Regional Water Quality Control Board

NORTH COAST REGION (1)

SECTION 303 (d) LIST PROPOSALS

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Region 1: Albion River Sedimentation/Siltation

Water Body	Albion River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Big River
Temperature

Water Body	Big River
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	MWAT linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives/Historic Temperature Ranges/Sullivan 2000 Published Temperature Thresholds-Peer Reviewed Literature.
Water Body-specific Information	Data = 4 years (96-2000), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	Data show that 29 out of 34 locations exceed the criterion of Sullivan, 2000= 14.8 degrees. But 23 locations had MWAT values exceeded for sub-lethal effects (10 and 20% reduced growth). None of the sites exceeded the 24 degree lethal criteria. 19 locations MWAT values exceeded the MWAT criteria (17 degrees) for sub-lethal effects (10% reduced growth). MWAT values at 4 locations exceeded the available MWAT criteria for sub-lethal effects (20% reduced growth).
Spatial representation	34 Locations over the 200 sq. mile area in the Big River watershed.
Temporal representation	Data was collected over 4 years (96-2000), with at least two years of record at 15 locations.
Data type	Numerical data.
Use of standard method	Unknown.
Potential Source(s) of Pollutant	Streambank modification/destabilization, Removal of riparian vegetation, Habitat modification, Nonpoint sources.
Alternative Enforceable Program	
RWQCB Recommendation	Watch List: The RWQCB feels there is insufficient information existing to list. The Maximum Weekly Average Temperature (MWAT) and the Maximum Weekly Maximum Temperature (MWMT) values for the Big River Watershed exceed the criteria values (Sullivan, 2000 Published Temperature Thresholds -Peer Reviewed Literature), that were used to translate the narrative Water Quality Objective for Region 1 for Temperature.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that:

Region 1: Big River
Temperature

1. The data exhibited sufficient spatial and temporal coverage.
2. Beneficial uses apply to the water body.
3. Water quality standard used is applicable.
4. The evaluation guideline used to interpret narrative water quality standards is adequate.
5. Data are numerical.
6. Other water body- or site-specific information including the effects of season and age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Big River
Sedimentation/Siltation

Water Body	Big River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Garcia River Sedimentation/Siltation

Water Body	Garcia River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	N/A
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the TMDLs Completed List because a TMDL has been developed for the water body-pollutant combination. The TMDL has been approved by USEPA.

Region 1: Gualala River Sedimentation/Siltation

Water Body	Gualala River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Gualala River Temperature

Water Body	Gualala River
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	Maximum Weekly Average Temperature (MWAT) linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives/Historic Temperature Ranges/Sullivan 2000 Published Temperature Thresholds- Peer Reviewed Literature.
Water Body-specific Information	Data = 6 Years (1994-2000), Data measured at site, Species or indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	MWAT values exceeded criteria for sub-lethal effects (10 to 20% reduced growth) in the watershed at all or most locations. Maximum temperatures in one year at 15 locations was higher than 24 Degrees = Lethal.
Spatial representation	62 Locations over the 300 square mile area in the Gualala River Watershed.
Temporal representation	Data collected over 6 Years, with at least two years at 27 locations.
Data type	Numerical data.
Use of standard method	Unknown.
Potential Source(s) of Pollutant	Streambank modification/destabilization, Removal of riparian vegetation, Nonpoint sources.
Alternative Enforceable Program	
RWQCB Recommendation	Watch List: The RWQCB feels there is insufficient information existing to list. The Maximum Weekly Average Temperature (MWAT) and the Maximum Weekly Maximum Temperature (MWMT) values for the Gualala River Watershed exceed the criteria values (Sullivan, 2000 Published Temperature Thresholds -Peer Reviewed Literature), that were used to translate the narrative Water Quality Objective for Region 1 for Temperature.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data exhibited sufficient spatial and temporal coverage. 2. Beneficial uses apply to the water body. 3. Water quality standard used is applicable. 4. The evaluation guideline used to interpret narrative water quality

standards is adequate.
5. Data are numerical.
6. Other water body- or site-specific information including the effects of season and age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Jacoby Creek Sediment

Water Body	Jacoby Creek
Stressor/Media/Beneficial Use	Sediment/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight and a QA Plan was submitted as a reference.
Linkage between measurement endpoint and benefical use or standard	Turbidity linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality objectives for Sediment, settable material and turbidity. Published Sedimentation Thresholds- Peer Reviewed Literature.
Water Body-specific Information	Data = 10 Years (1992-2002). Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	Turbidity levels throughout the watershed from 1992- 2002, are recorded at levels detrimental to salmonids. Up to 1.6 feet of aggradation from 1992 to 2002 based on cross section surveys.
Spatial representation	Targeted Sites, 10 along the creek.
Temporal representation	Data collected over 10 years in 1992- 2002.
Data type	Numerical Data.
Use of standard method	Protocol/QAPP developed by Salmon Forever using EPA and USGS standard methods.
Potential Source(s) of Pollutant	Silviculture, Road construction, Land development, Nonpoint source, Natural sources.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. Most of the water quality measurements exceeded the water quality

standard. The staff confidence that standards were exceeded is high. Based on the review of available information the Beneficial Uses of Jacoby Creek are impacted due to sedimentation. The data have exceeded the criteria (Published Sedimentation Thresholds-Peer Reviewed Literature), used to translate the narrative Basin Plan Water Quality Objectives for sediment.

