Item #9

Consideration of a Resolution Adopting the 2020-2022 California Clean Water Act Section 303(d) List of Impaired Waters

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CALIFORNIA
Water Boards

Division of Water Quality | January 19, 2022

Presentation Outline

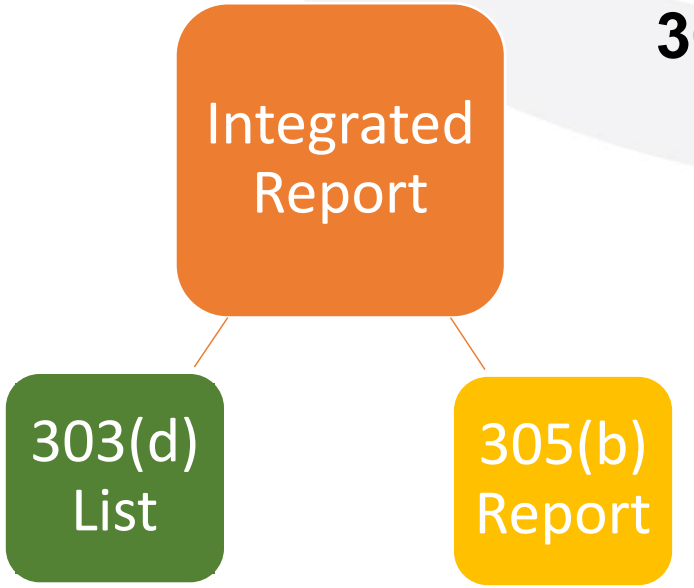
- Overview of the Integrated Report Process
- Summary of the Proposed 303(d) List
- Comments & Responses
- Program Improvements & Next Cycles

Integrated Report Overview

The **Integrated Report** addresses **Sections 303(d)** and **305(b)** requirements of the **Clean Water Act**

303(d) List of Impaired Waterbodies

- Identify waters where standards are threatened or not attained
- Requires approval by State Water Board and U.S. EPA



305(b) Report

- Report on the overall condition of surface water quality
- Included in the Integrated Report, but does not require State Water Board or U.S. EPA approval

Integrated Report Purpose

The purpose of the Integrated Report is to assess data and report on the quality of surface waters throughout the state.

The 303(d) List:

- Identifies impaired waterbodies that do not meet water quality standards
- Is used to prioritize cleanup efforts, such as total maximum daily loads (TMDLs) or other restoration actions
- Is used in some permits to justify increased monitoring or other information
- Actual data, not the listing itself, is used to calculate effluent limitations in a permit
- Is not a CEQA project because adopting the list does not result in a physical change to the environment

