Item 6

2012 Integrated Report for the 305(b) Surface Water Assessment & 303(d) List of Impaired Waters

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North Coast Regional Water Quality Control Board
May 8, 2014
Fortuna

Presentation Outline

1. Overview of the 2012 Integrated Report
2. 305(b) & 303(d) Updates Timeline
3. 2012 Assessment Process
4. Staff's Water Body-Specific Recommendations
5. Highlights of Comments Received

Overview of the 2012 Integrated Report

Requirements of the federal Clean Water Act (CWA)

Integrated Report is a combination of:

- CWA Section 305(b) Surface Water Quality Assessment Report
  (includes impaired & non-impaired waters)
- CWA Section 303(d) List of Impaired Waters

305(b) & 303(d) Updates Timeline

1976: First 303(d) List

2002: 303(d) List developed by Regional Water Board

2006: 303(d) List & 305(b) Report developed by State Water Board

2010: Integrated Report developed by Regional Water Board

2012: Integrated Report developed by Regional Water Board

2018: Next Integrated Report Cycle for the North Coast Region

2012 Assessment Process

State Water Board staff
develops Lines of Evidence

↓

Regional Water Board staff
develops Decisions

↓

Regional Water Board staff
develops 2012 Integrated Report

↓

Public Review Draft Integrated Report
Public Comment Period

↓

Regional Water Board
Response to Public Comments

↓

Regional Water Board
considers adoption (August)

↓

State Water Board
considers adoption

↓

US EPA
considers approval

2012 Assessment Process

- **Public Review Draft Staff Report available at:**

http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d/140313/FINAL2012IR_PublicReviewDraft_StaffReport_March10_2014.pdf

State of California
Regional Water Quality Control Board
North Coast Region

Public Review Draft
Staff Report
for the
2012 Integrated Report
for the Clean Water Act
Section 305(b) Surface Water Quality Assessment
and the 303(d) List of Impaired Waters

March 14, 2014

Water Boards

California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403
707-576-2220
www.waterboards.ca.gov/northcoast

- **Fact Sheets available at:**

http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d/140313/FactSheets/table_of_contents.shtml

Definitions

Listing Policy:

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

Water Body-Pollutant Pair:

- A reach of a water body plus the pollutant (e.g., Klamath River for sediment, or Eel River for temperature)

Fact Sheet:

- Includes a "Decision" and all supporting "Lines Of Evidence"
- Developed for each water body-pollutant pair

2012 Assessment Process

Step 1: Obtain data (Solicitation Period 1/14/10 – 8/30/10)

- Data from 2010 List
- SWAMP Data
- Counties' ocean beach monitoring data (AB411)
- Other data collected by staff, other agencies, tribes, citizen monitoring groups, dischargers, and academic institutions

Step 2: Analyze data according to rules of the Listing Policy

Step 3: Develop Lines of Evidence (LOEs)

- Over 4,700 LOEs were developed

Step 4: Make Decision (aka: staff recommendations)

2012 Assessment Process

Step 3: Develop Lines of Evidence

Example

Lower Eel River

LOE ID:	25541
Pollutant:	Sulfates
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	15
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	None of the 15 sulfate samples collected in the Lower Mainstem Eel River watershed exceed the evaluation guideline. The samples were collected as part of the Surface Water Ambient Water Monitoring Program (SWAMP). The data are found in the 5-Year Monitoring Report (NCRWQCB 2008).
Data Reference:	Surface Water Ambient Monitoring Program (SWAMP). Summary Report for the North Coast Region (RWQCB-1) for years 2000-2006. North Coast Regional Water Quality Control Board. March 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Per the Basin Plan (NCRWQCB 2007, p. 3-3.00): Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - North Coast Region (Region 1)
Evaluation Guideline:	Per 22 CCR 64449 (Table 64449-B): The recommended secondary maximum contaminant level for sulfate is 250 mg/L.
Guideline Reference:	Title 22. Division 4. Chapter 15. Sections 64400 et seq. California Code of Regulations
Spatial Representation:	Samples were collected from the Lower Mainstem Eel River at Holmes (SWAMP Station ID 111EELHOL). Samples were collected from well-mixed flows in glides or riffles.
Temporal Representation:	Samples were collected from 15 site visits from February 2002 to June 2005. Most of the site visits corresponded to fall, winter, spring and early summer seasonal conditions.
Environmental Conditions:	There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.
QAPP Information:	Quality control was conducted in accordance with the SWAMP Quality Assurance Management Plan (SWAMP 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002

2012 Assessment Process

Step 4: Make Decision

Example

Lower Eel River

DECISION ID 26844 **Region 1**
Eel River HU, Lower Eel River HA (includes the Eel River Delta)

Pollutant:	Sulfates
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2010)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the Section 303(d) List under Section 3.2 of the Listing Policy. Under Section 3.2, a single line of evidence is necessary to assess listing status. One line of evidence is available to assess protection of the municipal and domestic supply (MUN) beneficial use in the lower mainstem Eel River (LOE 25541), and one line of evidence is available to assess protection of the MUN beneficial use in Larabee Creek (LOE 44052). Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category (i.e., sufficient justification to not list). This conclusion is based on the staff findings that: (1) The data used satisfies the data quality requirements of section 6.1.4 of the Policy. (2) The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. (3) Zero of 15 samples from the lower mainstem Eel River and zero of one sample from Larabee Creek exceed the objective, however these sample sizes are insufficient to determine with the power and confidence of the Listing Policy if standards are not met, as a minimum of either (1) 26 samples, or (2) greater than or equal to 5 exceedances of the objective with less than 26 samples is needed for application of Table 3.2. (4) Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because it cannot be determined if applicable water quality standards are not being exceeded.

2012 Assessment Process

Step 4: Make Decision

How did staff determine impairment?

Staff applied the rules of the Listing Policy:

- **Exceedance Frequency**
  For example: ≥ 2 exceedances out of 20 samples = List
- **Weight of Evidence Approach**
  (standards clearly not attained)

2012 Assessment Process

Step 4: Make Decision

What decisions did staff make?

Water Body-Pollutant IS NOT on the 2010 303(d) List:

List (impaired)	**or**	**Do Not List** (not impaired or not enough data)

Water Body-Pollutant IS on the 2010 303(d) List:

Do Not Delist (impaired)	**or**	**Delist** (not impaired)

Step 4: Make Decision

Beneficial Use Support Rating Categories	
Category	**Description**
1	All core uses are supported.
2	Some core uses are supported.
3	Insufficient information is available to make use support determinations.
4A	At least one use is not supported and a TMDL has been developed.
4B	At least one use is not supported and a TMDL is not needed because an existing regulatory program will address impairment.
4C	At least one use is not supported but a TMDL is not needed as the impairment is caused by non-pollutant sources.
5	At least one use is not supported and a TMDL is needed.

