California Ocean Plan and Thermal Plan

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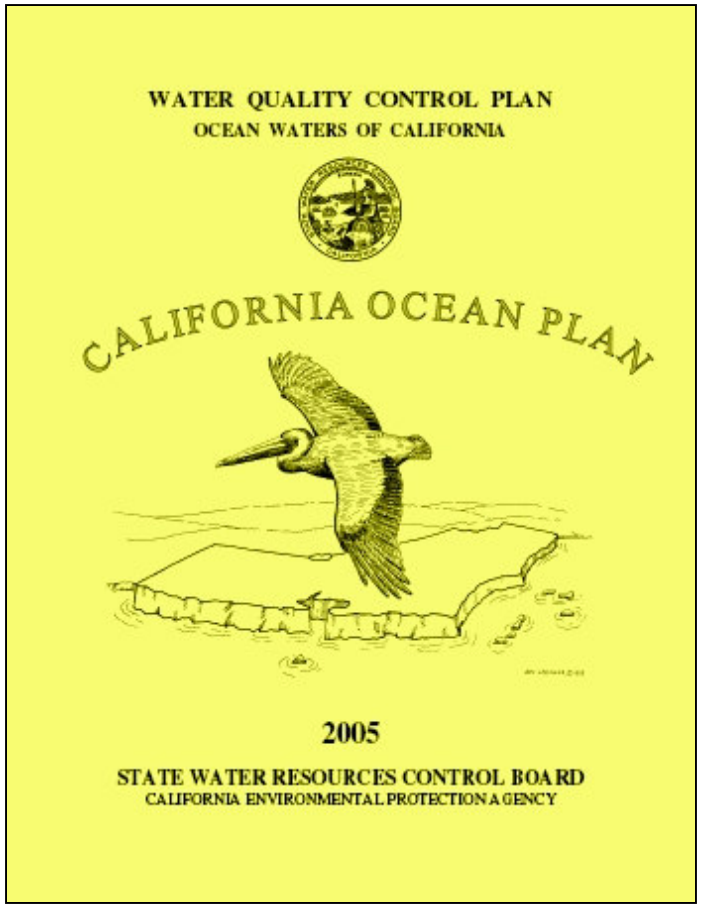
California Ocean Plan

- Regulates ocean discharges for chemical, physical, bacteriological, and radiological pollutants.

- Contains water quality standards to prevent marine ecosystem degradation, protect public health, and protect other beneficial uses.



Ocean Plan Table B
Water Quality Objectives

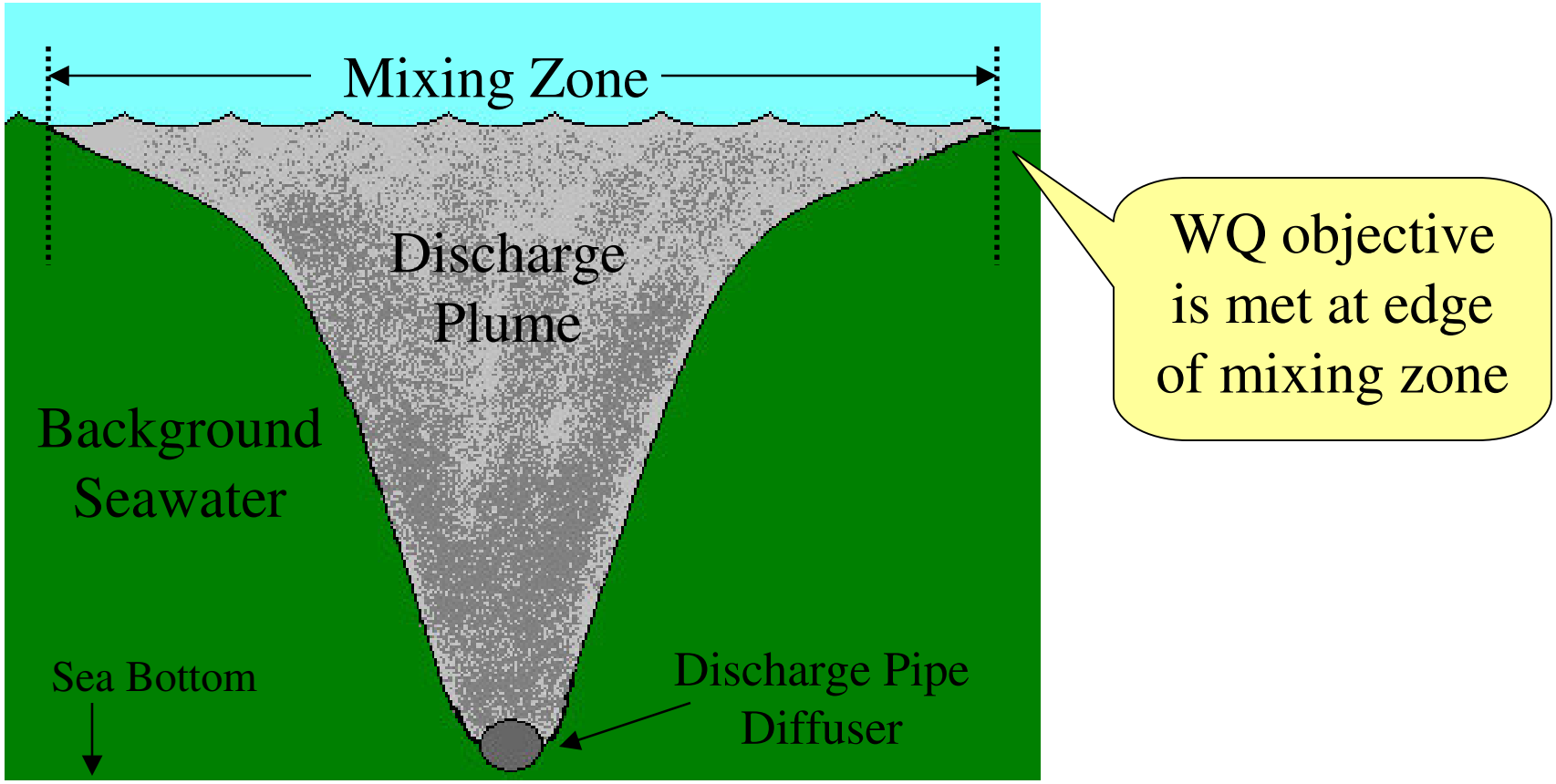
- 83 Total Objectives that regulate 128 Pollutants
  - Marine Aquatic Life – 21 Objectives
  - Human Health – 62 Objectives
    - Non-carcinogenic Effects
    - Carcinogenic Effects

