

Introduction to Water Quality Standards

Webcast September 24, 2010

















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Objective of Webcast



- Provide an introduction to developing water quality standards (WQS) for submission to EPA
 - Designated Uses
 - Water Quality Criteria
 - Antidegradation Policy & Implementation Methods
 - Water Quality Certification
 - Other Components
- Discuss how EPA-approved WQS enable Tribes to better protect human health and reservation waters

















Objective of Webcast



- Regulatory and Programmatic Requirements
- WQS Adopted by a Tribe Become Effective **Under the Clean Water Act (CWA)**
 - After EPA has approved the Tribe's TAS application and the Tribe's WQS

















Speakers



Moderator

Frances Desselle, U.S. EPA
 Headquarters



Lac du Flambeau Tribe

Speakers

- Tom Gardner, U.S. EPA Headquarters
- George Parrish, U.S. EPA Region 8
- Ken Norton, Hoopa Valley Tribe

















Webcast Overview



- TAS Discussion
- CWA Overview
- WQS
- Designated Uses
- Use Attainability Analysis
- Water Quality Criteria
- Antidegradation
- 401 Certification
- General Policies
- Procedures for Submittal and Review
- Case Study: Hoopa Valley Tribe



Pyramid Lake Paiute Tribe









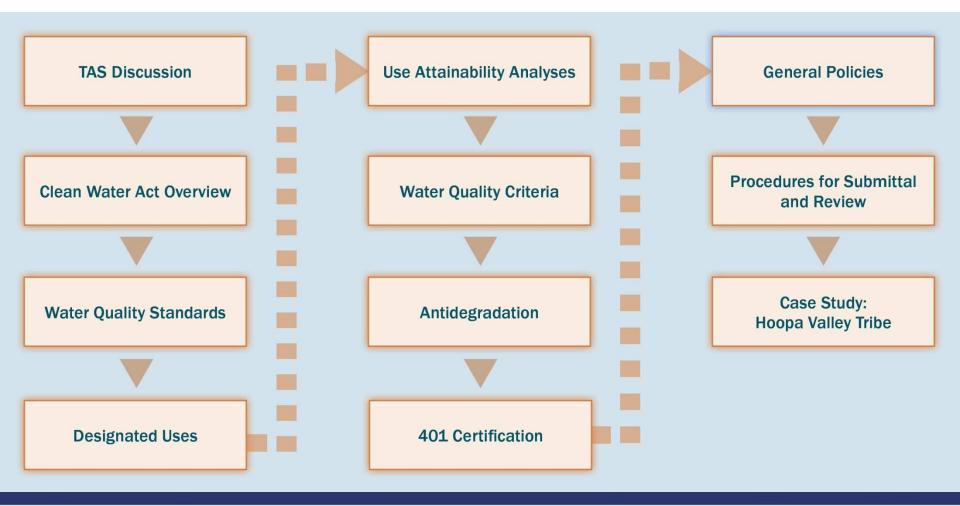




























Water Quality Standards





Tom Gardner gardner.thomas@epa.gov U.S. EPA's Office of Water









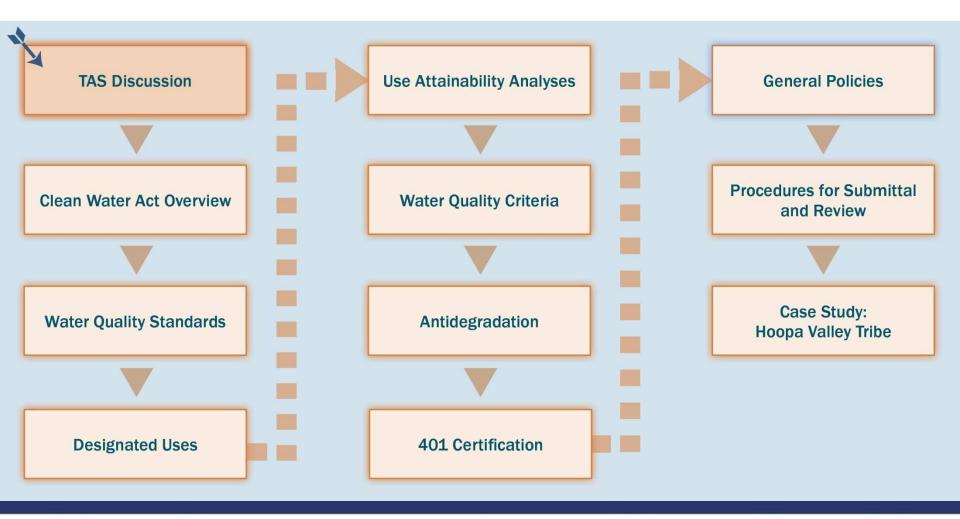




























Treatment in a Manner Similar to a State (TAS)



For WQS and Water Quality Certification Programs Tribes submit an application documenting:

- 1. Tribe is federally recognized by Secretary of the Interior
- 2. Tribe has a governing body carrying out substantial governmental duties and powers
- 3. WQS program pertains to management and protection of reservation water resources
- 4. Tribe has capability to administer the WQS program
- 5. Tribe submits additional documentation required by **EPA** to support the application

















Where to go for more information



- Strategy for Reviewing Tribal Eligibility Applications to **Administer EPA Regulatory Programs**
 - http://water.epa.gov/scitech/swguidance/waterquality/standard s/wqslibrary/upload/strategy-for-reviewing-applications-fortas-01-23-08.pdf
- Helpful Tips TAS/WQS
 - Resource Document for this Webcast
- Treatment in a Manner Similar to a State for the WQS **Program (Archived Webcast)**
 - http://water.epa.gov/learn/training/Tribaltraining/webcasts.cfm
- **EPA Regional WQS Coordinator**
 - **Resource Document for this Webcast**









