

Walker Creek Mercury TMDL



Agenda Item #11

July 15, 2008

Administrative



- **Executive Officer Corrections**
 - Typographical Error
 - Hg to MeHg WQO's

- **1 Comment Letter**

- **Response to Comments Available**

Questions



- **Questions?**

- **Continue?**

Intro

➤ **303(d) Listed**

- Mercury

➤ **Impaired in Walker Creek:**

- Fresh Water Habitat of Cold Water Species (COLD)
- Preservation of Rare & Endangered Species (RARE)
- Fish Spawning Habitat (SPAWN)
- Wildlife Habitat (WILD)

➤ **Impaired in Soulajule Reservoir:**

- Water Contact Recreation (REC-1)
- Wildlife Habitat (WILD)

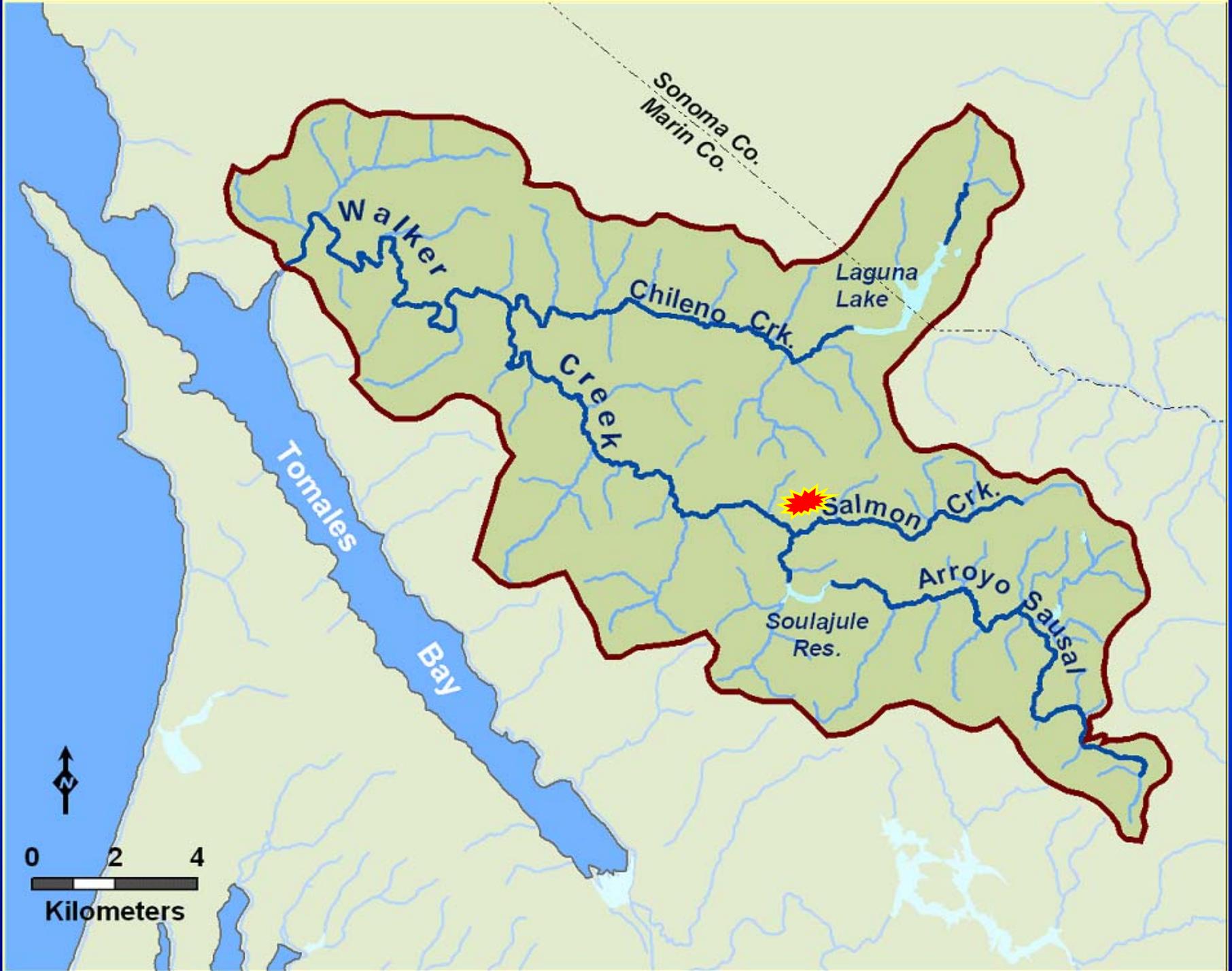
Intro