Categories 4a, 4b, and 5 make up the California 303(d) List - No water bodies in Category 1, 4b, or 4c.

2012 Proposed Listings & Delistings

991 water body – pollutant pair recommendations/decisions

Listings (# water body – pollutant pairs)

29	New Listings
1	Increase in geographic extent of listing
2	Recommendation for USEPA to list on Tribal Land

Delistings (# water body – pollutant pairs)

14	New delistings
20	Reductions in geographic extent of listing

Staff Recommendations

- **Ocean & Freshwater Beaches Indicator Bacteria**
  - listings & delistings
- **Greater Laguna de Santa Rosa Watershed**
  - re-segmentation
  - indicator bacteria and nutrient listings & delistings
- **Scott River Biostimulatory Conditions, Dissolved Oxygen, and pH**
  - listings
- **Klamath Basin Temperature & Sediment Reference Streams**
  - delistings
- **Ten Mile Watershed Temperature**
  - delistings
- **Requests to List for Flow**

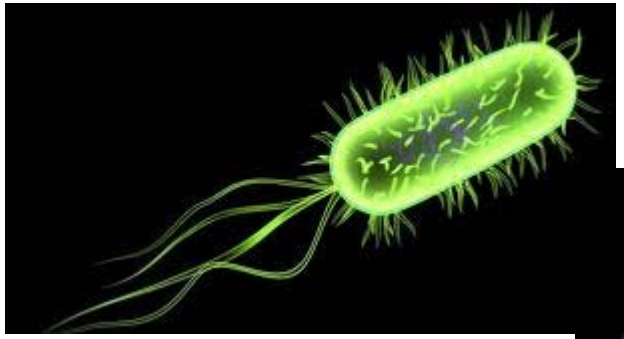
Use of Indicator Bacteria in 2012 Integrated Report

Saltwater:

- **Enterococcus**
- **Fecal Coliform***

Freshwater:

- ***Escherichia coli* (*E. coli*)**
- **Fecal Coliform***



***Basin Plan bacteria objective currently under revision.**
Fecal coliform numeric objective utilized until objective is revised.

Saltwater Indicator Bacteria Delistings

Delist (New delisting in 2012)

Hydrologic Unit	Water Body
Mendocino Coast HU	Hare Creek Beach
	Pudding Creek Beach
Trinidad HU	Luffenholtz Beach
	Moonstone County Park
	Trinidad State Beach

Do Not Delist (Keep listed as impaired)

Hydrologic Unit	Water Body
Bodega HU	Campbell Cove
Trinidad HU	Clam Beach

Freshwater Indicator Bacteria Listings & Delistings

List as Impaired (New listing in 2012)

Eureka Plain HU	Lower Mainstem Elk River and Martin Slough
	Campbell Creek
	Jolly Giant Creek
Mad River HU	Widow White Creek
Mendocino Coast HU	Noyo River HA, Pudding Creek Lagoon*
Trinidad HU	Mainstem Little River and Bullwinkle Creek
Russian River HU	Mainstem Dutch Bill Creek

Do Not Delist (Keep listed as impaired)

Russian River HU	Mainstem Russian River at Healdsburg Memorial Beach*
	Mainstem Russian River from Fife Creek to Dutch Bill Creek*
	Mainstem Atascadero Creek
	“Stream 1” on Fitch Mountain*
	Mainstem Santa Rosa Creek

Delist (New delisting in 2012)

Russian River HU	Mainstem Laguna de Santa Rosa & Tributaries to the Laguna de Santa Rosa**
	Tributaries to Santa Rosa Creek**

*** Listing based solely upon fecal coliform data**
**** Delisting due to insufficient number of samples**

Freshwater Indicator Bacteria Listings & Delistings

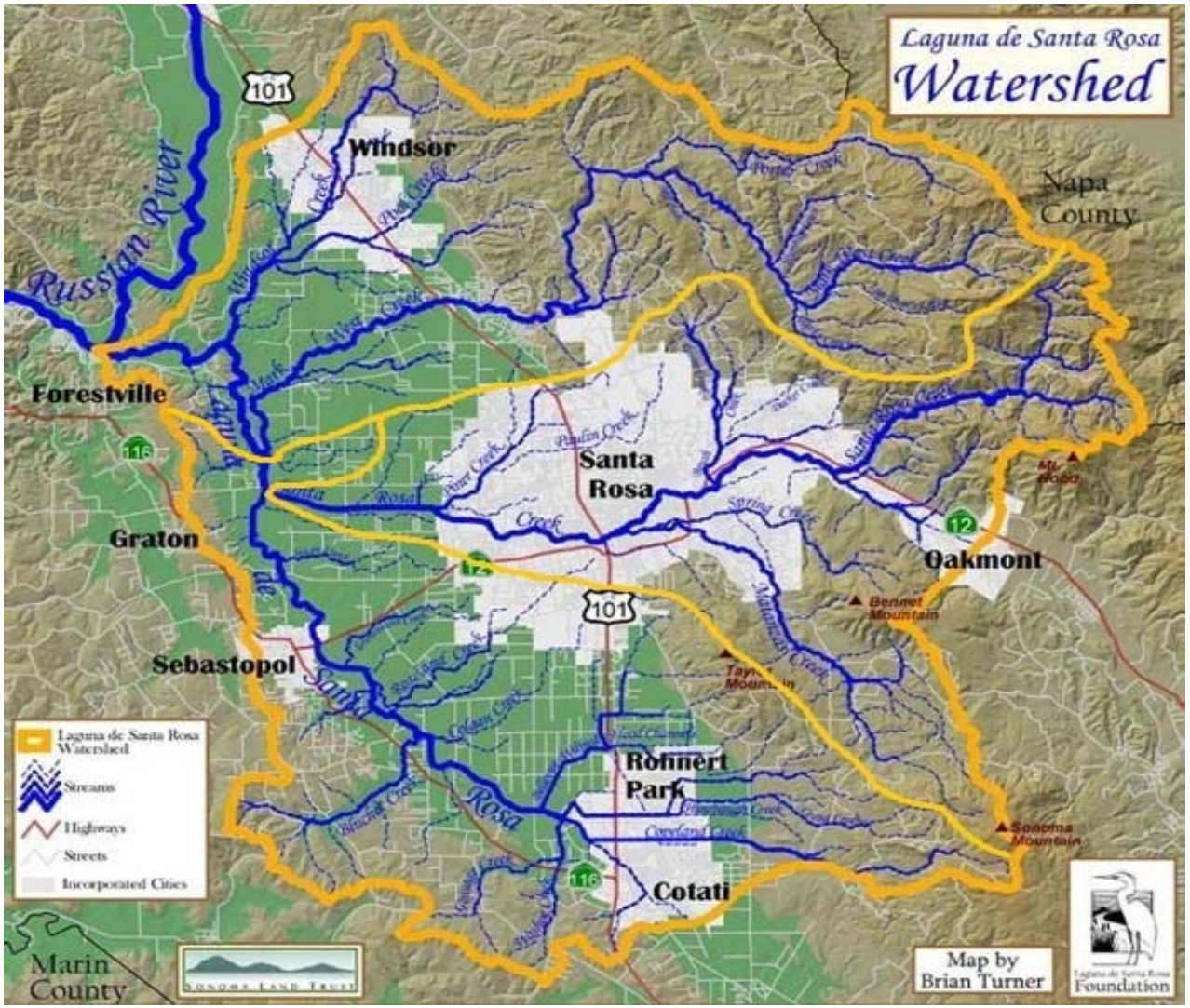
Staff recommend USEPA List the portion of the following water bodies that lie within the Quartz Valley Indian Reservation*