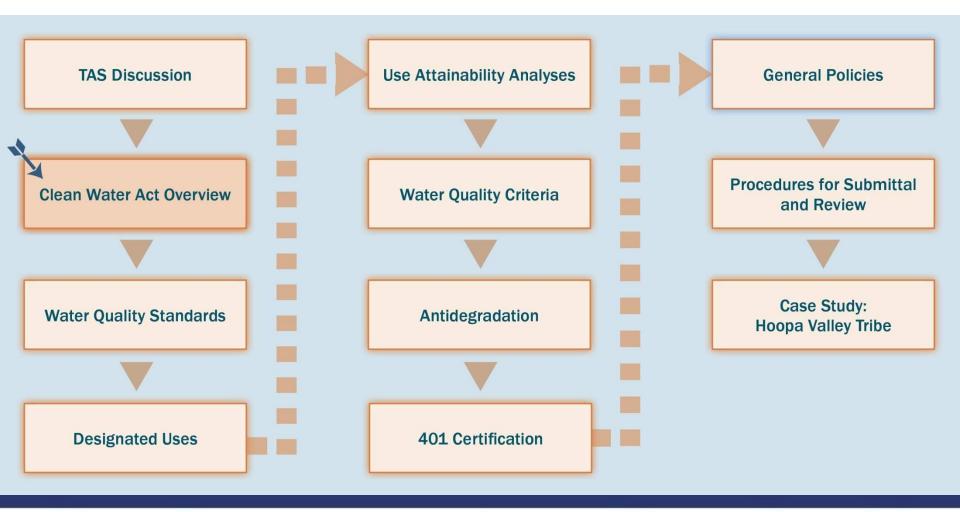




























The Clean Water Act



- Objective: Restore and maintain the chemical, physical, and biological integrity of the nation's waters (Sec 101 (a))
- Interim goal: "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water," wherever attainable (Sec 101 (a)(2))

















The Clean Water Act



Two Approaches to Pollution Control

- Technology-based approach, based on the performance of treatment and control technologies
 - Effluent guidelines http://water.epa.gov/scitech/wastetech/guide/index.cfm
- Water quality-based approach, based on meeting the WQS for the waterbody









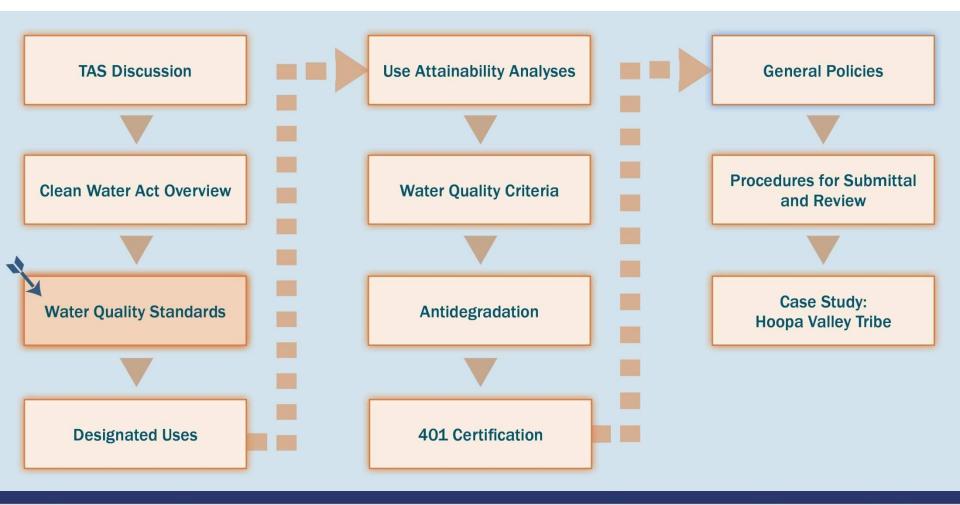












































Water Quality Standards



- 40 CFR 131
- Establish water quality goals for a waterbody
- Provide a regulatory basis for controls beyond technology-based limits
 - Reporting on water conditions
 - Developing water quality based limits in NPDES permits
 - Setting targets for TMDLs
 - Making decisions regarding 401 certification
 - Making 319 management decisions

















Water Quality Standards



- Provisions of Tribal and State (or Federal) Law:
 - Designated Uses (40 CFR 131.10)
 - Criteria to protect the uses (40 CFR 131.11)
 - Antidegradation (40 CFR 131.12)
 - General Policies (40 CFR 131.13)
 - WQS Program within the Great Lakes **Basin** (40 CFR 132)