➤ **Numeric Water Quality Objectives**

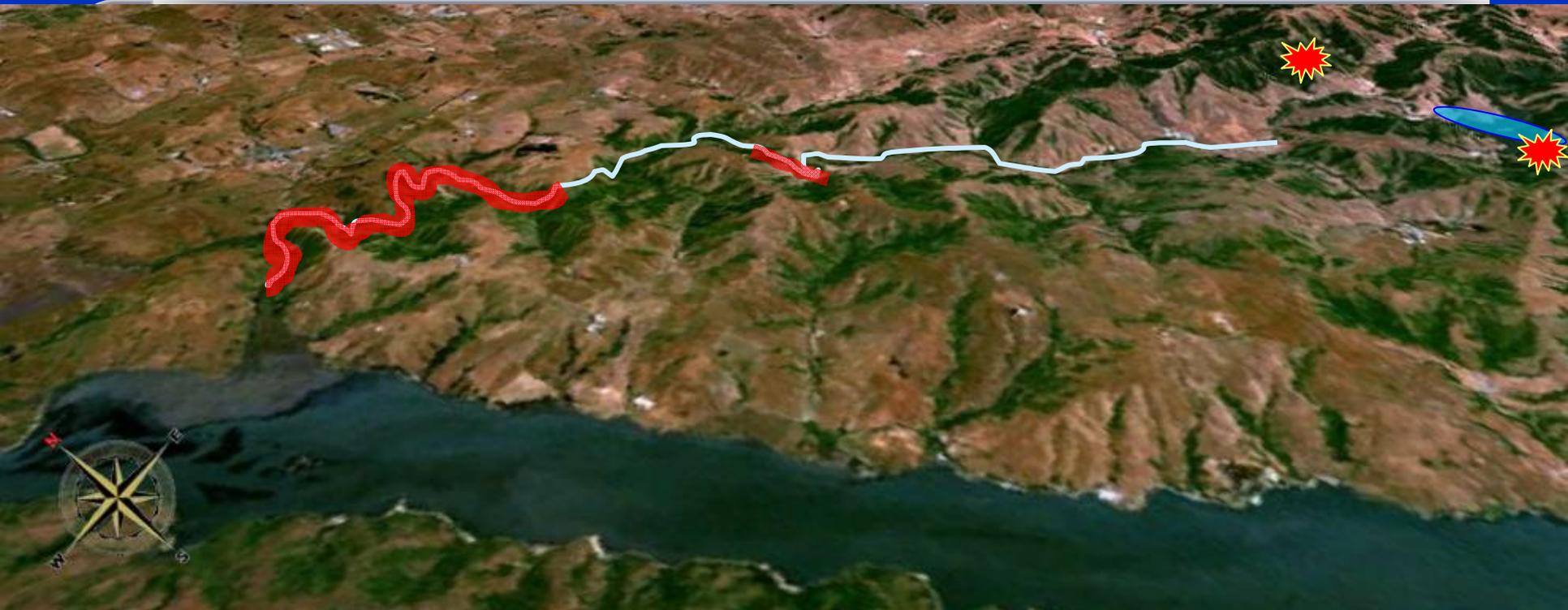
- 2.4 micrograms per liter (1-Hour Average)
(Aquatic Uses)
- 0.050 micrograms per liter (30-Day Average)
(Human Health) (CTR)

➤ **Narrative Water Quality Objectives**

- Bioaccumulation
- Toxicity



Mercury Sources



Gambonini Mine Site



Soulejule Watershed Mines



Downstream Depositional Areas

Source Analysis

➤ Significant Sources:

- Gambonini Mine Site
 - Abandoned Hg Mine
- Soulajule Reservoir & Watershed
 - 2 Historic Hg Mines
- Downstream Depositional Features
 - Hg-Laden Sediments Downstream of Mines
- Background
 - Naturally Occurring Hg in Soils & Atmosphere Dep.

