

Bioassessment Data Water Quality Assessment and 303(d) Listing

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Topics

- **Water Quality Assessment**
 - CWA Section 303(d) List and Section 305(b) Report
 - Integrated Report
- **Federal and State laws**
- **Water Quality Control Policy for Developing Clean Water Act Section 303(d) List**
- **Assessment of Biological Data**

Water Quality Assessment

➤ Clean Water Act (CWA)

- Section 303(d)
- Section 305(b)



US EPA Integrated Report

- **US EPA issued guidance to States:**
 - Requires Section 303(d) List and Section 305(b) Report to be integrated
- **California Integrated Report includes:**
 - 303(d) List
 - 305(b) Report

Integrated Report (305b/303d)

Category	Description
1	All designated uses met
2	Some, but not all, designated uses met
3	Cannot determine if any designated uses met
4	<u>Impaired/threatened</u> –TMDL not needed
4a	TMDL completed
4b	TMDL alternative
4c	Non-pollutant causes
5	<u>Impaired/threatened</u> by pollutant –TMDL needed

EPA's Integrated Report Guidance (IRG) developed for 2002, 2004, 2006 and 2008 reporting cycles (www.epa.gov/owow/tmdl/)

Federal and State Laws


- California Clean Water Act Section 303(d)
 - CWC Section 1319.3(a) requires State Water Board to prepare guidelines for listing “303(d) Listing Policy”
 - State are required to evaluate all existing and readily available data (40 CFR 130.7(b)(5))
 - State Water Quality Control Policy describes the process for listing and delisting in California

California Water Quality Control Policy

Listing Policy

- Describes process for listing requirements of CWA Section 303(d)
- Goals of the Listing Policy
 - Consistent procedure
 - Scientifically defensible
 - Transparent public participation

Recent Developments in Biological Data

- Biological data recently became available from SWAMP and other monitoring programs
 - Listing Policy provides a framework
 - Significant advancement in developing the IBI
 - Process for developing bio-objective criteria
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- The background of the slide features a series of concentric circles in shades of blue, resembling ripples on water, located in the bottom right quadrant.

Current Integrated Report Process

➤ Biological Data:

- Are submitted to the State Water Board
- Will be used in developing the Integrated Report
- Fact sheet will be developed for biological data

Current Integrated Report Process

➤ Biological Data

- At this time only macroinvertebrate data will be used in 303(d) listings
- Habitat data will be used to support biological impairment



Current Integrated Report Process

- Biological data will be used:
 - As a single line of evidence
 - The California Index of Biological Integrity (IBI) will be used as a numeric evaluation guideline
 - As supporting Information



Current Integrated Report Cycle

- **How is Biological data Assessed?**
 - Section 6.1.5.8 of Listing Policy defines the procedure for the evaluation of biological data



Water Quality Assessment of Biological Data

Listing Policy Section 3.9

- *“A water segment shall be placed on the section 303(d) list if the water segment exhibits significant degradation in biological populations and/or communities as compared to reference sites and is associated with water or sediment concentrations of pollutants including but not limited to chemical concentrations, temperature, dissolved oxygen, and trash.”*

Evaluation of Biological Data

- Listing Policy Section 6.1.5.8 describes the procedure for evaluating biological data:
 - Identify appropriate reference sites within water segments
 - Evaluate bioassessment data at reference sites
 - Evaluate physical habitat data and other water quality data, when available, to support conclusions
 - Calculate biological metrics for reference sites

Water Quality Assessment Biological Data

Listing Policy Section 3.9

- *“A water segment shall be placed on the section 303(d) list if the water segment exhibits significant degradation in biological populations and/or communities as compared to reference sites and is associated with water or sediment concentrations of pollutants including but not limited to chemical concentrations, temperature, dissolved oxygen, and trash.”*

Degradation in Biological Community Associated with Pollutants

- Association with pollutants will be determined by Listing Policy sections 3.1, 3.2, 3.6 or others
 - Apply to pollutants exceeding water quality objectives
 - Association will be linked to stressors that may cause the degradation in community
 - Data that identifies impairment from toxicants and other pollutants will be used to support impairment to benthic community

Evaluation of Biological Data

- Listing Policy Guidance for Assessment of Biological Data
 - The analysis should rely on measurements from at least two stations
 - Comparison to reference site conditions shall be made during similar seasons or hydrologic conditions



Summary

- Each water body segment is placed into one of the Integrated Report categories
- Biological assessment impairment from macroinvertebrate data can result water body to be listed
- Habitat-based impairment will be used as supporting information

Questions

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