Listing Policy

Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List

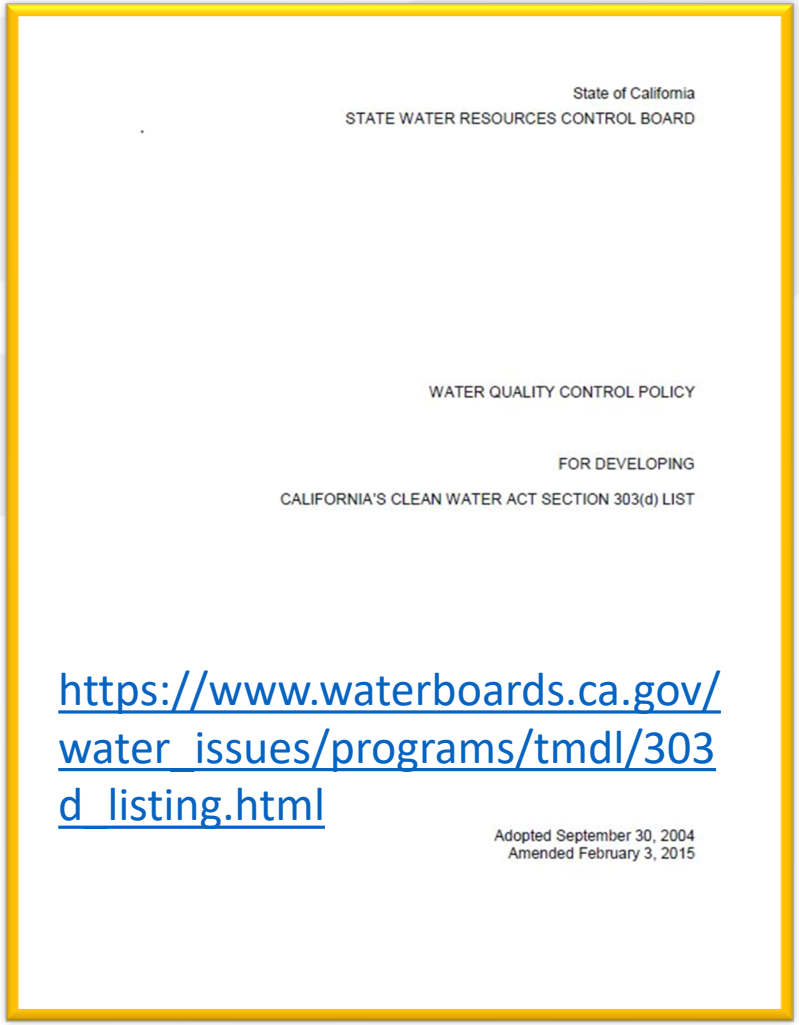
Purpose:

To establish a standard approach for the development of the 303(d) List

Includes:

- Listing and delisting factors
- Policy implementation

Adopted in 2004 and amended in 2015


State of California
STATE WATER RESOURCES CONTROL BOARD

WATER QUALITY CONTROL POLICY

FOR DEVELOPING

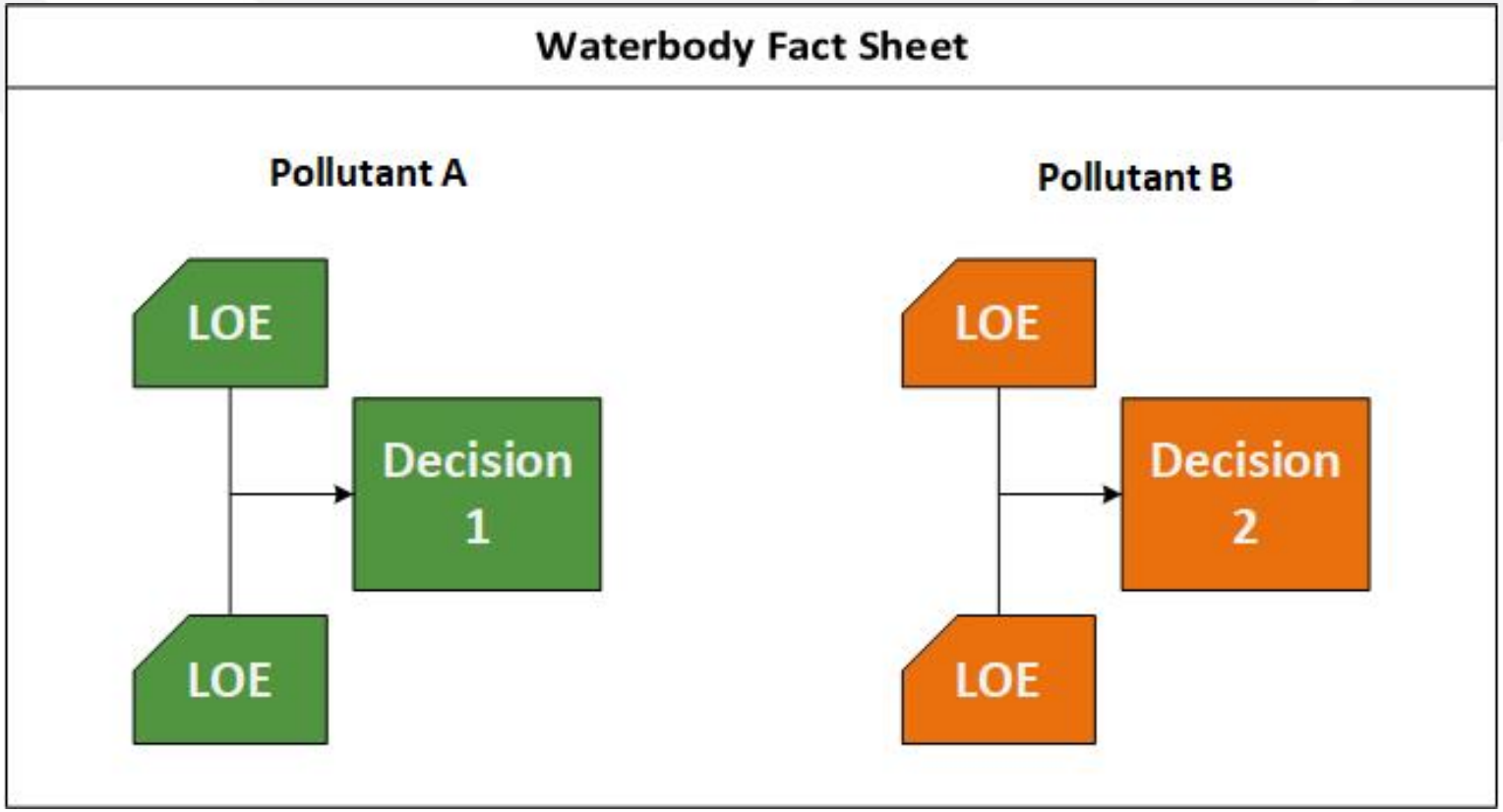
CALIFORNIA'S CLEAN WATER ACT SECTION 303(d) LIST