Scott River HA:

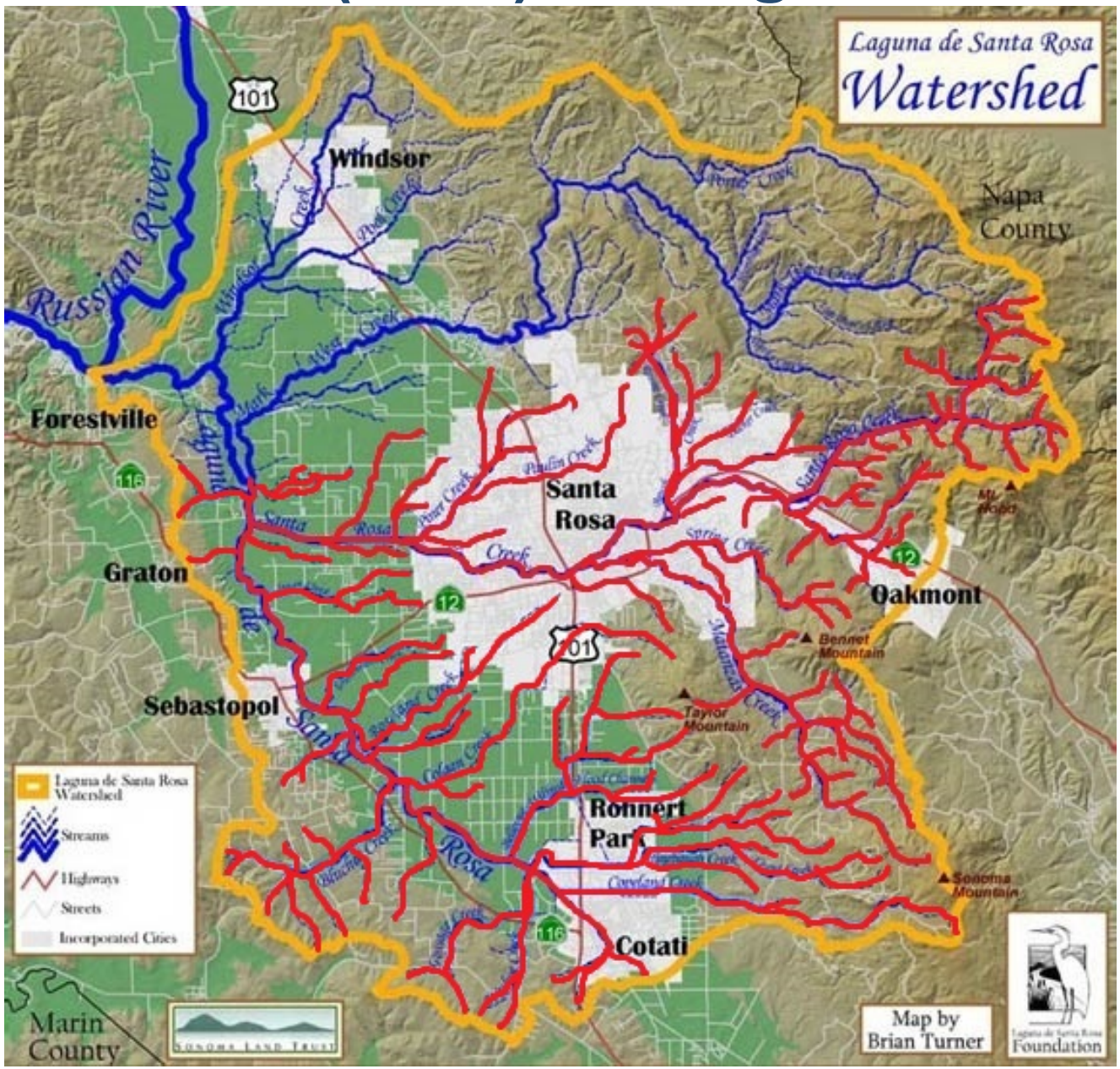
- **Shackleford Creek**
- **Sniktaw Creek**

***Regional and State Water Boards do not have the authority to list or delist water bodies within the boundaries of Native American Reservations.**