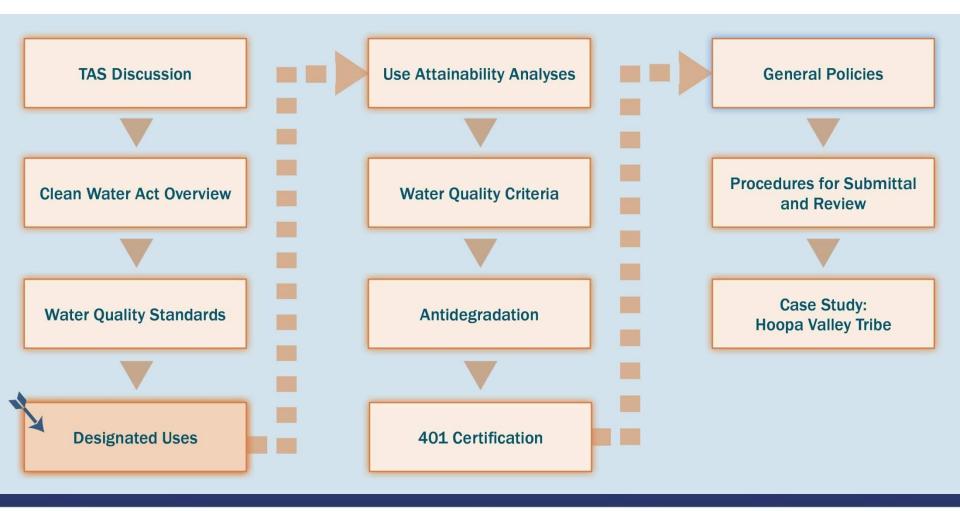






























- See 40 CFR 131.3(f)
- Definitions:
 - Regulatory
 - Those uses specified in Tribal or State water quality standards regulations for each water body or segment, whether or not they are being attained.
 - Plain language
 - A concise statement of management objectives and expectations for each of the individual surface waters under Tribal or State jurisdiction.



















- Why are designated uses important?
 - Getting WQS right starts with getting designated uses right
 - Designated uses determine the criteria needed to protect use
 - Criteria are the regulatory basis for management actions like attainment decisions, TMDLs, and NPDES permit limits



















- Protection and propagation of fish, shellfish and wildlife*
- Recreation in and on the water*
- Public water supply
- Agriculture
- Industry
- **Navigation**
- Others (e.g., ceremonial or cultural)

*101(a) use



















Tribal Example

- Pyramid Lake Paiute Tribe
 - Calls Designated Uses "Beneficial Uses"
 - 20 different Beneficial Uses, including:
 - Cold Freshwater Habitat
 - Extraordinary Aesthetic Value
 - Primary Contact Ceremonial Use
 - Water Contact Recreation
 - Others



Pyramid Lake Paiute Tribe















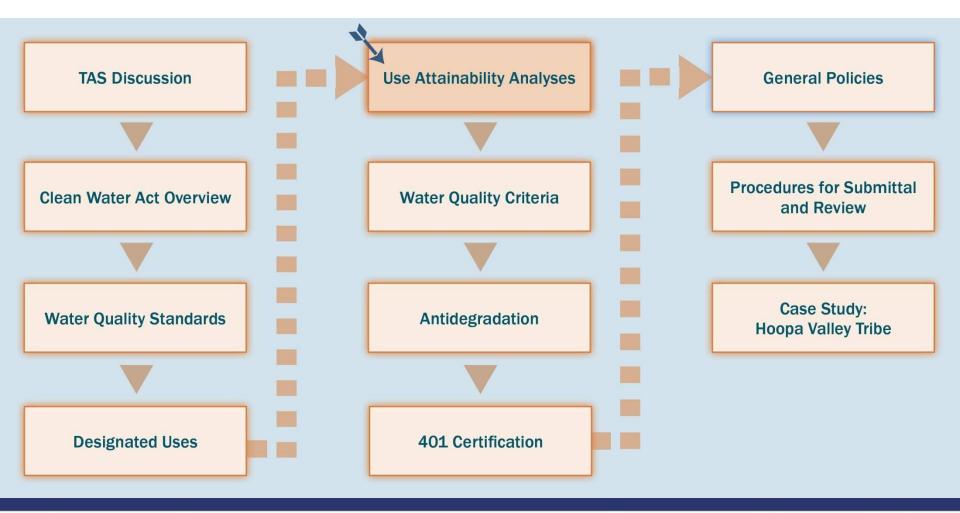




Questions?

























Definition (40 CFR 131.3(g))

 "A Structured Scientific Assessment of the Factors Affecting the Attainment of the Use, Which May Include the Physical, Chemical, Biological, and Economic Factors as Described in 40 CFR 131.10(g)"



















- Must be conducted when (40 CFR 131.10(j))
 - Designating uses that do not include CWA 101(a)(2) goals
 - Revising designated uses to remove 101(a)(2) goal uses
 - Adopting sub-categories of 101(a)(2) uses for specific water bodies which require less stringent criteria



















6 factors preventing attainment of a 101(a)(2) use that has not been attained (40 CFR 131.10(g))

- 1. Naturally occurring pollutant concentrations
- 2. Natural low flow conditions or water levels
- 3. Human caused conditions or pollutant sources
- 4. Dams or other hydrologic modifications
- 5. Natural physical conditions for aquatic life
- 6. Substantial/widespread economic and social impact





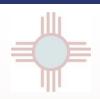














Where to find the "six factors" in detail

http://water.epa.gov/scitech/swguidance/water quality/standards/uses/uaa/about uaas.cfm

*Links to more information on UAAs and case studies

















Tribal UAA Examples



Seminole Tribe of Florida

 For any waterbody designated Class 3 (agricultural purposes), the Tribe will be required to conduct a use attainability analysis (UAA) pursuant to 40 CFR 131.10 (j)



