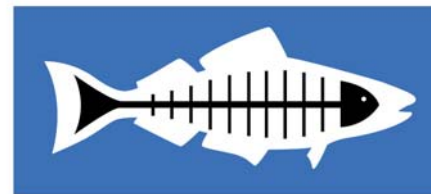


Workshop on Power Plant Cooling



**SANTA MONICA
BAYKEEPER®**



Heal the Bay

State Water Resources Control Board
Laguna Beach
September 26, 2005

"California has a proud history and tradition of protecting our ocean, and we have the same kind of proud **history and tradition of leading the country in our efforts to make sure that all of our oceans are clean, safe and productive.** The ocean is a place that we are duty bound to protect, today, tomorrow and forever."

- Governor Schwarzenegger

California Ocean Action Plan:

“increase the abundance and diversity of aquatic life in California’s ocean, bays, estuaries, and coastal wetlands.”

Work With Other Agencies

- The Ocean Protection Council on 9/23/05 approved a motion to study once-through cooling, calling consideration of the issue a “natural fit” for the Council
- Energy Commission
- Coastal Commission

Learn from Other States

Keep Your Eye on the Mission:

The State Board's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

Our Vision

Phase out once-through cooling as soon as possible.



Interpreting the Phase II Regulation

- Calculation Baseline
 - Give credit for technology like velocity caps
 - Operational baseline determined by how plants have actually been operating
- Think Twice about “Site-specific BTA” and ranges in performance standards: subject to federal court challenge and not consistent with Action Plan or State Laws
- Consistency in application important to promote even playing field

Interpreting the Phase II Regulation

- The main question to consider:

What justifies a departure from closed cycle performance standards?

ASK THE HARD QUESTIONS:

- When a plant claims a technology is not feasible, *challenge them to prove it to you.*
- When a plant claims a technology will cost too much, *challenge them to prove it to you.*
- *Shift the burden of proof to the plant*
 - The burden rightfully belongs on the plant to make these showings, and Californians deserve a good explanation.
- Use of California's water for cooling purposes is a privilege, not a right.

Power Plant Cost Considerations

- You will hear repeated assertions that “It will cost too much”
- Evaluate these assertions in proper context.
- The incremental cost differences between cooling technologies for repowering coastal facilities are modest in the context of capital costs (<10%), annual plant revenue (~2.9%), and annual plant profit.
- For too long, Regional Board staff have not even attempted to evaluate these data.

Resource Economic Considerations

Coastal benefits > costs

- CA largest ocean economy in nation
- In 2000, GSP for coastal tourism and recreation alone exceeded \$12 billion
- Non-market and market values must be considered

Coastal resources are of exceptionally high



Resource Economic Considerations

Recreational fishing

- Contributes > \$170 million to Southern CA
- > 620,000 anglers/yr participated in chartered boat trips in Southern CA.
- HTB Pier Outreach Program reached > 30,000 pier-fishing anglers

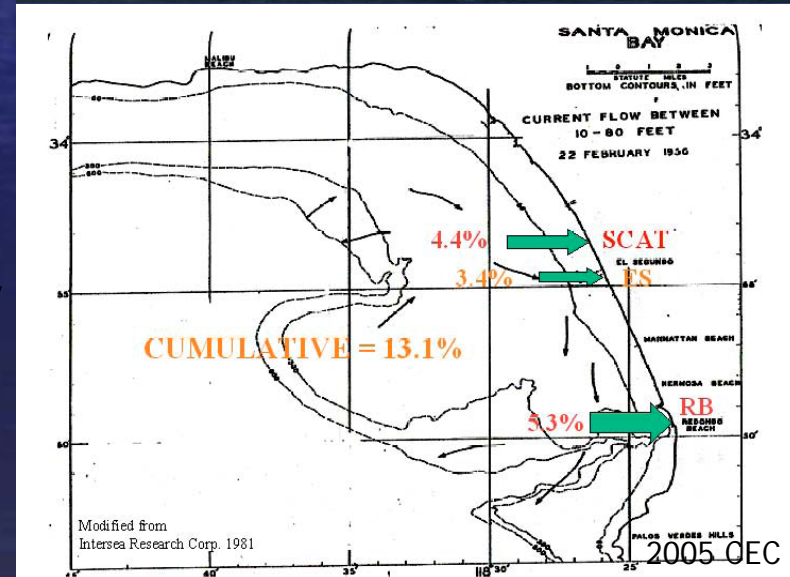
Catch same fish killed by OTC



Biological Considerations

Cumulative Impacts

- Southern California power plants consume ~ 30% of the rec. fish caught each year.
- OTC consumes 13% of nearshore waters in Santa Monica Bay every 6 weeks.