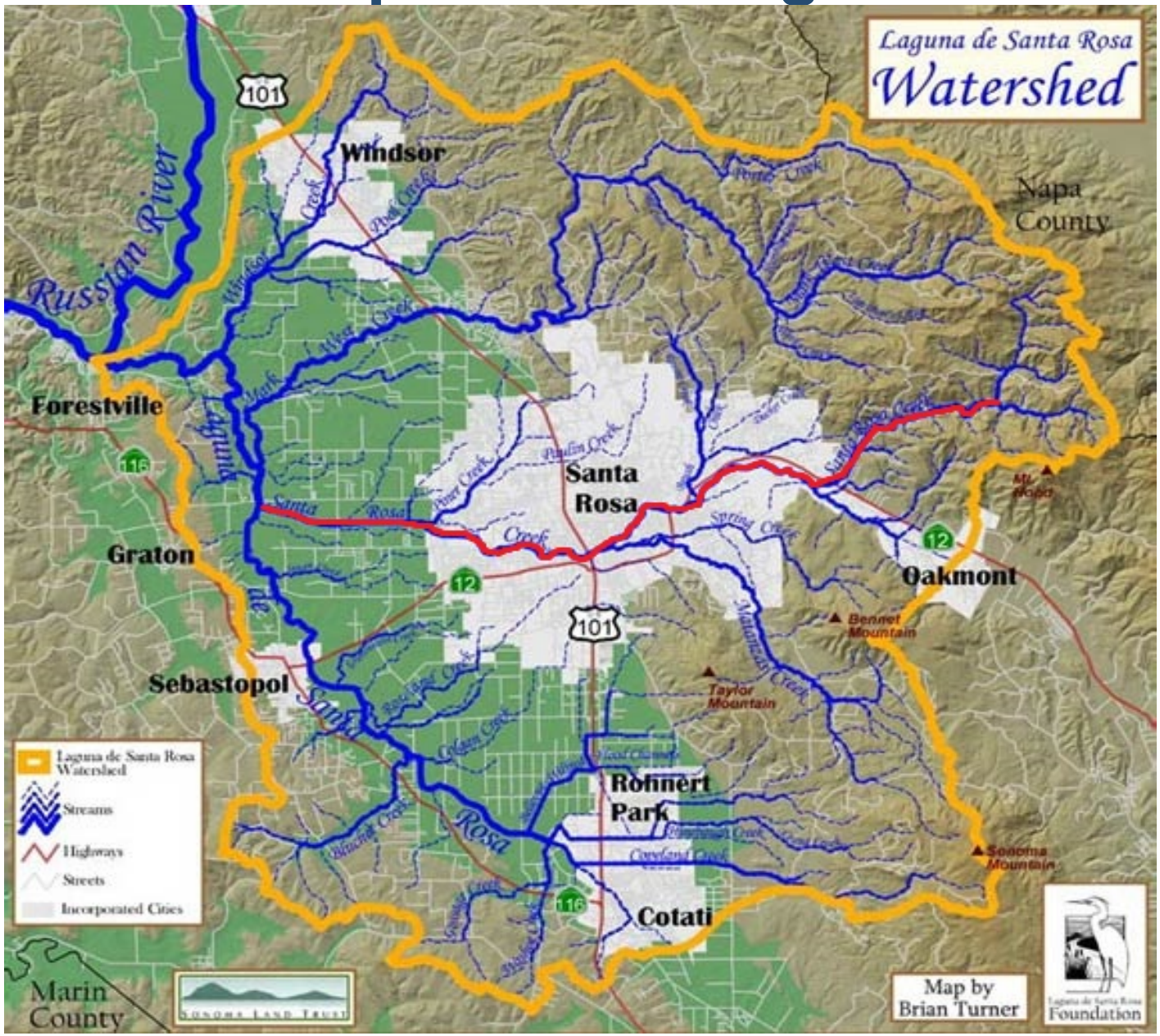
Laguna de Santa Rosa Watershed



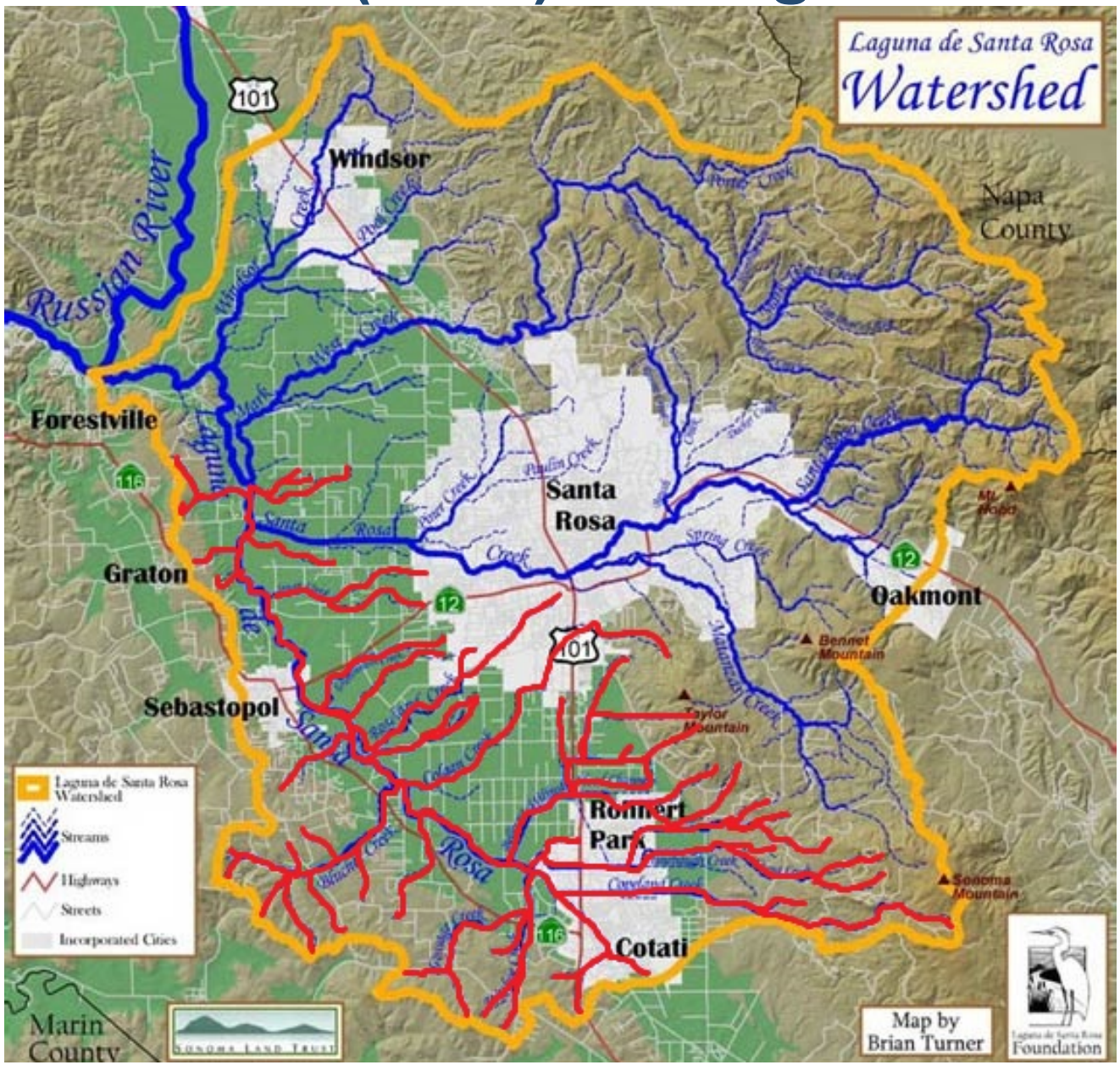
Indicator Bacteria
Current (2010) Listing Extent