Seminole Tribe of Florida









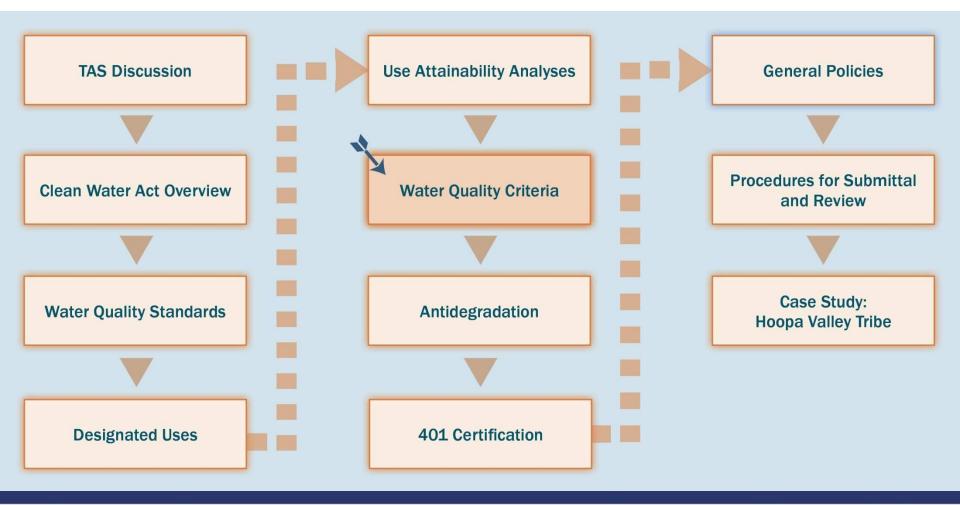






























40 CFR 131.3

- A numeric value (e.g., magnitude, duration and frequency) or narrative statement
- Represent a level of water quality that supports a particular use
- When criteria are met, water quality will protect the designated use



















1 Word...2 Meanings

- Scientifically defensible guidance developed and published by EPA per CWA Sec 304(a)
 - Basis for Federal promulgation when necessary
- Adopted part of State/Tribal WQS
 - Sec 303(c)



















Requirements (40 CFR 131.11; CWA Sec 510)

- Must adopt criteria that protect the designated use:
 - Based on a sound, scientific rationale
 - Sufficient parameters to protect designated use
 - Must support most sensitive use (for waters with multiple use designations)
- May be more stringent than EPA's recommendations



















Forms (40 CFR 131.11(b))

- Should adopt numeric criteria based on:
 - 304(a) guidance
 - 304(a) guidance modified to reflect site-specific conditions
 - Other scientifically defensible methods
- Should adopt narrative criteria:
 - Where numeric criteria cannot be established
 - Or to supplement numeric criteria



















Types

- Aquatic Life Criteria
- Human Health Criteria
- Bacteria Criteria
- Biological Criteria
- Nutrient Criteria
- Others



Pyramid Lake Paiute Tribe

















Water Quality Criteria



Pyramid Lake Paiute Tribe Narrative Example

 Bioaccumulation: toxic pollutants shall not be discharged as a result of human activities at levels that will bioaccumulate in aquatic resources to levels that are harmful to human health or aquatic life.



Pyramid Lake Paiute Tribe

















Water Quality Criteria



Pyramid Lake Paiute Tribe Numeric Example

Parameter

Chlorides (mg/L)

Dissolver Oxygenwater (mg/L)

Fecal Bacteria E. coli. (No./100 ml)

Water Quality Criteria

Single Value: ≤28 Average: ≤20

Single Value: Nov-Jun: ≥6.0 Jul-Oct: ≥5.0

Annual Geo. Mean ≤126 Single value: ≤410

Beneficial Uses

Aquatic Life, Water of Special Ecological Significance

Aquatic Life, Water of Special Ecological Significance

Primary Contact Ceremonial Use, Water Contact Recreation











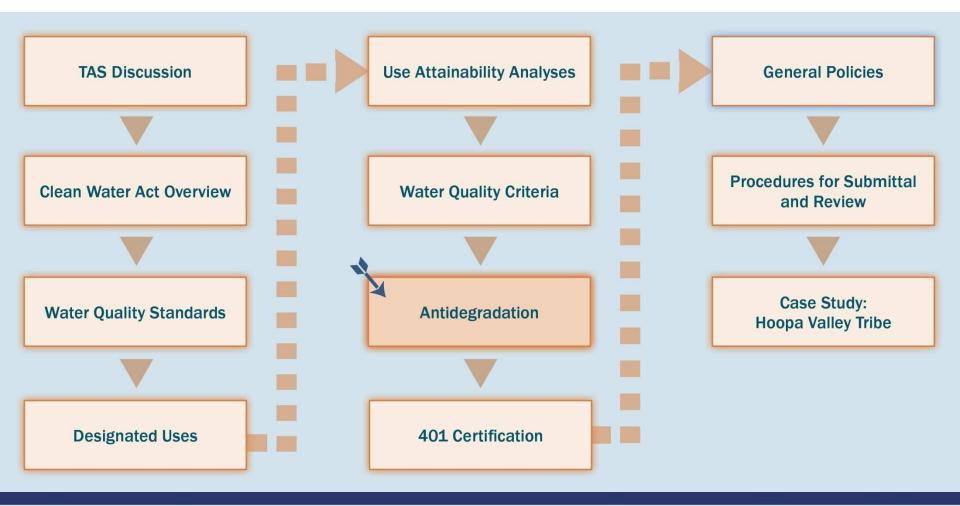






Roadmap





















Antidegradation and WQS



High Quality Waters

Antidegradation Process

CWA 101(a) goals















Antidegradation Requirements

- 40 CFR 131,12
- Tribes and States must develop/adopt an antidegradation policy to protect:
 - Existing in-stream uses for all waters of the U.S.
 - High quality waters (water quality that is better than the levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the waters (i.e., **CWA 101(a) goals))**
 - Outstanding National Resource Waters (ONRWs) designated by the Tribe or State

















- Tribes and States must also identify implementation methods. They can be:
 - Part of their policy regulations, or
 - In other documents, such as a guidance directive
- Implementation methods should describe
 - How high quality waters will be identified
 - What activities will trigger an antidegradation review
 - Components of the antidegradation review process

















Nater Quality

3 Tiers of Antidegradation



Water Quality for:

"Tier 3"

ONRWs

"Tier 2" High Quality Waters

"Tier 1"
Existing Uses

















Outstanding National Resource Waters ("Tier 3")



- "Tier 3" protection for ONRWs is the most stringent level of protection.
- What are ONRWs?
 - —A Tribe can designate any water body an **ONRW**
 - List typically includes waters of exceptional recreational or ecological significance
- What does Tier 3 protection mean?
 - —No degradation is allowed in ONRWs, except on a short term or temporary basis if allowed by the Tribe's policy and procedures

















Outstanding National Resource Waters ("Tier 3")





Rice Lake, Wisconsin
Sokaogon Chippewa Community - named all their waters as ONRWs

















Antidegradation



Seminole Tribe of Florida

- "The Commission and the Department shall ensure that existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
- Where high quality waters constitute an outstanding National resource, such as waters of exceptional environmental, cultural or recreational significance, that water quality shall be maintained and protected.
- Where the quality of waters is better than necessary to support the propagation of fish, shellfish and wildlife and recreation in and on the water, that quality shall be maintained and protected unless ... it is determined that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.
- In allowing such degradation or lower water quality, the Commission and the Department shall assure adequate water quality to protect existing uses fully."

















Antidegradation



- If your Tribe is developing or revising antidegradation implementation methods...
 - Provide ample evidence, data, and analysis to support how the implementation methods will be consistent with your Tribal policy and CFR 131.12.
 - Discuss questions or concerns with your EPA Regional Water Quality Standards Coordinators early on in the process.

















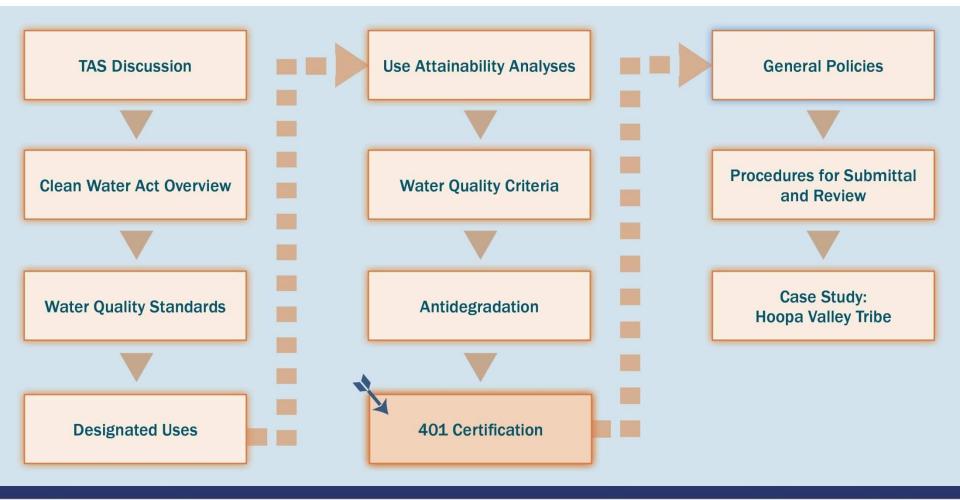


Questions?



Roadmap





















Water Quality Certification (CWA Section 401)





George Parrish parrish.george@epa.gov U.S. EPA's Region 8 Office



















- No federal permit or license can be issued that may result in a discharge to waters of the United States...
- ...unless the Tribe or State certifies that the discharge is consistent with WQS and other water quality goals, or waives certification
- Tribes that obtain TAS for WQS are eligible to issue section 401 certifications
- No 401 cert or waiver means no federal permit or license



















What Actions Most Frequently Trigger 401?

- CWA Actions
 - NPDES Permits (402)
 - **Dredge/Fill Permits (404)**



USGS

- Non-CWA Actions
 - Federal Energy Regulatory Commission (FERC) hydropower licenses
 - Rivers and Harbors Act Section 9 and 10 permits



















- Provides Tribes with mechanism to require conditions for discharges to reservation waters
- With approved TAS for WQS and 401, Tribes review proposed federal permits and licenses for activities that may result in a discharge
- Tribes certify that discharges comply with WQS or other Tribal laws and provide conditions to include in the permit



















- Before issuing a certification, the Tribe should conclude the permitted or licensed activity will be consistent with:
 - Effluent limitations for conventional/non-conventional pollutants
 - WQS
 - New source performance standards
 - Toxic pollutant limitations, PLUS
 - Any more stringent Tribal requirements (i.e., cultural uses)
- Decision can be based on:
 - Data from applicant
 - Any other available and reliable data



















What can a Tribe do under 401?

- Grant
 - Indicates activity consistent with standards and other provisions
- Grant with conditions
 - Indicates activity consistent only if listed conditions are met
- Deny
 - Indicates activity is not consistent with water quality standards and other goals
- Waive
 - Tribal agency decides to not act on 401 application request

















Post Creek Fish Ladder 401 Certification Example



Granted 401 Certification with conditions:

- Construction during low water
- Spill prevention and preparation
- BMPs for wetlands/channel protection
- Coordinate with Tribe timing, activities
- Stabilization with native vegetation



















Where to go for more information:

- Water Quality and 401 Certification
 - http://water.epa.gov/lawsregs/guidance/cwa/waterqu ality_index.cfm
- **EPA 401 and Wetlands Website**
 - http://water.epa.gov/type/wetlands/outreach/fact24.cf m

