Mandalay and Ormond Beach
~35 miles up coast

San Bernardino

Scattergood
El Segundo

Redondo Beach

Long Beach

Los Angeles Harbor
Alámitos

Orange
Haynes

Huntington Beach

San Onofre
Pendleton
Encina

Riverside

San Diego

Oceanside-Escondido

Individual and cumulative environmental impacts must considered

South Bay
~10 miles down coast

SoCal Power Plants

- County boundary
- Power Plant

0 5 10 20 30 Miles

N

Biological Considerations

Protected species & habitat

- Seawater is habitat that provides important linkage to other habitats
- Rockfish, abalone, and tidewater goby adults and larvae subject to I/E



Special Status Species Impacts



**Need comprehensive biological
impact studies**

Photo credits!

Lessons from South Bay

Rebecca Pearl



Lessons from Moss Landing and Morro Bay

Deborah Sivas



Lessons from Moss Landing and Morro Bay

- General Lessons
- The Role of “Restoration” Measures
- “Site-specific” BTA
 - Economic costs
 - Environmental benefits
- Definition of New Facility

Elements of a State Policy

Heather Hoecherl



Elements of a State Policy

- Require that studies rigorously assess *all* physically feasible technologies
 - Sound public policy dictates that plants make a rigorous showing concerning the feasibility of both dry cooling and other types of closed-cycle cooling.
- Direct staff to innovate and identify local alternative cooling sources such as reclaimed water supplies from wastewater treatment facilities.

Elements of a State Policy

- Regulate toward the top end of the ranges of performance standards in the Phase II regs.
 - Phase II rule minimum stated performance standards *represent the minimum floor* (80% reduction in impingement and 60% reduction in entrainment).
- The Water Boards should seek to *impose the higher end of these ranges* (95% reduction in impingement and 90% reduction in entrainment)

Elements of a State Policy

- Do not consider “site-specific” BTA determinations in the Phase II rule
 - This element of the regulation is under challenge in the federal lawsuit and shifts the Boards’ focus inappropriately away from minimizing adverse environmental impacts.
 - Such site-specific determinations also upend the economic determinations made by the Legislature in the Coastal Act and Porter-Cologne.
- Require Peer-Review of Assertions of Economic and Technological Infeasibility by experts familiar with power plants and the energy sector

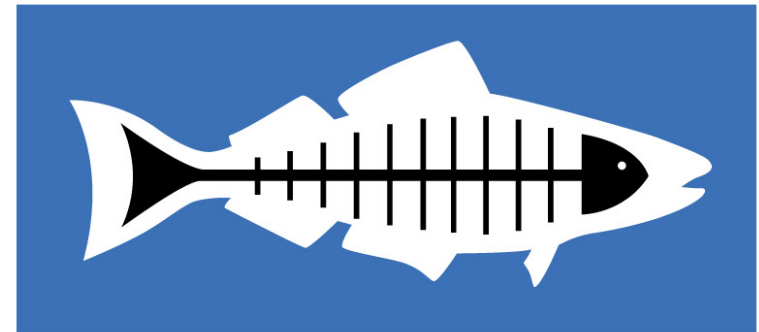
Elements of a State Policy

California has a unique opportunity to uphold our history as an environmentally progressive state in moving beyond the CWA 316(b) Phase II regulations and implementing our own state policy.

SANTA MONICA BAYKEEPER[®]



Voices of the Wetlands



Heal the Bay

Environmental

HEALTH COALITION



OTC Power Plants in the L.A. Region

Power Plant	Permitted Water Intake (gallons/day)
Mandalay Bay	255,000,000
Ormond Beach	688,000,000
Alamitos	1,283,000,000
El Segundo	607,000,000
Haynes	1,014,000,000
Long Beach	265,000,000
Los Angeles Harbor	170,000,000
Redondo Beach	898,000,000
Scattergood	496,000,000
Total	5,676,000,000