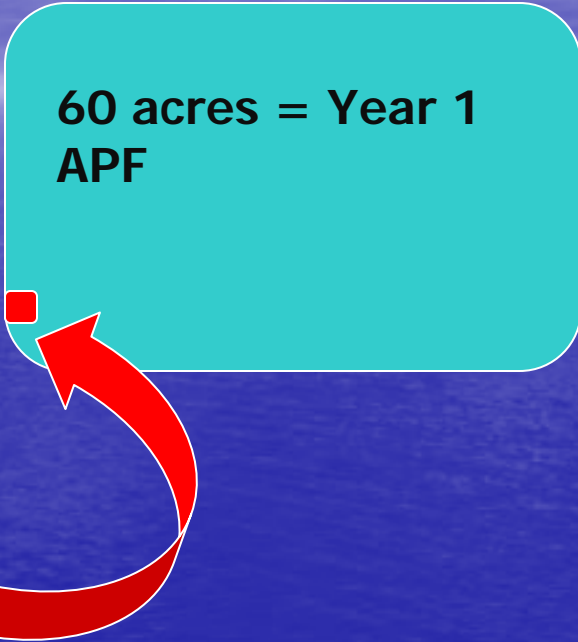
APF-based Mitigation Example

- “Project X” pulls in 300 MGD.
- APF = 60 acres of wetland restoration
- Mitigation cost = \$20m

60 acres = Year 1
APF

Fee-based Under-Mitigation

- "Project X" pulls in 300 MGD.
- APF = 60 acres of wetland restoration.
- Mitigation cost = \$20m
- Fee (at \$3.00 per MGD) = \$328,500 per year.
- 1.6% of annual APF.



60 acres = Year 1 APF