https://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_listing.html

Adopted September 30, 2004
Amended February 3, 2015

Waterbody Fact Sheets

- Each **Line of Evidence** (LOE) compares data to a threshold
- A **Decision** is made for each **pollutant**
- **Waterbody Fact Sheets** report all Decisions for the waterbody



Integrated Report Condition Categories

1	At least **one** core beneficial use is **supported** and none are known to be impaired.
2	**Insufficient information** to determine beneficial use support.
3	There is insufficient data and/or information to make a beneficial use support determination but information and/or data indicates beneficial uses may be **potentially threatened**.
4	At least one beneficial use is not supported but a **TMDL is not needed**. **4a:** A TMDL has been developed and approved by U.S. EPA for any waterbody-pollutant combination, and the approved implementation plan is expected to result in full attainment of the water quality standard within a reasonable, specified time frame. **4b:** Another regulatory program is reasonably expected to result in attainment of the water quality standard within a reasonable, specified time frame. **4c:** The non-attainment of any applicable water quality standard for the waterbody segment is the result of pollution and is not caused by a pollutant.
5	At least one beneficial use is not supported and **TMDL is needed**. **5alt:** An alternative restoration approach has been developed that includes a near-term plan or description of actions, with a schedule and milestones, that is more immediately beneficial or practicable to achieving standards than a TMDL.

2020-2022 Integrated Report

- On-cycle Assessments
  - Central Coast (Region 3)
  - Central Valley (Region 5)
  - San Diego (Region 9)
- Off-cycle Assessments
  - Colorado River Basin (Region 7)
- Data Cut-off Date: June 14, 2019