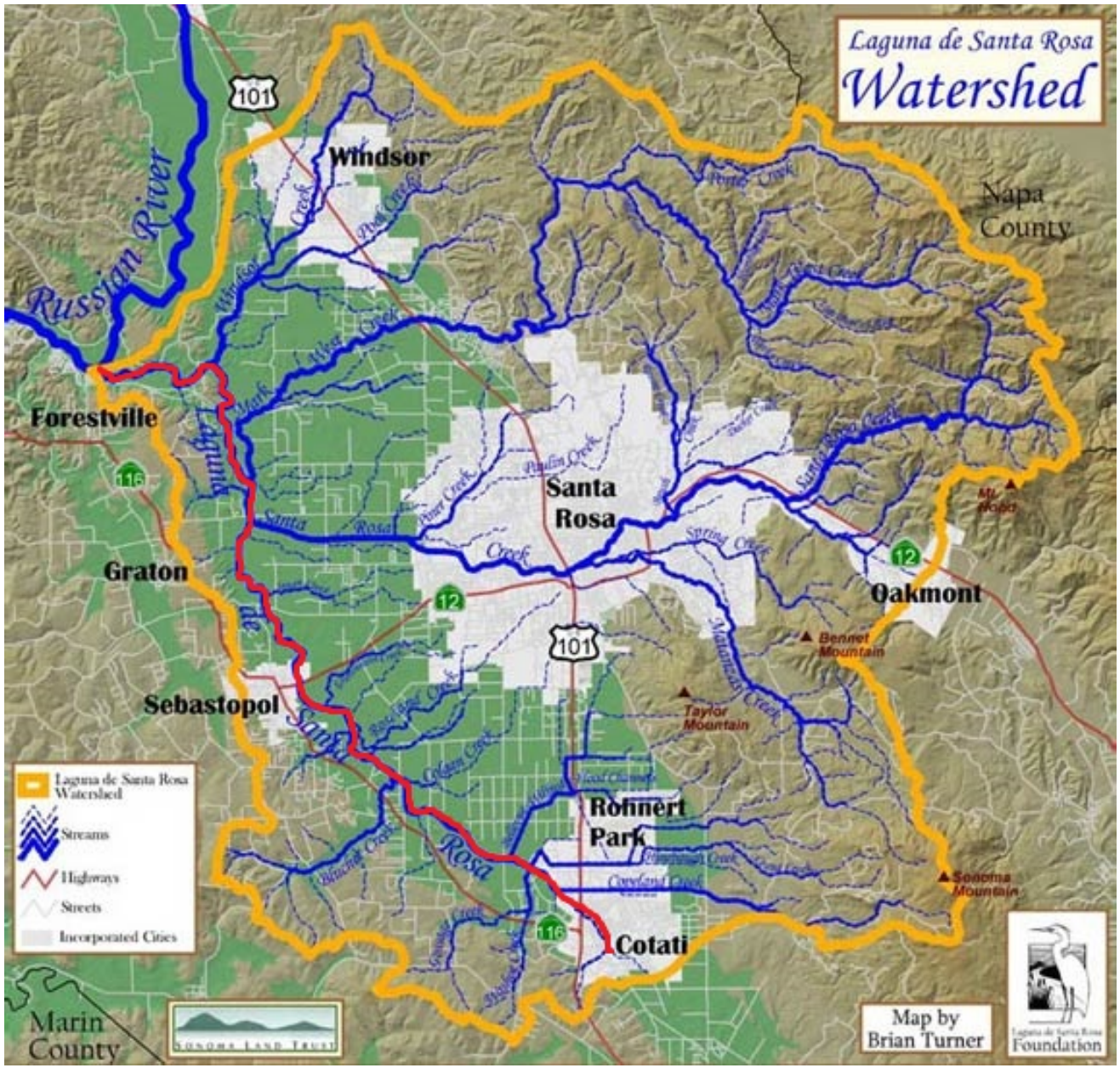
Indicator Bacteria
2012 Proposed Listing Extent



Phosphorus & Nitrogen
Current (2010) Listing Extent



Phosphorus
2012 Proposed Listing Extent



Laguna de Santa Rosa Watershed
Summary of Proposed Listings

New Proposed Listings in Bold

Water Body Hydrologic Unit (HU)	Water Body Name	Pollutant
Russian River HU	Middle Russian River HA, Laguna HSA, mainstem Laguna de Santa Rosa	Phosphorus* Dissolved Oxygen* Mercury* Temperature Sediment/Siltation
	Middle Russian River HA, Laguna HSA, tributaries to the Laguna de Santa Rosa (except Santa Rosa Creek and its tributaries)	Dissolved Oxygen*[1] Temperature Sediment/Siltation
	Middle Russian River HA, Mark West HSA, mainstem Mark West Creek downstream of the confluence with the Laguna de Santa Rosa	**Phosphorus*** **Dissolved Oxygen*** Temperature Sediment/Siltation **Aluminum** **Manganese**
	Middle Russian River HA, Mark West HSA, mainstem Mark West Creek upstream of the confluence with the Laguna de Santa Rosa	Temperature Sediment/Siltation
	Middle Russian River HA, Mark West HSA, tributaries to Mark West Ck (except Windsor Ck and its tribs)	Temperature Sediment/Siltation
	Middle Russian River HA, Mark West HSA, Windsor Creek and its tributaries	Temperature Sediment/Siltation
	Middle Russian River HA, Santa Rosa HSA, mainstem Santa Rosa Creek	Indicator Bacteria* Temperature Sediment/Siltation
	Russian River HU, Middle Russian River HA, Santa Rosa HSA, tributaries to Santa Rosa Creek	Temperature Sediment/Siltation

* TMDL currently under development

[1] Listing only applies to the mainstem of Colgan Creek

Scott River
Biostimulatory Conditions Listings

- **Biostimulatory Conditions: stream conditions that promote aquatic growth causing nuisance and/or adversely affect beneficial uses**
- **Generally, nutrients alone do not cause impairment**
- **Biostimulatory Conditions assessment**
  - **<u>Primary Indicators</u>: dissolved oxygen, pH, chlorophyll-a**
  - **<u>Secondary Indicators</u>: total nitrogen, total phosphorus**