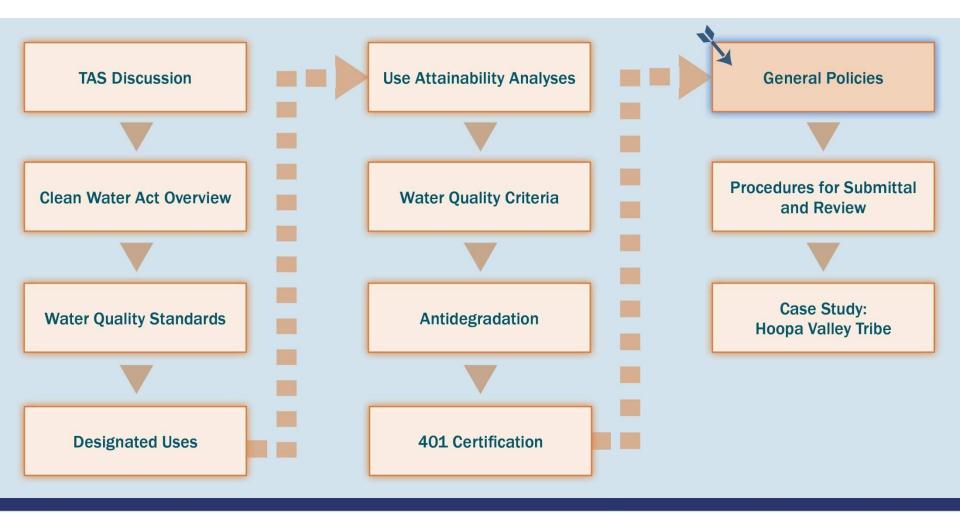


Questions?



Roadmap





















General Policies and Procedures for WQS Submittal and Review





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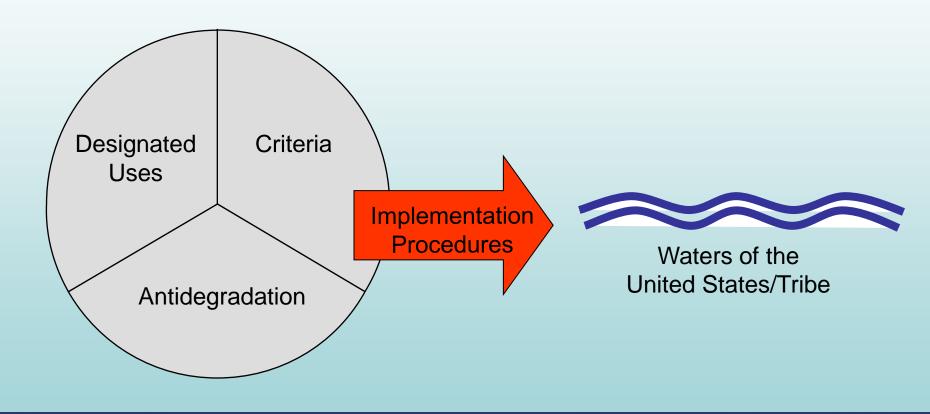






WQS: General Policies





















WQS: General Policies



- 40 CFR 131.13
- Tribes may include in their standards policies affecting application and implementation, such as:
 - Mixing zones
 - Low flows
 - Variances
- Subject to EPA review and approval

















Public Participation



- CWA 303(c)(1) and 40 CFR 131.20, 131.22 are specific to public involvement in the WQS program
- Assure the public has the opportunity to understand and participate in any proposed environmental action
- WQS: at least once every 3 years, hold public hearing for reviewing applicable standards (Triennial Review)
- A public hearing must be held when a Tribe changes any element of a standard
- Formal public hearing requires a notice 45 days prior to the hearing











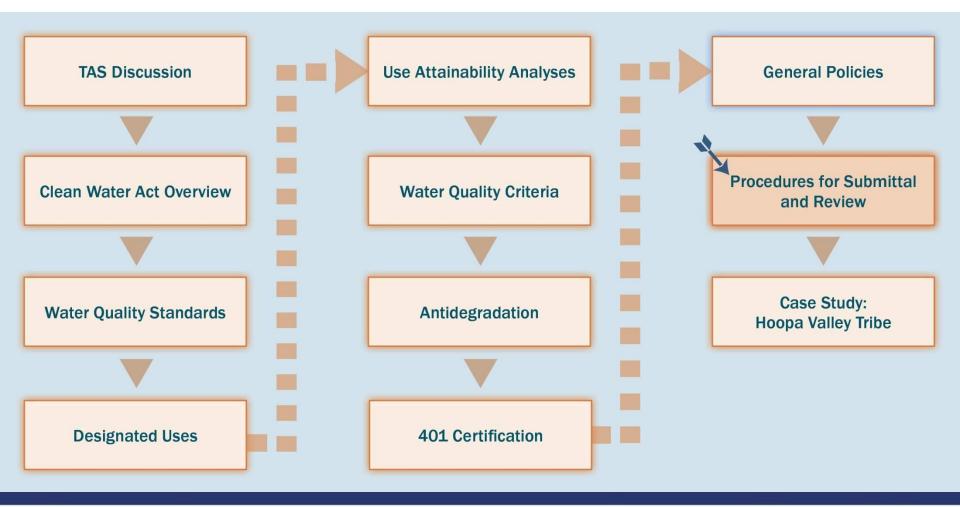






Roadmap





















Submittal and Review



Tribal submittal must include (40 CFR 131.20(c))

- Use(s) for each waterbody
- Criteria sufficient to protect those uses
- An antidegradation policy and identification of implementation methods consistent with 40 CFR 131.12
- Certification that the standards were duly adopted according to Tribal law
- Other general supporting information

















Submittal and Review



How does EPA review adopted new/revised WQS?

