

Western States Water Council: State Water Quality Authorities



July 14, 2016

Walter Baker, P.E.

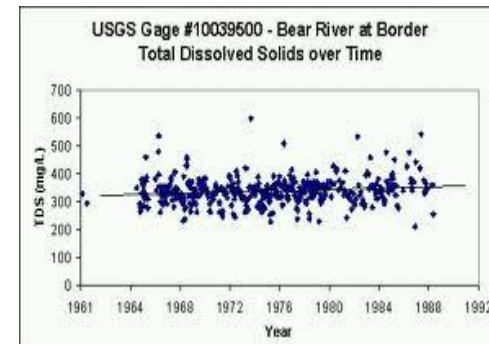
Division of Water Quality

Utah Department of Environmental Quality



Water Quality Standards: The Foundation of Protection

- **Antidegradation Policy – Requires minimal or no decreases in water quality**
 - Category I [No Discharge Allowed]
 - Category II [Discharge only at Background]
 - Category III [Consider Assimilative Capacity]
- **Beneficial Use – Classification of levels of protection**
 - 1C Domestic Purposes
 - Protected for use as a raw water source for domestic water systems.
 - 3A Cold Water Fishery
- **Numeric Criteria – Numbers that protect the beneficial uses**
 - 50 ug/l Selenium – 1C
 - 4.6 ug/l Selenium Chronic – 3A
- **Narrative Criteria - Narrative that protects the beneficial uses**
 - “become offensive”
 - “undesirable physiological responses”



Antidegradation 101

The objective of the CWA is restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

The purpose of the antidegradation policy is to assure that all activities with the potential to affect existing water quality undergo review and comment prior to any decision to approve or deny a permit or certificate for the activity.

Terminology

- Water Quality Standards are state not federal standards. In Utah they apply to all “waters of the state” not just “waters of the U.S.”
- Antidegradation is a key element of states’ water quality standards