Gambonini Mine Site



Photo of the Gambonini Mercury Mine taken after mining operations ceased. The mining waste pile drains to the mine channel, which discharges to Salmon Creek, a tributary of Walker Creek.



Inactive mercury mine at Soulajule Reservoir. Reservoir waters have since inundated this location. Photo by MMWD staff during reservoir construction (McGuire 1997)

Amendment

- **Removes Outdated Water Quality Objective**
- **New Water Quality Objectives**
- **TMDL (targets/allocations)**
- **Implementation Plan**

Water Quality Objectives

➤ **New Objectives**

- 0.05 mg MeHg per kg Fish (5-15cm in length)
- 0.1 mg MeHg per kg Fish (15-35cm in length)

➤ **Remove 4-Day Average**

- 0.025 micrograms per liter

TMDL Targets

- **0.05 mg MeHg per kg Fish (5-15cm in length)**
- **0.1 mg MeHg per kg Fish (15-35cm in length)**
- **2.4 micrograms per liter (1-Hour Average)
(Aquatic Uses)**
- **0.050 micrograms per liter (30-Day Average)
(Human Health)**

TMDL Allocations

Source	Wasteload Allocation	Load Allocation
Gambonini Mine site NPDES Permit no. CAS000001	5 mg mercury per kg suspended sediment	
Soulajule watershed and Reservoir		0.04 ng dissolved methylmercury per liter water 0.5 mg mercury per kg suspended sediment
Downstream depositional features ¹		0.5 mg mercury per kg suspended sediment
Background ²		0.2 mg mercury per kg suspended sediment

¹ Applies to sediment released from depositional features (creek beds, banks, and floodplains) downstream of the Gambonini Mine and Soulajule Reservoir.

² The background allocation applies to all areas in the Walker Creek watershed outside of the influence of the Gambonini Mine and Soulajule Reservoir.

Implementation Plan (Table 7-y)

Source	Action	Implementing Parties	Completion Date
Gambonini Mine Site	Apply for coverage under the State of California's Industrial Stormwater General Permit	Gambonini Mine Site owner(s)	2007
	Submit to the Water Board for approval a Stormwater Pollution Prevention Plan (SWPPP), implementation schedule, and monitoring plan		
Soulajule Reservoir	Submit to the Executive Officer of the Water Board, a monitoring and implementation plan and schedule to 1) characterize fish tissue, water, and suspended sediment mercury concentrations in Soulajule Reservoir and Arroyo Sausal Creek, and 2) develop and implement methylmercury production controls necessary to attain both in-reservoir and downstream TMDL targets	Marin Municipal Water District	2009
Downstream Depositional Features	Applicants seeking coverage under waste discharge requirements (WDRs) or waivers of WDRs to control pathogens, nutrients, or sediments discharges in the Walker Creek watershed shall incorporate management practices that minimize mercury discharges and methylmercury production	All creekside property owners downstream of Gambonini Mine and Soulajule Reservoir	2009
	All projects regulated under Clean Water Act Section 401 shall include provisions to minimize mercury discharges and methylmercury production		
	Comply with conditions of Marin County's Creek Permit Program		
	Update Marin County's <i>Creek Permit Guidance for Unincorporated Areas of Marin</i> to include specific guidance for projects in areas that may contain mercury-enriched sediments	County of Marin	2008

Implementation

➤ **Gambonini Mine Site**

– Gambonini Mine Site Owners’

- State of California’s Industrial Stormwater General Permit Program
 - BAT & BCT
 - Storm Water Pollution Prevention Plan
 - Monitoring Plan

Implementation

➤ **Soulajule Reservoir**

– Marin Municipal Water District

- Releases From the Reservoir Regulated Via a Water Rights Permit
- Submit to E.O. Monitoring Plan & Implementation Schedule

Implementation

➤ Downstream Depositional Features

– Marin County

- Update *Creek Permit Guidance for Unincorporated Areas of Marin*

– Downstream Property Owners

- Waste Discharge Requirements or Waivers
- Clean Water Act's 401 Permit Program
- Comply with Marin County's *Creek Permit Guidance for Unincorporated Areas of Marin*