Marine Aquatic Life

TABLE B
WATER QUALITY OBJECTIVES

	Units of Measurement	Limiting Concentrations: 6-Month Median	Daily Maximum	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic	ug/l	8.	32.	80.
Cadmium	ug/l	1.	4.	10.
Chromium (Hexavalent) (see below, a)	ug/l	2.	8.	20.
Copper	ug/l	3.	12.	30.
Lead	ug/l	2.	8.	20.
Mercury	ug/l	0.04	0.16	0.4
Nickel	ug/l	5.	20.	50.
Selenium	ug/l	15.	60.	150.
Silver	ug/l	0.7	2.8	7.
Zinc	ug/l	20.	80.	200.
Cyanide (see below, b)	ug/l	1.	4.	10.
Total Chlorine Residual (For intermittent chlorine sources see below, c)	ug/l	2.	8.	60.
Ammonia (expressed as nitrogen)	ug/l	600.	2400.	6000.
Acute* Toxicity	TUa	N/A	0.3	N/A
Chronic* Toxicity	TUc	N/A	1.	N/A
Phenolic Compounds (non-chlorinated)	ug/l	30.	120.	300.
Chlorinated Phenolics	ug/l	1.	4.	10.
Endosulfan	ug/l	0.009	0.018	0.027
Endrin	ug/l	0.002	0.004	0.006
HCH*	ug/l	0.004	0.008	0.012

Effluent limit (Ce) considers WQ objective (Co), effluent dilution (Dm), and background seawater concentration (Cs).