- Authority Delegated to Regional Administrator
 - Informal participation by EPA Headquarters
- Approval of WQS requires "consultation" under the Endangered Species Act
- Approval/disapproval records of decision based solely on CWA and WQS Regulations
- EPA has 60 days to approve and 90 days to disapprove
- New/revised WQS are not effective until approved by EPA (as of May 30, 2000)

















Federal Promulgations



- 40 CFR 131.22
- If EPA disapproves AND
- If authorized Tribe does not adopt specified changes within 90 days...
- THEN the EPA Administrator must promptly propose and promulgate a replacement standard
- OR in any case where the Administrator determines new or revised standards are necessary to meet the requirements of the CWA

















Helpful Tips to Develop a TAS Application



- Use CWA 106 funding to develop WQS
 - Where such activity if part of an approved CWA section 106 work plan
- Draft WQS need to be available for a public comment period prior to EPA approval
- Check EPA's Clean Water Act training Web site for updates on training events http://water.epa.gov/learn/training/Tribaltraining/
 - Water Quality Standards Academy
 - Special face-to-face sessions for Tribes
 - Webcasts on Specialized Topics

















Where to go for more information



- EPA WQS Homepage
 - http://water.epa.gov/scitech/swguidance/waterquality/standards/
- EPA Tribal WQS Homepage
 - http://water.epa.gov/scitech/swguidance/waterquality/standards/wqs library/Tribes.cfm
- EPA Tribal Training Website
 - http://water.epa.gov/learn/training/Tribaltraining/index.cfm
- EPA WQS Handbook
 - http://water.epa.gov/scitech/swguidance/waterquality/standards/han dbook/index.cfm
- EPA WQS Academy
 - http://water.epa.gov/learn/training/standardsacademy/index.cfm

















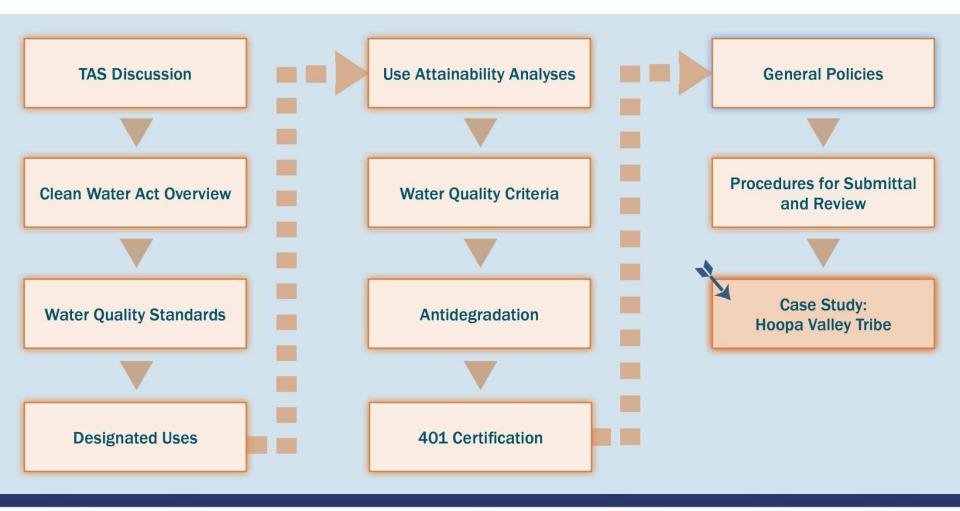


Questions?



Roadmap













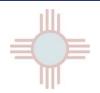








Tribal Case Study



Water Quality Standards for the **Hoopa Valley Tribe**



Ken Norton, Director Hoopa Tribal Environmental Protection Agency

















Background



Hoopa Valley Facts:

- **Located in Northern California**
- Elevation: 3,570' to 350'
- **Largest land-based** reservation in California
- Covers 92,160 acres
- Total population: 4,033, including 2,889 enrolled Tribal members
- 92% of the reservation is owned by the tribe, remaining 8% fee













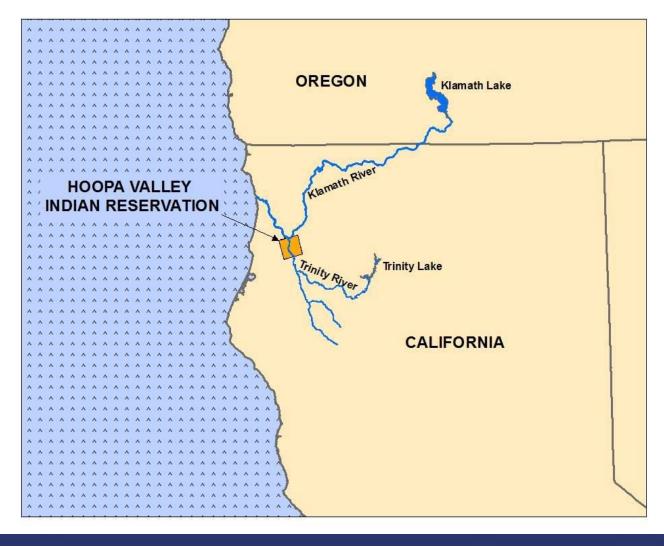






Location









































Capacity



Hoopa Valley Environmental Office

- Established in 1982
- Employees: 8
- Administers Water Quality Programs:
 - WQS (303)
 - Water Quality Certification (401)
 - Water Pollution Control Grants (106)
 - Water Quality Monitoring
 - Nonpoint Source Program (319)
 - Review of TMDL Documents
- Additional expertise: Water Quality Laboratory & GIS network

