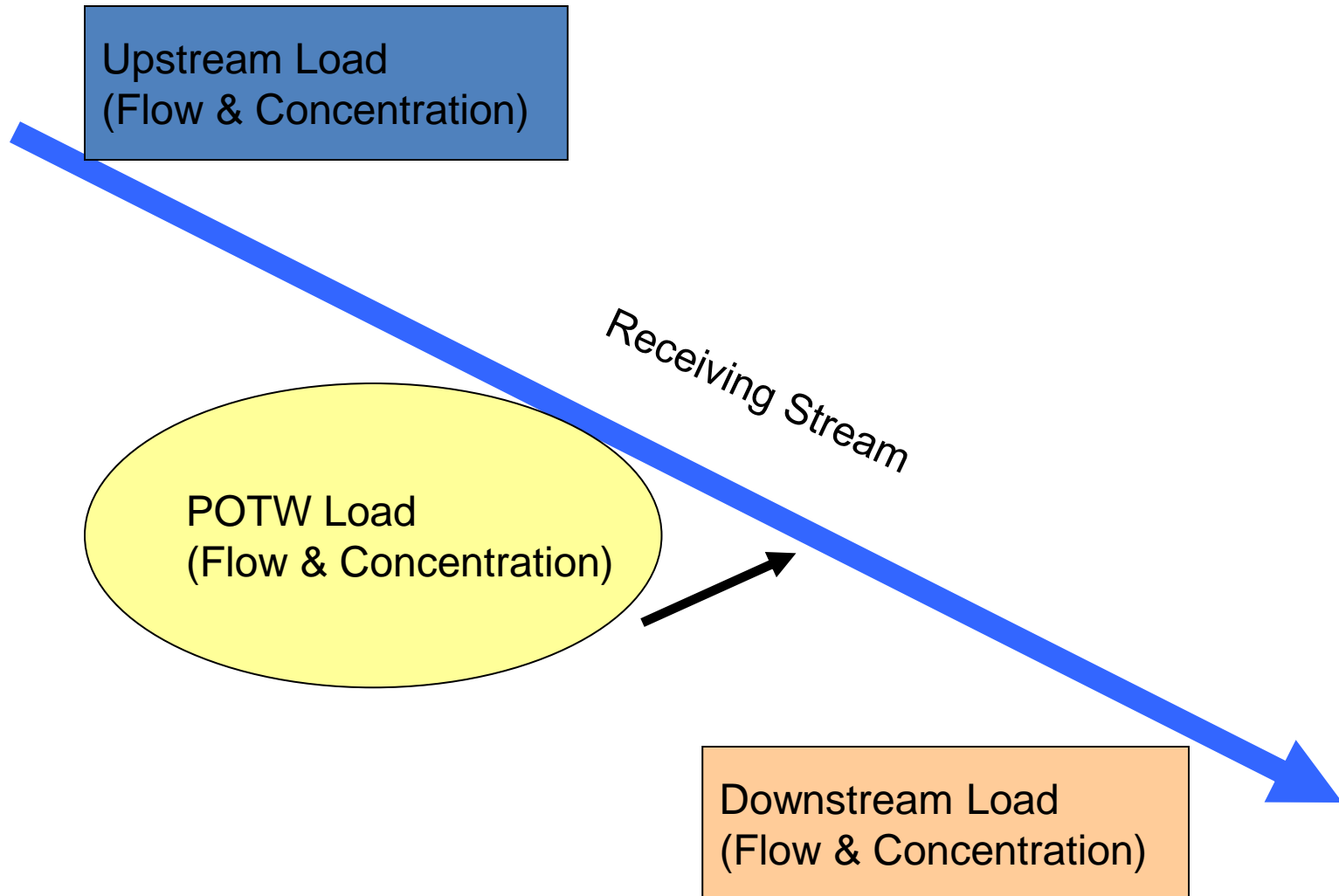
Three Tiers of Protection Exist

- Category 3: the basic level of protection for all water bodies, which is that existing uses will be maintained (November 28, 1975)
- Category 2: applies protection to waters that are of high quality such that degradation may not occur beyond the current quality of the water
- Category 1: applies to water bodies that constitute an outstanding national resource and no water quality degradation may occur

What Does This Mean?

- Category 3: The water may receive pollution up to its assimilative capacity such that water quality standards for that water will not be violated
- Category 2: The water may receive pollution but only to the level that the pollution levels currently exist in the water
- Category 1: The water may not receive additional pollution

Generic Discharge Scenario



How is an Effluent Limit Derived?

Mixing Calculation:

$$(F1 \times C1) + (F2 \times C2) = F3 \times C3$$

u Upstream (F1 & C1)

u F1 = Flow (7Q10; 7-day, 10-year low flow)

u C1 = Pollutant concentration

u POTW (F2 & C2)

u Flow

u Pollutant Limit

u Downstream (F3 & C3)

u F3 = Flow

u C3 = Pollutant WQ Standard

Snyderville Basin East Canyon POTW

Upstream Flow (cfs)	Upstream Phos. Concentration (mg/l)	POTW Discharge Flow (cfs)	POTW Phos. Effluent Limit (mg/l)	Downstream Flow (F1 +F2) (cfs)	Water Quality Standard Needed (Phos. mg/l)
F1	C1	F2	C2	F3	C3
17	0.03	6.2	0.105	23.2	0.05
13	0.03	6.2	0.092	19.2	0.05
9	0.03	6.2	0.079	15.2	0.05
5	0.03	6.2	0.066	11.2	0.05
1	0.03	6.2	0.053	7.2	0.05
0	0	6.2	0.050	6.2	0.05

Where does antidegradation apply?

- NPDES permits, including storm water and industrial discharges
- 404 permits
- 401 certifications
- State permitted activities
- Local permits
- Nonpoint source pollution controls

Level I Review Elements

- What is the designated use?
- Does the “existing use” differ from the designated use?
- What quality standards apply?
- Is the activity *de minimus*?