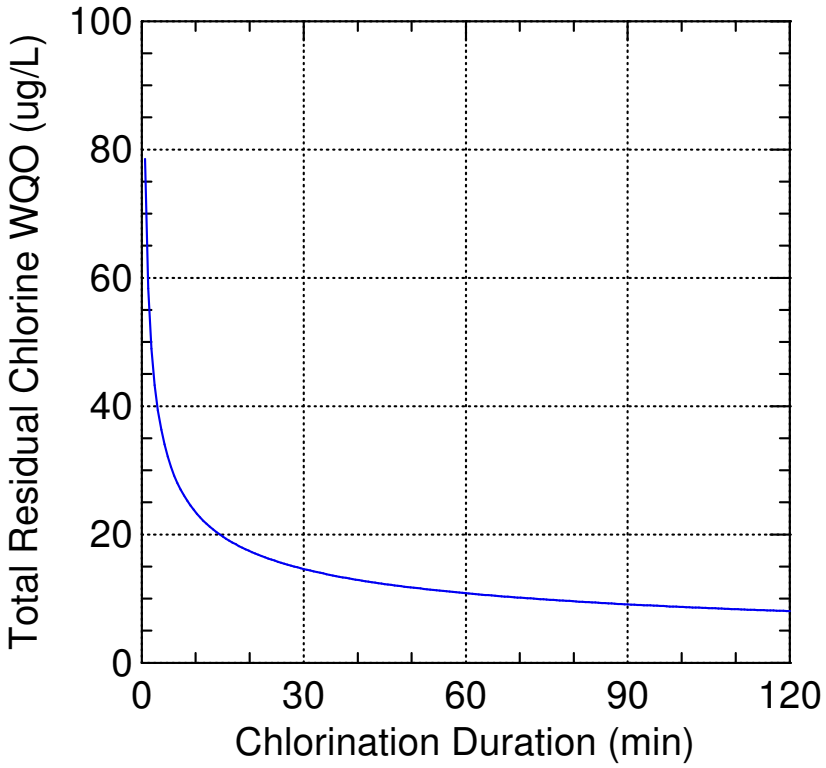


Using the Mass Balance Equation, $Co = (Ce + Dm \bullet Cs)/(Dm+1)$

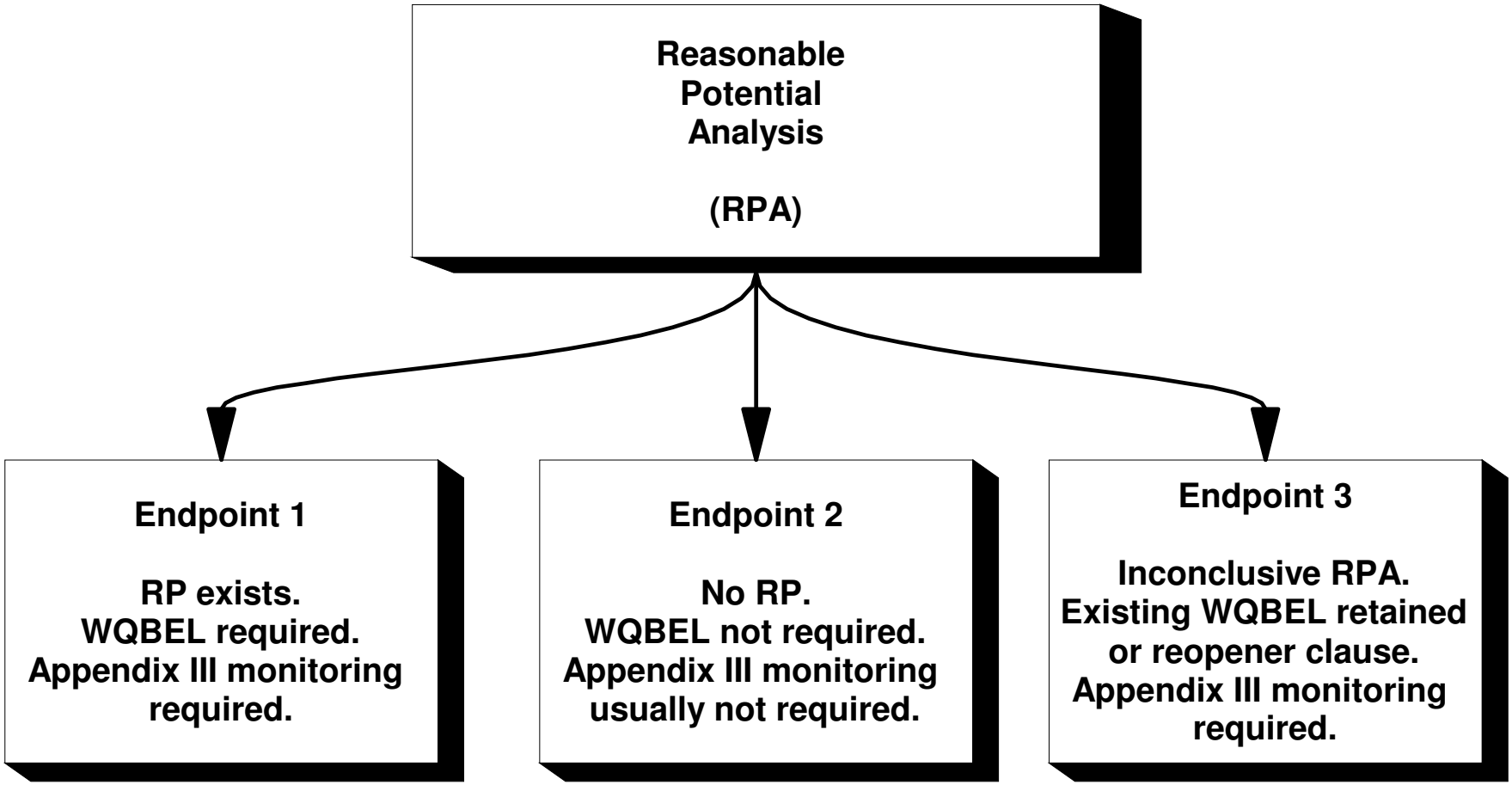
Intermittent Chlorine WQ Objective

- If chlorination period is less than 2 hours:

$$\mu g/L = 63(\text{minutes of chlorination})^{-0.43}$$

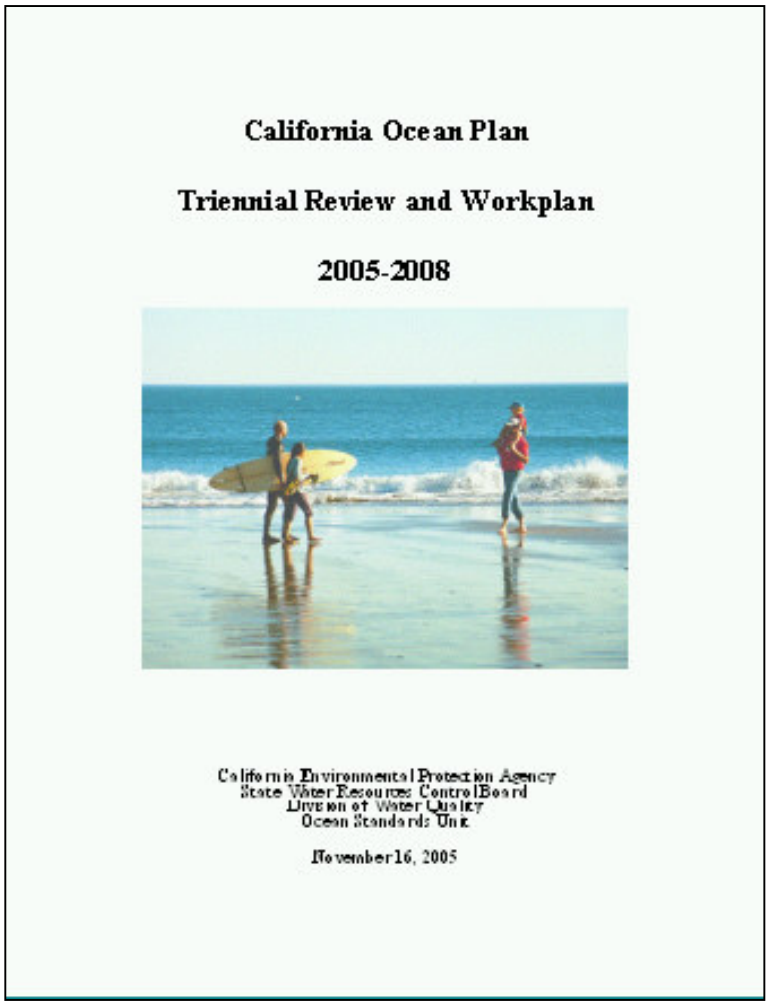


Ocean Plan endpoints of the reasonable potential procedure



Ocean Plan Triennial Review 2005-2008 Issues

- 25 Priority Issues, including
  - Desalination / Brine Disposal
  - Standard Monitoring Req's
  - Fecal Coliform & Shellfish
  - Storm Water Control
  - Non-point source Control
  - Mass Emissions
  - Light Transmittance



California Ocean Plan

Triennial Review and Workplan

2005-2008

California Environmental Protection Agency
State Water Resources Control Board
Division of Water Quality
Ocean Standards Unit

November 16, 2005

1975 Thermal Plan

Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California

- Water Quality Objectives for:
  - Cold Interstate Waters (trout, salmon)
  - Warm Interstate Waters (bass, catfish)
  - Coastal Waters
    - Existing (assure protection of beneficial uses and ASBS)
    - New (no increase in natural water temp. exceeding 4° F)
  - Enclosed Bays
  - Estuaries & Coastal Lagoons

Possible Thermal Plan Amendments

- July 1998, SWRCB Staff Review and Public Hearings
- Revise definitions: new, existing discharges,...
- Appropriateness of delta Ts
- Compliance and Monitoring using statistical considerations:
  - time frames, maximum, central tendency, percentiles
- “Sunsetting” thermal plan?