



Fact Sheet #2

Watershed-Based Permitting Case Study: Permitting Approach

The Selenium Stakeholder Group

Watershed

South Platte River and Sand Creek (Segments 15 and 16a)

Permitting Authority

Colorado Department of Public Health and Environment
(CDPHE)

Point of Contact

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Additional Information

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Project Timeframe

2000 - 2004

Background

- ◆ Through the triennial review process in 2000, CDPHE proposed lowering the chronic selenium standard from 12 ug/l total selenium to 4.6 ug/l dissolved selenium.
- ◆ Suncor Energy (U.S.A.) Inc., formerly Conoco Denver Refinery, convened a stakeholder group consisting of two refineries, a municipality, and a wastewater district in Denver, CO, to discuss the potential impacts of changing the selenium standards for point sources discharging to the South Platte River and its tributaries, specifically Sand Creek.
- ◆ The Selenium Stakeholder Group believed the standard change was unwarranted based on preliminary site-specific biological data and literature review.
- ◆ A change in the selenium standard could make compliance with NPDES water quality-based effluent limits (WQBELs) extremely challenging (considering current technological limitations for selenium removal from process wastewater discharges and nonpoint source contributors).

Strategy

- ◆ The Selenium Stakeholder Group presented data at the Triennial Review hearings demonstrating that suspected non-point sources of selenium in the upper Sand Creek watershed would cause a violation of the lower standard and require placement on the state's 303(d) list.
- ◆ Based on data presented by the Selenium Stakeholder Group, the Colorado Water Quality Control Commission (Commission) granted a three-year Temporary Modification for Segment 15 of the South Platte River and Sand Creek.
- ◆ The negotiation process with the Commission required the Selenium Stakeholder Group to develop and implement a Study Plan to collect more information to better understand the sources of selenium in the Sand Creek watershed and determine appropriate site-specific selenium criteria. The Study Plan is now in its third year of implementation.

Factors to Consider in Permitting

- ◆ Each member of the Selenium Stakeholder Group had different motivating factors for participating. These factors are described below.
 - For the upstream municipality on Sand Creek, concerns over elevated upstream selenium concentrations and potential impacts on NPDES permit limits motivated participation in the group.

- The two refineries involved in the group are concerned about future WQBELs and implementation of a TMDL for a stream in which background selenium concentrations exceed the proposed lower selenium standard. Permit renewals for these facilities were imminent at the time of the temporary modification.
- The wastewater reclamation district participates in the group due to the fact that it cannot control selenium concentrations entering the POTW and the economic and technical limitations of treating huge municipal flows.

Study Plan Objectives

The Selenium Stakeholder Group intends to:

- ◆ Identify sources of elevated selenium levels to Sand Creek.
- ◆ Develop site-specific chronic selenium criterion for Sand Creek and South Platte River (Segment 15).

Study Plan Overview

- ◆ Since March 2001 the group has collected monthly water column and outfall data to identify selenium hotspots and trace selenium hotspots up into storm water drainage systems to identify sources.
- ◆ To support development of site-specific criteria, the group collects a suite of biological and chemical data from South Platte River, Sand Creek, and on reference streams.

Expected Outcomes

- ◆ The Selenium Stakeholder Group anticipates development of final site-specific selenium criteria for Sand Creek and Segment 15 of the South Platte River based on analyzed data.
- ◆ In addition to the site-specific criteria, the group will draft recommendations and a report that presents the data and data analysis during the next South Platte River Triennial Review in summer 2004.

Project Funding

- ◆ Cost of the project is estimated to be approximately \$0.5 million, incorporating costs for consultants, sampling and legal assistance. The coordination of all billing is handled by the primary consultant, who divides the charges and invoices among the individual stakeholders based on a negotiated arrangement for splitting the charges.

Benefits to Date

- ◆ Through collaboration, the group produced successful negotiation of a temporary modification of the selenium stream standard.
 - ◆ Members of the group collected comprehensive data with significant cost savings due to shared burden of both physical sampling and financial resources over the duration of the Study Plan.
 - ◆ The relationship established among neighboring dischargers expanded to other issues; in one particular case, a wasteload re-allocation (water quality based trade) between two refineries was uncontested during the permit renewal process.
 - ◆ The process promoted a broad watershed approach to issues of mutual concern, and provided an effective catalyst to bring dischargers and regulators around the same table.
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- ◆ The Study Plan facilitated the collection of a large amount of quality data, which can be used in implementing better science-driven TMDLs in the future, not to mention important ecological data shared with state and federal agencies.
- ◆ This approach provided a medium for adaptive implementation—the desire to work cooperatively and pro-actively to solve problems outside of the regulatory realm, furthering efforts toward sustainability.