Level II Review Elements

(for waters whose quality exceeds the criteria or is a drinking water source)

- Will water quality standards be met?
 - If not, are there less degrading alternatives?
 - If not, do the economic and social benefits outweigh the environmental costs?
 - If not, will the impact be of short duration?
 - If not, is mitigation possible?
 - If not, deny the activity
- Public notification and input

Who Conducts Level I and II Reviews?

- Level I Reviews - DWQ staff
- Level II Reviews – project proponent

401 Certification

The purpose is to ensure that federally permitted or licensed activities will be conducted in a manner that will comply with applicable discharge and water quality requirements in order to maintain the chemical, and physical, integrity of waters of the United States within the State [primarily 404 permits and FERC licenses].

401 Certification

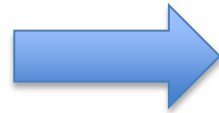
- Includes;
 - designated uses
 - water quality criteria
 - antidegradation
 - TMDLs
 - wasteload and load allocations
 - applicable effluent limitations
- Issue, deny, waive or issue with conditions

Stream Alteration Permit

- In determining whether to issue a permit the state engineer considers:
 - will vested water rights be impaired?
 - will aquatic wildlife be endangered (including temperature, flows, & water quality)?
 - will the channel's ability to conduct high flows be affected?
 - will recreation and the natural stream environment be affected?

Legal Foundation

Prior to May 1994 jurisdictions differed in their interpretations of the CWA's WQS mandate



Public Utility District No. 1 of Jefferson Co. v. Washington Department of Ecology

The Case

- The City of Tacoma applied for a Section 401 for a hydro project on the Dosewallips River that supports steelhead trout. The project would divert water 1.2 miles downstream thereby reducing flows in that stretch by 75%
- A FERC license was required
- Washington's WQSs protected the beneficial uses of the river
- A condition of the permit was the maintenance of seasonal base flow of 100-200 cfs
- This permit condition was appealed

Tacoma's Argument

- Section 401 pertains only to discharges and a discharge only pertains to a discharge of a pollutant
- The state exceeded its authority as Section 401 only pertains to WQSs and the state cannot enforce its antidegradation/designated use policies independent of its WQS
- Water quantity cannot be regulated under the CWA due to Section 101(g)
- The Federal Power Act prevents a state from imposing in-stream flow conditions in a 401 cert. for the purpose of preserving fish & wildlife habitat

CWA Section 101(g)

101(g):

“It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this Act”

Sometimes forgotten is the remainder of this paragraph: “Federal agencies shall cooperate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources”

The SCOTUS' Opinion

- 401(d) allows a state to impose conditions other than discharge requirements
- “Designated use” and “water quality criteria” are independently enforceable, including antidegradation
- Reduction of stream flow falls within the definition of “pollution”, i.e., a “manmade or man-induced alteration of the chemical, physical, biological and radiological integrity of the water.”
- “Water quantity and water quality are inextricably linked.” 101(g) preserves state authority over water allocations as per the Wallop Amendment (which states that incidental effects on individual water rights may occur as a consequence of legitimate water quality measures being taken)

Colorado River Salinity Control Forum

- Limits UPDES TDS discharge to 1 ton/day. This may eliminate the ability of a discharger to discharge

Wastewater Reuse

Provides for DWQ to approve when the discharge of water from a POTW for the following purposes:

- for treatment purposes
- to enhance environmental quality
- to protect public health
- to comply with UPDES permit requirements

A young child with light-colored hair, wearing a yellow long-sleeved shirt and blue denim overalls, is leaning over a kitchen sink. The child is holding the handle of a chrome faucet with both hands, and a stream of water is flowing from the spout. The child's face is partially obscured by the faucet handle. The background is a plain, light-colored wall. The word "Questions?" is overlaid in green, bold, sans-serif font across the center of the image.

Questions?