A Legacy of Clean Water



- Over 10,000 years ago, the Hoopa people made their home along Trinity River
- Tribe maintains a spiritual connection to the river
- Salmon fishery is central to Hoopa culture and its economy
- Community water system is drawn from the Trinity River
- 2004, Tribe conducted fish consumption survey:
 - 87% of respondents consume more than 20 grams/day of salmon
 - Survey showed that tribal members consume 50 grams/day





































Tribal Water Quality Goals



Impetus for applying for TAS for WQS:

- Protect & maintain healthy "Salmon Runs"
- Establish a comprehensive water quality protection program
- Affirm tribal jurisdiction
 - Set and implement WQS
- Establish cultural beneficial uses
- Address water quality impacts
 - from dams & water diversions

















WQS Program Development



- 1995: Developed Tribal WQS
- 1996: Received TAS for Tribe's WQS program
- 2002: EPA approved Tribe's WQS
- 2008: EPA approved revisions to Tribe's WQS (nutrient criteria for Klamath River)
- WQS emphasize cultural uses & protection of all life stages of salmon

















WQS Program Development (cont.)



Designated Uses:

- **Drinking Water**
- **Cold Freshwater Habitat**
- Fish Migration
- **Fish Spawning**
- Preservation of Threatened & Endangered Species
- **Ceremonial & Cultural Water Use**

Antidegradation Policy

Maintain a level of water quality necessary to protect designated uses through BMPs & pollution prevention plans





































Relationship Between Tribe and State



- California considered the reservation a "no-man's land" for water quality protection measures
- This relationship changed after EPA approved Tribe's WQS
- Regional Water Board requested that Native American cultural & subsistence fishing beneficial uses be included into its Basin Plan
- Relationship has been strengthened

















401 Certification



- Tribe certifies proposed permit requests from federal entities
- Activities certified under Tribe's water quality 401 authority:
 - Mining gravel from reservation river bars
 - New road construction & maintenance activities
 - Bridge retrofit and restoration projects
 - Installation of water & sewer systems





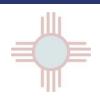












401 Certification (cont.)



- 2004: Klamath River declared impaired by California
- 2005: Tribe began developing nutrient standards for portion of Klamath River which flows through reservation
- 2008: EPA approved Tribe's nutrient standards
- Tribal strategy adopt more stringent standards than state
- California, as "upstream state" has to ensure that Tribe's standards are not exceeded when certifying discharges under section 401

















401 Certification (cont.)



Difficulties Encountered:

- Between 1912 & 1961, 6 dams built on Klamath River, 3 located in California
- Reservoirs created by dams are ideal habitat for blue-green algae and collection points for ag runoff
- Discharge from reservoirs has degraded downstream water quality of the Klamath River
- The dams were licensed by the Federal Energy Regulatory Commission (FERC) in 1956 with the current license expiring in 2006





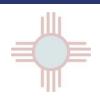












401 Certification (cont)



Difficulties Encountered:

- Company is applying for a new license for dams & must comply with current rules & regulations, including State and Tribal WQS.
- Due to new rules & regulations, the relicensing process has been held-up for over four years.
- California allowed company to withdraw & re-file its 401 certification application each year since 2006.
- **EPA & Hoopa Tribe are concerned that repetitive** issuance of annual license abuses licensing process & delays implementation of State & Tribal water quality protection measures.

















CWA Section 518



Tribal authority strengthened through CWA section 518:

- A mechanism by which Tribal governments can be treated in a manner similar to a State in setting WQS & in issuing 401 certifications
- Hoopa realized having WQS & 401 certification authority is an essential tool in protection of waters
- Having WQS has made the Hoopa Tribe a coregulator in state, federal & Tribal water management decisions for the Klamath & Trinity Rivers

















Benefits of WQS



Has water quality improved since the Hoopa WQS were approved by EPA in 2002?

Over the past 8 years Hoopa
 Waters have shown "No Net
 Degradation in Water Quality."















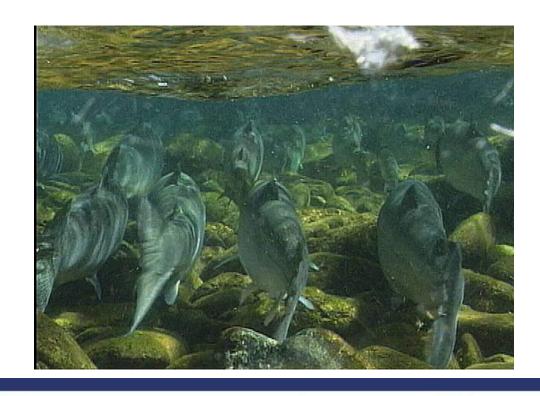




Benefits of WQS (cont.)



Tribal goals & objectives for WQS have been met & have made a difference







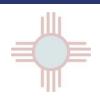












Lessons Learned



- WQS are goals to enhance or protect the water quality
- To meet goals, map out a course of action with realistic objectives
- Before pursuing a CWA-WQS program, define the propose for the program. A clear understanding about the need for establishing water protection measures is critical
- WQS are not a fix-all for the protection of waters having WQS offers a legal avenue to help ensure no further degradation of designated uses



















Questions?



Webcast Resources



- Additional Materials for this Webcast
 - http://water.epa.gov/learn/training/tribaltraining/t event100924.cfm
- Archived Tribal Web Trainings
 - http://water.epa.gov/learn/training/Tribaltraining/ webcasts.cfm
- CWA Tribal Training Website and Listserv
 - http://water.epa.gov/learn/training/Tribaltraining/

















Participation Certificate



Certificate

- If you would like to obtain participation certificates for multiple attendees, click the link below
- You can type each of the attendees names in and print the certificates

http://water.epa.gov/learn/training/Tribalt raining/tevent100924_cert.cfm