Monitoring

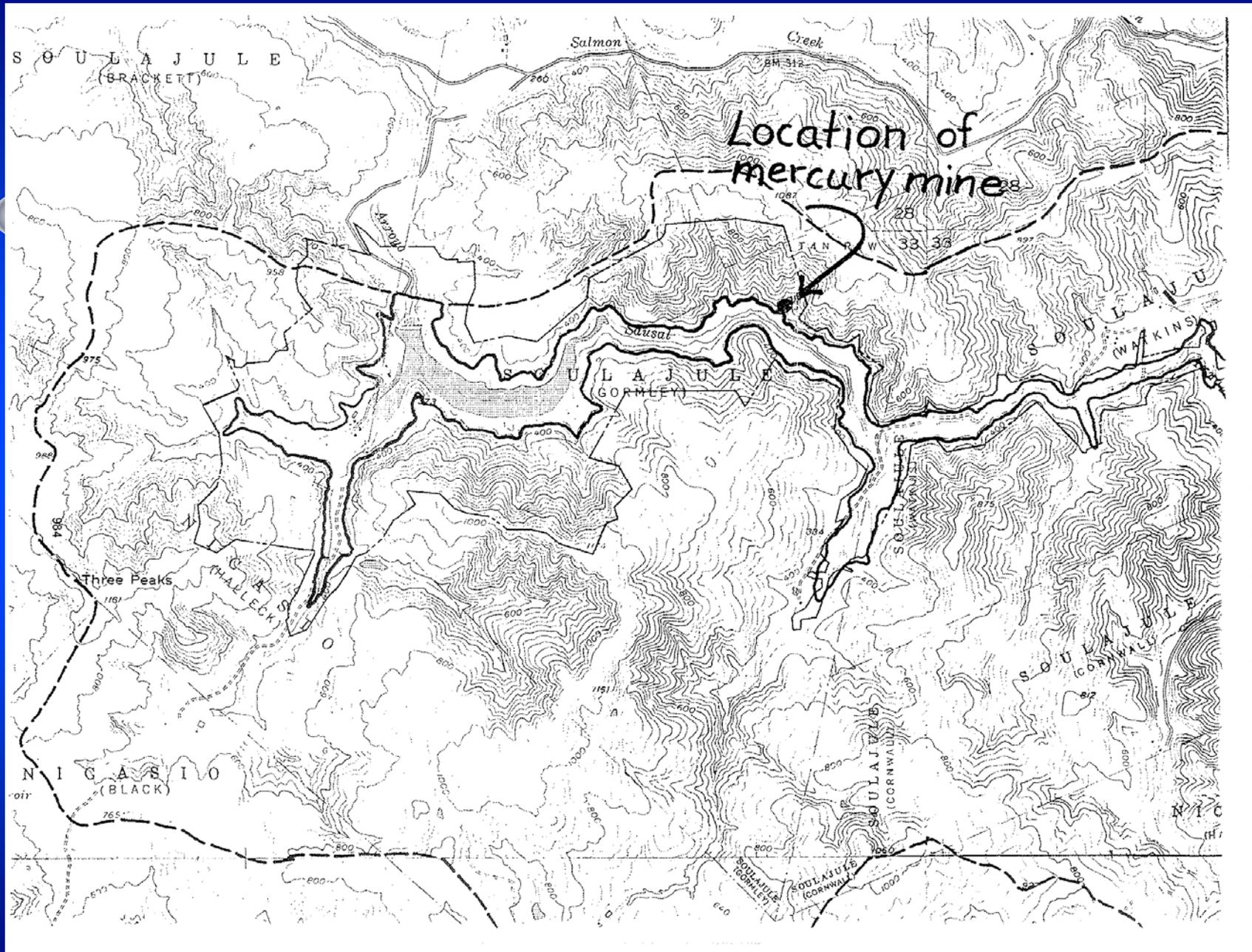


- **Water Quality**
- **Fish Tissue Concentrations**
- **Implementation Actions**
- **Evaluation After 5 Years**

Questions?







Staff



- **State Water Board Staff**

- Michael Buckman

- **Office of Chief Council**

- Steven Blum

- **San Francisco Bay Water Board Staff**

- Jill Marshall

- Dyan Whyte