2020-2022 Cycle Summary Statistics

DATA ROWS EVALUATED: 4,587,101

WATERBODIES WITH DATA ASSESSED: 1,633

LINES OF EVIDENCE ASSESSED: 112,537

WATERBODY-POLLUTANT DECISIONS: 24,965

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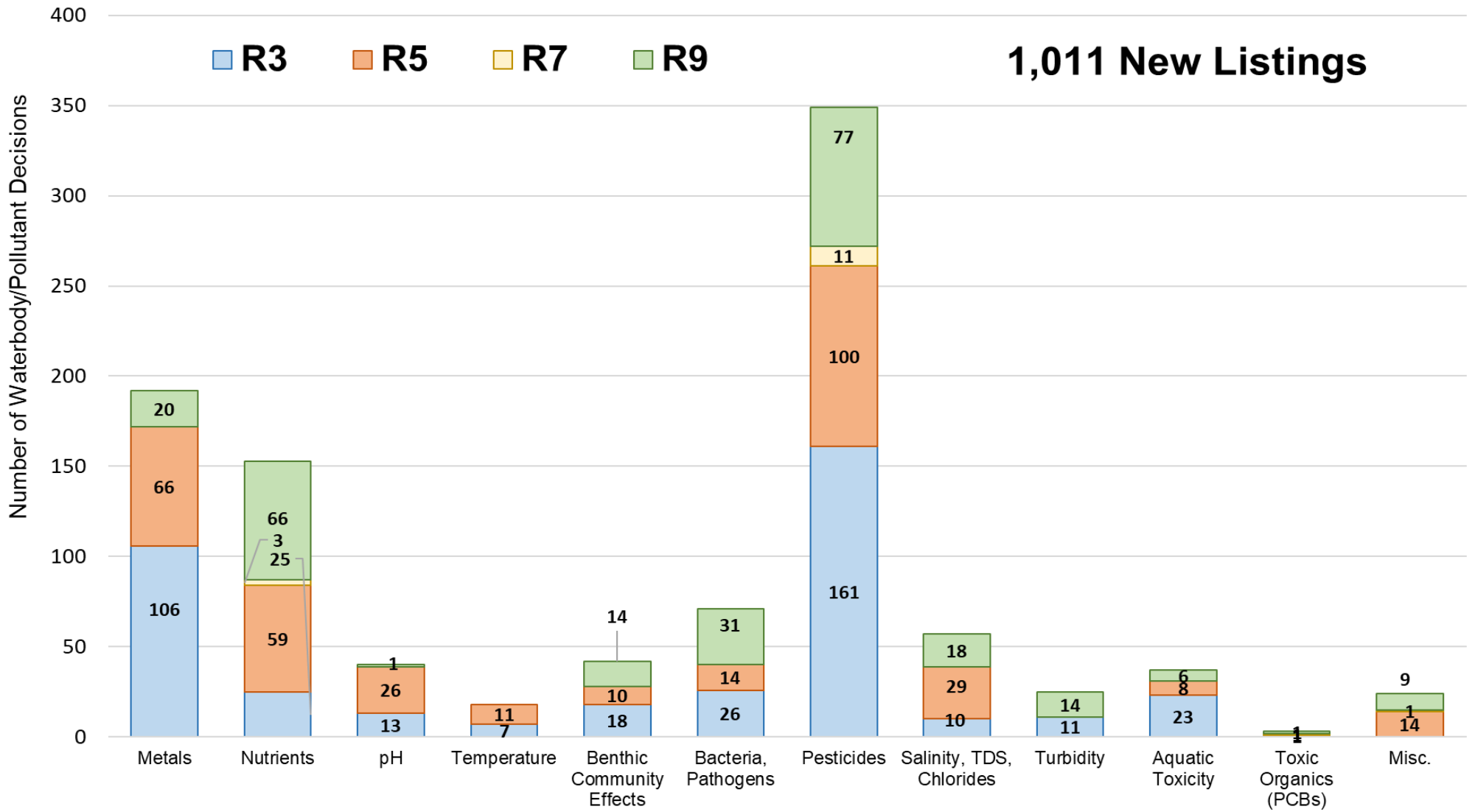
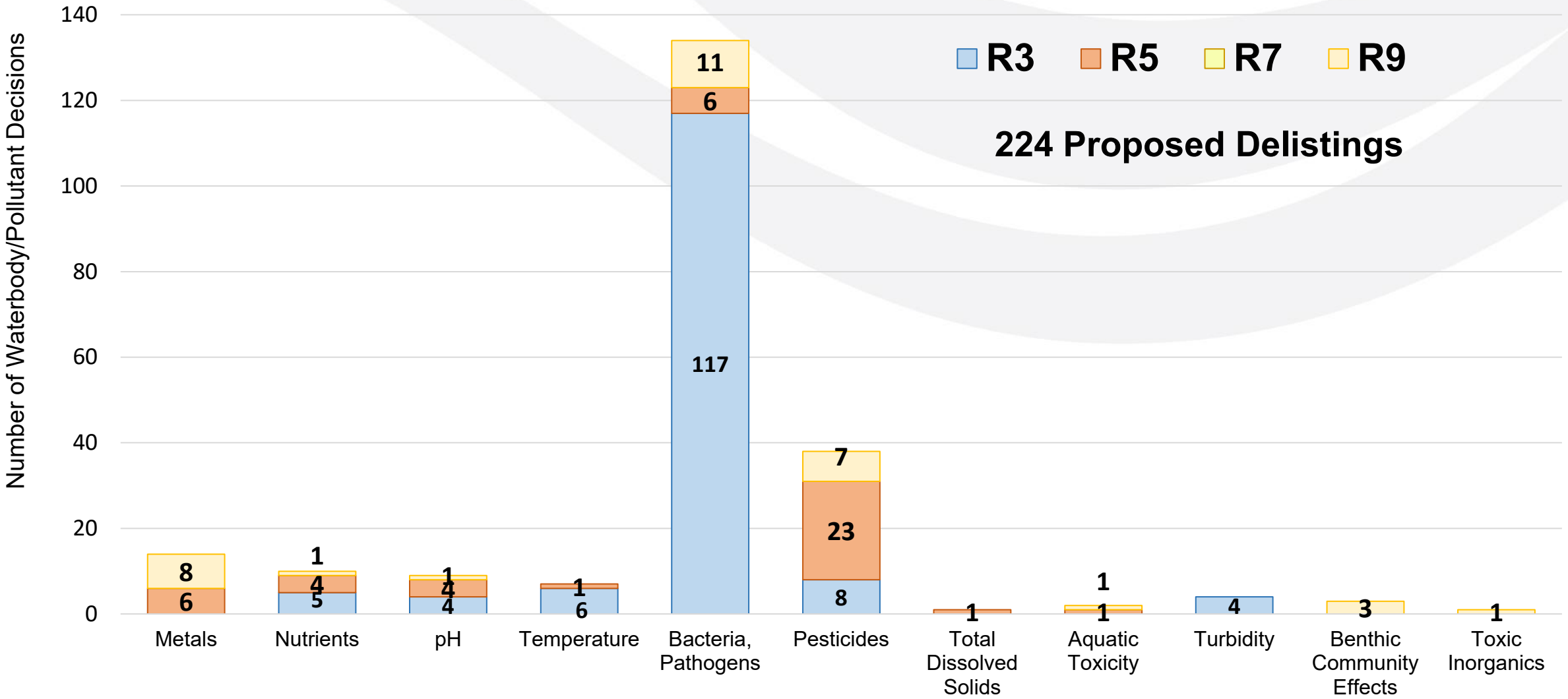
Proposed New Listings and Delistings for the 2020-2022 303(d) List