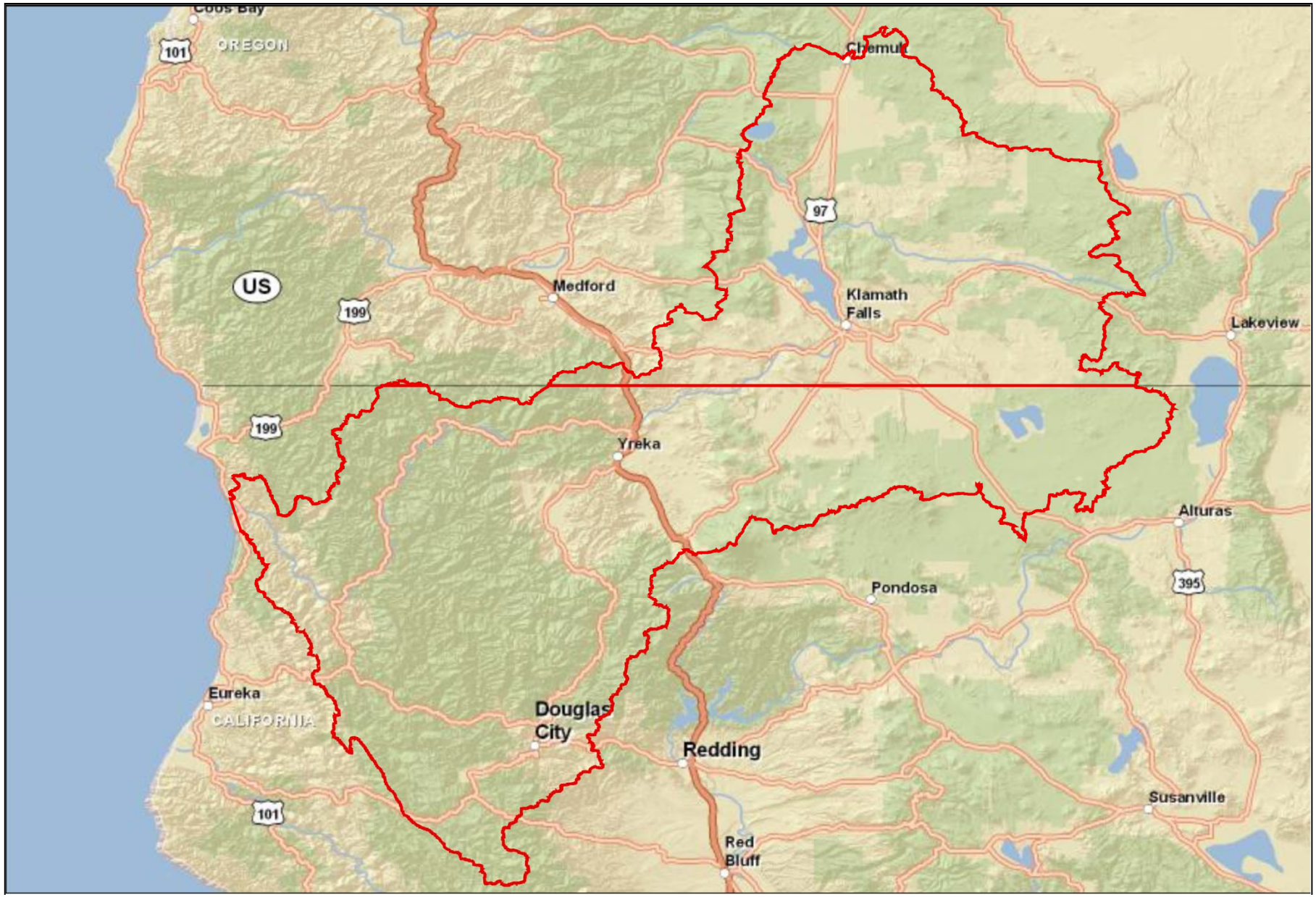
Scott River
Biostimulatory Conditions Listings

Staff Recommendation→ LIST

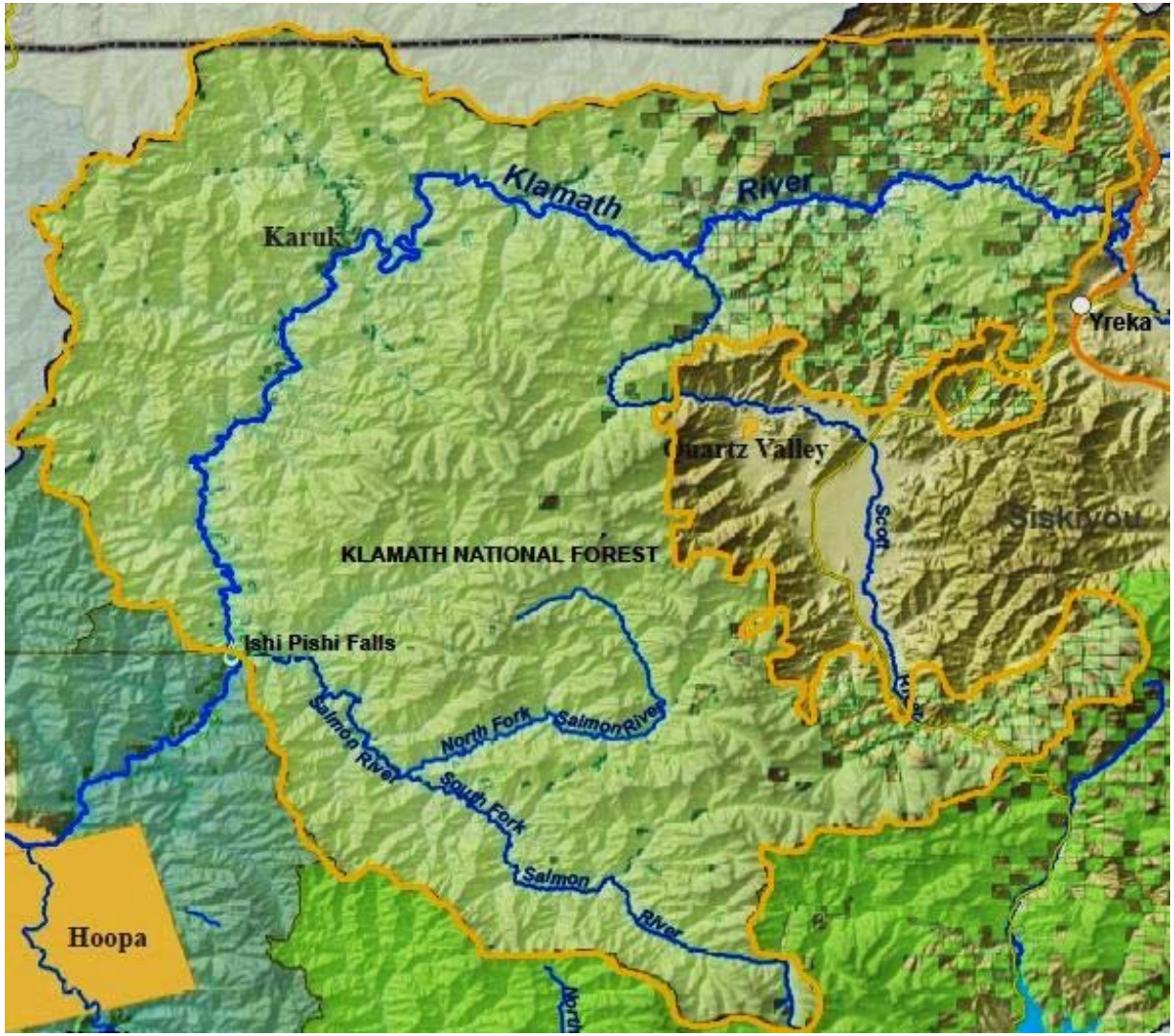
- **Multiple lines of evidence support listing**
  - **170 of 726 Dissolved Oxygen (DO) subceedances**
  - **224 of 781 pH exceedances**
  - **Extremely high DO values**
  - **Large diel swing in the continuous DO & pH data**
  - **9 of 24 Total Nitrogen violations**

Staff also recommending listing for DO and pH

Klamath River Watershed



Klamath Sediment & Temperature Delistings



Klamath Sediment & Temperature Delistings

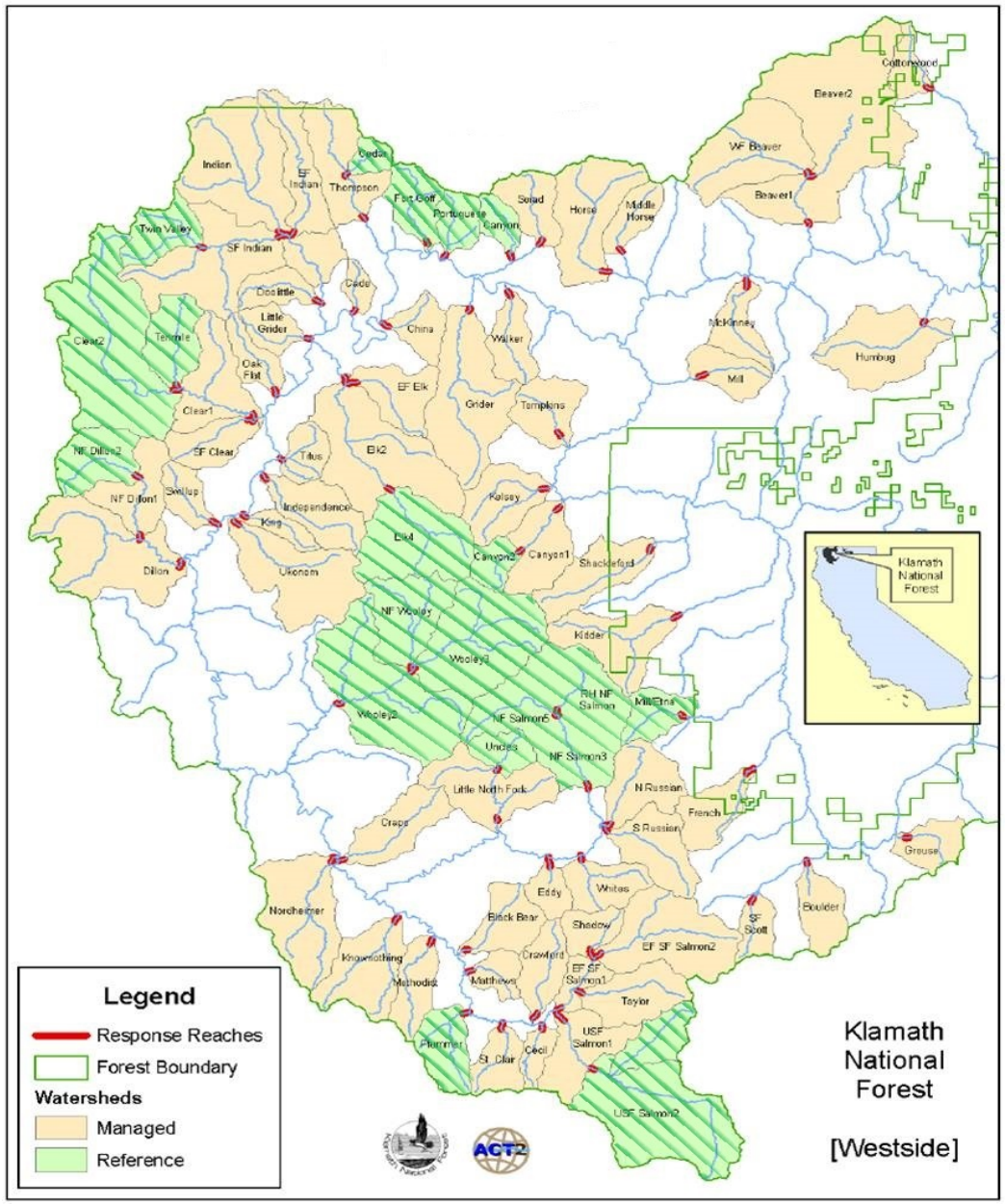
- All streams within the Klamath National Forest are listed as temperature impaired
- The following streams within the Klamath National Forest are listed as sediment impaired
  - Iron Gate Dam to Scott River Reach of Klamath HU:
    - Beaver Creek
    - Cow Creek
    - Deer Creek
    - Hungry Creek
    - West Fork Beaver Creek
  - Scott River to Trinity River Reach of Klamath HU:
    - China Creek
    - Fort Goff Creek
    - Grider Creek
    - Portuguese Creek
    - Thompson Creek

Klamath Sediment & Temperature Delistings

- **Klamath National Forest staff developed approach for identifying reference streams**
  - **Followed SWAMP guidance**
  - **Regional Water Board staff reviewed and approved approach and criteria for reference streams**

	Disturbance Type	Reference Watershed Criteria	
Sediment	Road Density	Less than 0.19 km/km^2 with no significant road failures	Temperature
	Grazing	Less than 10% of the drainage area grazed and there are no BMP violations (most have no grazing)	
	Mining	No significant sediment inputs	
	Natural Disturbance	Included in the reference pool as a component of natural variability in conditions	
	Stream Shade	No human-caused reduction in stream shade	