Region	2018 303(d) Listings	New Listings	New Delistings	2020-2022 303(d) Listings
North Coast	217	0	0	217
San Francisco Bay	348	0	0	348
Central Coast	922	401	146	1,177
Los Angeles	875	0	0	875
Central Valley	906	337	45	1,198
Lahontan	256	0	0	256
Colorado River Basin	93	16	0	109
Santa Ana	144	0	0	144
San Diego	609	257	33	833
STATEWIDE TOTAL	4,370	1,011	224	5,157

Proposed 2020-2022 New 303(d) Listings



Proposed 2020-2022 New 303(d) Delistings



Presentation Outline

- Overview of the Integrated Report Process
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Data Issues & Remedies

Commenters and staff identified the following errors:

- Monitoring stations in the Central Valley Region were incorrectly mapped
- Data for pyrethroids in sediment were incorrectly assessed as sediment toxicity data
- Incorrect calculations were used to carbon-normalize permethrin and cypermethrin sediment data
- Pesticide data submitted by the Westside San Joaquin Coalition and assessed in prior Integrated Reports were found to lack reporting limits
- The chemical constituents objective from the Central Valley Basin Plan was incorrectly used instead of the chloride objective from the Bay-Delta Plan for several Delta waterbodies

Remedies:

- Errors were corrected for waterbodies identified by commenters
- All other errors will be corrected during the 2024 Integrated Report cycle

Temperature Assessments

Recommendation:

- List 9 waterbodies in the Sacramento River, San Joaquin River, and Delta watersheds as impaired for water temperature
- Use the 20^{C} 7-Day-Average-of-Daily-Maximums threshold from USEPA's *Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards*

Comment:

- The threshold is not appropriate because Central Valley waterbodies have different temperature regimes than those waterbodies used to develop the threshold

Response:

- The threshold applies and protects against impacts to salmonid populations in California
- Future temperature studies may be used to re-assess temperature data
- The Central Valley Regional Water Board assigned a lower priority to future temperature TMDL development efforts

Benthic Community Effects Assessments

Recommendation:

- Compare benthic macroinvertebrate data to a California Stream Condition Index ("CSCI") threshold of 0.79
- List 5 waterbodies in the Central Valley floor as impaired for benthic community effects

Comments:

- Delay listings until the Biostimulatory and Biological Integrity project is complete
- The threshold is not appropriate because there is only one reference stream located in the Central Valley ecological region, and it is not representative of streams on the valley floor
- The threshold is not attainable in modified streams

Waterbody Name	CSCI Scores
Marsh Creek (Marsh Creek Reservoir to San Joaquin River; partly in Delta Waterways, western portion)	0.51, 0.30, 0.36, 0.35, 0.30, 0.35
Laguna Creek (Sacramento County)	0.44, 0.20, 0.43
Elder Creek (Sacramento County)	0.33, 0.28, 0.27, 0.39
Morrison Creek	0.51, 0.62, 0.49
Lone Tree Creek	0.65, 0.48

Benthic Community Effects Assessments

Response:

- Assessments were completed in accordance with Listing Policy section 3.9, which states that a waterbody shall be placed on the 303(d) List if two conditions are met:
  - The waterbody exhibits significant degradation in biological populations and/or communities as compared to reference sites
  - There is an association with a pollutant, such as a chemical concentration, temperature, dissolved oxygen, or trash
- It is not necessary to wait for the statewide Biostimulatory and Biological Integrity project to make a listing recommendation

Benthic Community Effects Assessments

Response:

- The 0.79 CSCI threshold applies to the 5 Central Valley waterbodies because:
  - The waterbodies are similar to reference sites in terms of air temperature, precipitation, elevation, and watershed area – which are key factors that impact biology
  - The threshold can be attained in some valley floor streams
  - The CSCI works as expected in valley floor streams and is sensitive to disturbance
  - The waterbodies are impaired by toxicity, or pesticides and toxicity

San Diego Iron & Phosphorus Assessments

Recommendation:

- List Escondido Creek as impaired for iron
  - 6 out of 8 samples exceed the 0.3 mg/L iron water quality objective, which is equal to the secondary maximum contaminant level (“MCL”)
  - For the protection of the municipal and domestic supply (“MUN”) beneficial use
- List Escondido Creek as impaired for phosphorus
  - 135 out of 422 samples exceed the 0.1 mg/L phosphorus goal, which is a component of the biostimulatory substances water quality objective
  - To prevent plant nuisance conditions for the protection of aquatic life uses
- No longer recommend listing for Santa Margarita River (Lower) for iron
  - Due to errors in the station location; the samples were collected in the San Luis Rey River

San Diego Iron & Phosphorus Assessments

Comments:

- Use of the iron secondary MCL to protect taste and odor in drinking water is not appropriate because it does not protect for human health, aquatic life, or the environment
- The phosphorus value use is not a water quality objective but a desired goal
- Use of the phosphorus value is not appropriate because it was intended to address a possible nuisance
- Natural conditions are higher than the iron and phosphorus values
- The objectives should be revised
- Requests no listings until the chemical constituents and phosphorus objectives are reevaluated as part of the Basin Plan's Triennial Review
- Concerns with impacts of a listing to industrial stormwater dischargers

San Diego Iron & Phosphorus Assessments

Response:

- Data were compared to water quality objectives in the San Diego Regional Water Board Basin Plan in conformance with the Listing Policy
- Concur that the triennial review of the Basin Plan is the appropriate venue to consider changes to water quality objectives
- Data will be reassessed using the new objectives, should they be changed
- The industrial stormwater permit requires that industrial stormwater discharges and authorized non-stormwater discharges not cause or contribute to an exceedance of any applicable water quality standards in any affected receiving waterbody

San Joaquin River Conductivity & TDS Assessments

Previous/Draft Recommendation:

- List the San Joaquin River (Merced River to Tuolumne River) for specific conductivity and total dissolved solids ("TDS")
- Assess data against the objectives in effect in June 2019 when data assessment began

Comment:

- Use the amended salinity objective to assess conductivity data, which took effect in Jan. 2020
- Use the amended chemical constituents objective to assess TDS data, which took effect in Nov. 2020

Response & Revised Recommendation:

- Do not make new listing recommendations for the 2020-2022 Integrated Report; retain the listing status of the 2018 303(d) List
- Data will be reassessed using the revised objectives during the 2024 Integrated Report

Central Valley Pyrethroid Pesticide Assessments

Recommendation:

- List 23 waterbodies in the Central Valley Region as impaired for pyrethroids
- Use the 4-day average goals from the *Central Valley Pyrethroid Pesticides Basin Plan Amendment and TMDL* to interpret the narrative pyrethroid objective and toxicity objective

Comment:

- Inappropriate to use the thresholds because they are triggers to establish monitoring requirements and are not water quality objectives

Response:

- Thresholds are appropriate because they:
  - Meet Listing Policy criteria for an acceptable evaluation guideline of narrative water quality objectives (Section 6.1.3)
  - Are protective of cold and warm freshwater habitat
  - Identify a range above which impacts occur and below which no or few impacts are predicted

Central Valley Pyrethroid Pesticide Assessments

Comment:

- Place certain waterbodies into an Integrated Report category that recognizes alternative control methods besides developing a TMDL (i.e., Category 4b or Category 5 alt)

Response:

- Place 6 waterbodies in Category 4b because:
  - Pesticides are addressed by an enforceable regulatory program
  - Management plans are in place and being implemented
- Other pesticide-impaired waterbodies remain in Category 5 (impaired and a TMDL is required)
- A waterbody can be moved from Category 5 to either 4b or 5 alt during future listing cycles (without additional sampling)

Waterbody in Category 4b	Pollutant
Dry Creek (Tributary to Tuolumne River at Modesto, E. Stanislaus County)	Pyrethroids
Duck Slough (Merced County)	Bifenthrin
Mud Slough, North (downstream of San Luis Drain)	Malathion
Salt Slough (Mud Slough to Sand Dam, Merced County)	Diuron
Orestimba Creek (above Kilburn Road)	Dimethoate
Orestimba Creek (below Kilburn Road)	Dimethoate

Central Valley Pyrethroid Change Sheet Revision

Issue:

- Dry Creek was placed in Category 4b for “Pyrethroids,” but the individual pyrethroid pollutants were not also placed in Category 4b

Change Sheet Remedy:

- Direct staff to revise three individual pyrethroid listing decisions for Dry Creek (tributary to Tuolumne River at Modesto, E Stanislaus County) for:
  - Decision ID 118204 for Bifenthrin
  - Decision ID 118217 for Cyfluthrin
  - Decision ID 118219 for Cyhalothrin, Lambda
- Change from Category 5: List on 303(d) list (TMDL required list) to Category 4b (List on 303(d) list (being addressed by action other than TMDL))
- Make conforming changes to the Staff Report and associated appendices

Aluminum Assessments

Previous/Draft Recommendation:

- List 34 waterbodies in the Central Valley Region for aluminum
- List 31 waterbodies in the Central Coast Region for aluminum
- Use the 87 ug/L threshold from USEPA's 1988 *Ambient Water Quality Criteria for Aluminum* because submitted aluminum data did not include pH or total dissolved hardness data
- For the protection against toxic impacts to aquatic life beneficial uses

Comment:

- The 87 ug/L threshold is overly protective
- Use the variable threshold from USEPA's 2018 *Final Aquatic Life Ambient Water Quality for Aluminum*
- Use a threshold taken from the results of water effect ratio analyses

Aluminum Assessments

Response & Revised Recommendation:

- Staff conducted a cursory review of three Central Valley waterbodies with pH, dissolved organic carbon, and hardness data available from other sources using USEPA's 2018 variable criterion
- Aluminum concentrations appear to be well below USEPA's 2018 variable criterion

Waterbody	Range of Aluminum Samples (ug/L)	Range of Chronic Thresholds using 2018 Criterion (ug/L)	# of Exceedances out of # of Samples	Potential Listing Outcome
Sacramento River (Sacramento City Marina to Suisun Marsh Wetlands)	53 – 424	210 – 1,100	0 out of 6	Not Impaired
San Joaquin River (in Delta waterways, southern portion)	120 – 513	810 – 860	0 out of 3	Not Impaired
Middle River (in Delta waterways, central portion)	30 – 462	540 – 1,300	0 out of 28	Not Impaired

Aluminum Assessments

Response & Revised Recommendation:

- Do not make new listing recommendations for the 2020-2022 Integrated Report; retain the listing status of the 2018 303(d) List
- Data will be assessed during the 2024 California Integrated Report following additional efforts to gather and apply pH, dissolved organic carbon, and hardness data using the 2018 variable criterion
- Revisions were made to the Integrated Report fact sheets and reflected in the *First Revised Proposed Final Staff Report* and associated appendices
    - Available online at: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html

Aluminum Change Sheet Revisions

Change Sheet Contents:

- Add a new recital to the Resolution explaining the aluminum listing changes made
- Identify conforming changes made to the December 17, 2021 *Proposed Final Staff Report* as shown in the *First Revised Proposed Final Staff Report*, including several appendices
- Direct staff to make conforming changes to the December 17, 2021 *Summary of Comments and Responses; Statewide Clean Water Act Section 303(d) List Portion of the 2020-2022 California Integrated Report*

Program Improvements & Next Cycles

Active Program Improvements:

- CalWQA (California Water Quality Assessment Database) Modernization Project
- Program Procedures Manual

2024 Integrated Report:

- Focus on San Francisco Bay, Los Angeles, and Santa Ana regions
- Focus on Sacramento River watershed of Central Valley Region
- Data solicitation ended in October 2020; data are mapped and are being assessed
- Workshops and Draft expected in February-April 2023

2026 Integrated Report:

- Focus on North Coast, Lahontan, and Colorado River Basin regions
- Focus on San Joaquin River watershed of Central Valley Region
- Active data solicitation is expected to start spring or early summer 2022

2020-2022 Integrated Report Timeline

June 14, 2019	Data Cut-off Date
June 4, 2021	Draft Staff Report Released
July 6, 2021	Hearing on Draft 303(d) List
December 17, 2021	Response to Comments & Proposed Final Staff Report Released
January 19, 2022	State Water Board Consideration of Adoption
April 1, 2022	Submittal to U.S. EPA

Documents Available at: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/

Staff Recommendation

Following a motion to adopt with the Change Sheet, adopt the Resolution adopting the Clean Water Act Section 303(d) List of impaired Waters for the 2020-2022 California Integrated Report.

Questions
Oral Comments
Board Discussion