Klamath Sediment & Temperature Delistings



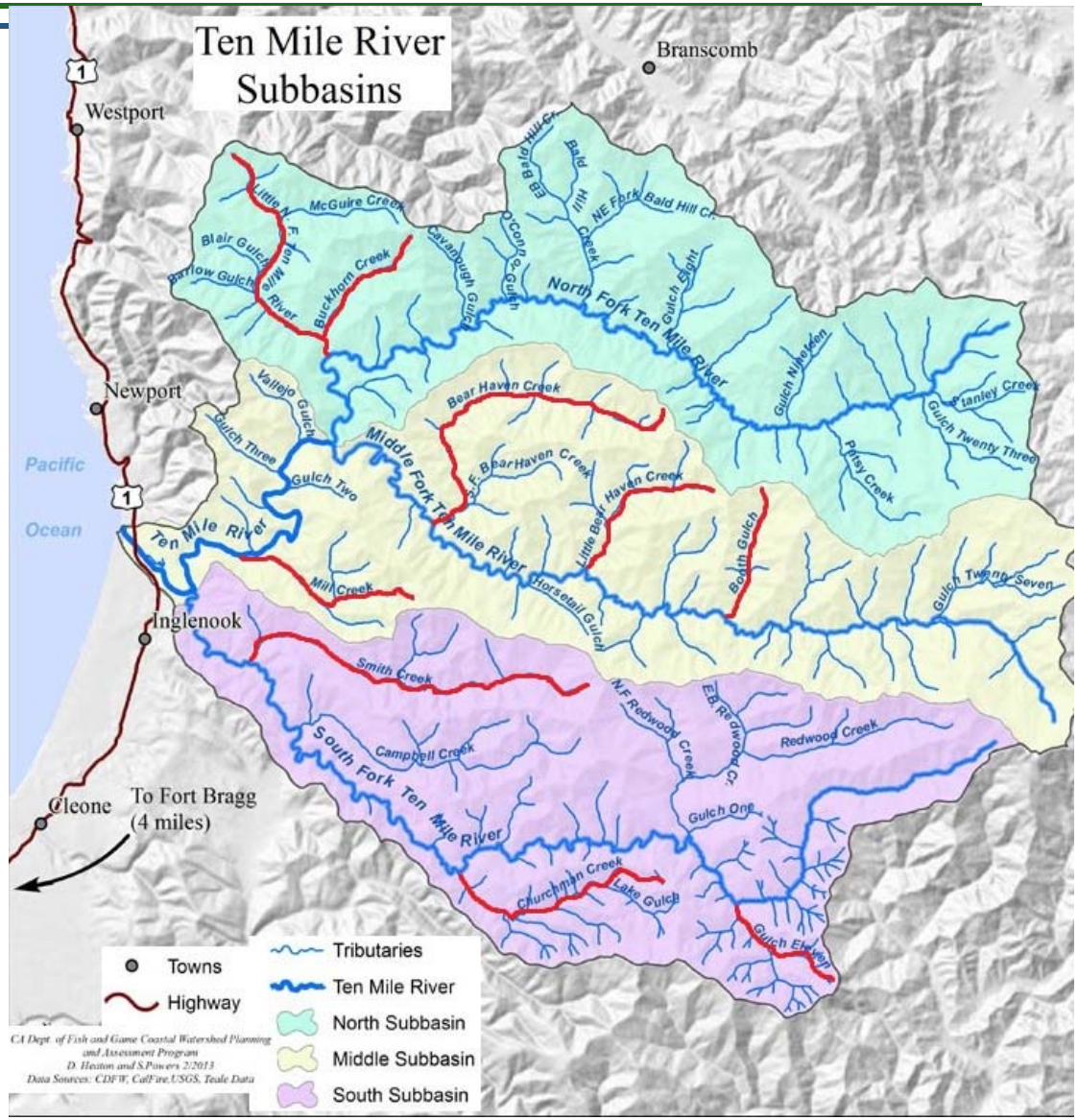
Green = reference
Tan = managed

Staff Propose:

- 2 sediment delistings
- 21 temperature delistings

Ten Mile Watershed Temperature Delistings

- Continuously Monitored Temperature Data (1994 - 2003)
- MWMT compared to the USEPA Salmonid Criteria
  - 16C core juvenile rearing
  - 18C adult migration & non-core juvenile rearing
- One Line of Evidence per stream
- Staff Recommend Delist (Streams in Red)



No Flow Listings Recommended

- Data submitted for the following water bodies:

Scott River	Shasta River
Eel River	Russian River Tributaries:
Gualala River	- Maacama Creek
Mattole River	- Mark West Creek
Navarro River	- Redwood Creek

- Listing Policy does not include assessment method
- Water quality impacts from altered flows are addressed through pollutant-based TMDLs, such as temperature TMDLs

Beneficial Use Support Rating Categories	
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4C	At least one use is not supported but a TMDL is not needed as the impairment is caused by non-pollutant sources.
5	At least one use is not supported and a TMDL is needed.

Public Comments

Opportunities for Public Comments:

- **Public Review Period for the Draft Integrated Report and Staff Report**
- **Public Workshop in Santa Rosa**
- **Public Workshop in Redding**

Staff is currently reviewing and responding to comments

Comments on Flow

Comments Urging Flow Listings:

- Flow listings are made in other states
- Clean Water Act is the legal basis for listings, and the reliance on guidance in the Listing Policy is misplaced
- Benefits to having a flow listing include:
  - Increases the consideration of flow impacts in CEQA analyses
  - Increases opportunities for funding and grants
  - Helpful in the water rights process
- Salmonids cannot wait another cycle for flow listings to be considered
- The criteria proposed by staff are appropriate and should be used
- Requests to participate in developing a state-wide methodology

Comments Supporting No Flow Listings:

- Mechanisms already in place address flows and effects on beneficial uses

Comments on Mercury in Fish Tissue

Additional proposed listings are likely, due to data reassessment

Additional Proposed Listings (New listing in 2012)

Russian River HU	Spring Lake
Smith River HU	Dead Lake

NEW

Proposed Listings in the Public Review Draft (New listing in 2012)

Klamath River HU	Copco Lake
	Iron Gate Reservoir
	Klamath Straits Drain
Mad River HU	Ruth Lake

Do Not Delist (Keep listed as impaired)

Eel River HU	Lake Pillsbury
Klamath River HU	Lake Shastina
Russian River HU	Lake Sonoma
	Lake Mendocino
	Mainstem Laguna de Santa Rosa
Trinity River HU	Trinity Lake
	East Fork Trinity River

Comments on the Scott River & Klamath Tributaries

Scott River Biostimulatory Conditions Listings

- Requests to reassess the mainstem Scott River on a reach-by-reach scale

Klamath National Forest Sediment & Temperature Delistings

- Concerns that fire history and grazing activities are not natural conditions

Comments on Secondary MCLs

Comments stated it is inappropriate to use Secondary Maximum Contaminant Limits (MCLs)

- Secondary MCLs are not incorporated into the Basin Plan
- Secondary MCLs are intended to be applied at the tap, not in receiving waters

Staff is not revising decisions

- Secondary MCLs are incorporated in the Basin Plan (Footnote 2 to Table 3-2)
- MUN beneficial use includes the use of raw water from individual water support systems

Timeline

Public Review Draft available . . . . . .March 14, 2014

Public Workshops:

Santa Rosa . . . . . .April 8, 2014

Redding . . . . . April 9, 2014

Close Public Comment Period . . . . . .April 18, 2014

Regional Board Workshop (Fortuna). . . . . .May 8, 2014

Regional Board Hearing (Santa Rosa). . . . . .August 14, 2014

State Board . . . . . Late 2014

USEPA 2015

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Integrated Report Website:
http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d/

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