Region 1: Laguna de Santa Rosa
Chromium, Copper, and Zinc

Water Body	Laguna de Santa Rosa
Stressor/Media/Beneficial Use	Chromium, Copper, and Zinc
Data quality assessment. Extent to which data quality requirements met.	
Linkage between measurement endpoint and benefical use or standard	
Utility of measure for judging if standards or uses are not attained	
Water Body-specific Information	
Data used to assess water quality	Available copper, chromium, and zinc water quality and sediment data, including additional (new) data has submitted by the City of Santa Rosa collected from Santa Rosa Creek and Laguna de Santa Rosa. Comparison of these data to applicable criteria (maximum contaminant level, an agricultural criterion, public health goals, aquatic life criterion, and California Toxic Rule criteria) shows that all available data are below applicable criteria. The RWQCBs previous assessment did not include comparison to CTR. The City of Santa Rosa continues to monitor both Santa Rosa Creek and the Laguna de Santa Rosa for these metals, and the RWQCB will continue to review the results when available.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Exclude from Listing.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be excluded from Listing. This conclusion is based on the staff findings that none of the water quality measurements exceeded the applicable water quality criteria.

Region 1: Laguna de Santa Rosa
Low Dissolved Oxygen

Water Body	Laguna de Santa Rosa
Stressor/Media/Beneficial Use	Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	Dissolved Oxygen linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	WQO, RWQCB's Basin Plan Objective for Dissolved Oxygen.
Water Body-specific Information	Data = 5-6 Years (1995-2001), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	Water Chemistry Total Samples n=1792, with 1612 below the 7.0 mg/L Objective.
Spatial representation	Data collected at 4 attainment points along the Water body.
Temporal representation	Data collected over 4 seasons.
Data type	Numerical data.
Use of standard method	City of Santa Rosa Monitoring, North Coast RWQCB monitoring.
Potential Source(s) of Pollutant	Nonpoint source, Point Source, Internal nutrient cycling.
Alternative Enforceable Program	
RWQCB Recommendation	List
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. A TMDL was completed for dissolved oxygen in 1995, but recent data show that water quality objectives are not yet being met, and additional measures need to be taken to address this problem. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 1: Laguna de Santa Rosa
Low Dissolved Oxygen

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Laguna de Santa Rosa
Nutrients

Water Body	Laguna de Santa Rosa
Stressor/Media/Beneficial Use	Nutrients/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	Nitrogen and Phosphorus linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	USEPA Criterion, WQO.
Water Body-specific Information	Data = 5-6 Years (1995-2001), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	Water Chemistry Total Samples n=10, 9 exceeding.
Spatial representation	Targeted Sites, 10 along the creek.
Temporal representation	Data collected over 4 seasons.
Data type	Numerical data.
Use of standard method	USEPA Standards, and Standard Methods for examination of Wastewater and Water.
Potential Source(s) of Pollutant	Point source, Nonpoint source, Internal nutrient cycling.
Alternative Enforceable Program	
RWQCB Recommendation	List
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the effects of season and age of the data were considered. Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Laguna de Santa Rosa
Diazinon

Water Body	Laguna de Santa Rosa
Stressor/Media/Beneficial Use	Diazinon
Data quality assessment. Extent to which data quality requirements met.	
Linkage between measurement endpoint and benefical use or standard	
Utility of measure for judging if standards or uses are not attained	
Water Body-specific Information	
Data used to assess water quality	Brush Creeks in November of 1999 by the City of Santa Rosa were non-detect for all pesticides, including diazinon. Presented in the RWQCB November 16, 2002 303(d) List Update Recommendations report, a 1997 Department of Pesticides Regulations study reported that two of the fifty two samples from the Russian River above the reporting limit, at concentrations above that believed to be detrimental to freshwater organisms. The RWQCB recommends placing the Russian River watershed on the Watch List for diazinon, but not specifying individual tributaries.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Exclude from Listing.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be excluded from Listing. This conclusion is based on the staff findings that only two of the water quality measurements exceeded the applicable water quality criteria. The RWQCB recommends placing the Russian River watershed on the Watch List for diazinon, but not specifying individual tributaries.

Region 1: Mad River Temperature

Water Body	Mad River
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	MWAT linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives/Historic Temperature Ranges/Sullivan 2000 Published Temperature Thresholds- Peer Reviewed Literature.
Water Body-specific Information	Data = 4 years (97-2001), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	MWAT values at all 11 locations exceeded 20 degrees and are higher than the criteria for sub-lethal effects (10 to 20% reduced growth). Maximum temperatures at most of the 11 locations were higher than 24 Degrees (= Lethal) in most years.
Spatial representation	Targeted 11 sites along the 503 sq. miles of the creek.
Temporal representation	Data collected over 4 years. Data was available from 11 locations, with at least 2 years of record at most locations.
Data type	Numerical data.
Use of standard method	Monitoring was conducted as part of the permitting process from 1997-2000).
Potential Source(s) of Pollutant	Flow regulation/modification, Removal of riparian vegetation, Habitat modification, Nonpoint sources.
Alternative Enforceable Program	
RWQCB Recommendation	Watch List: The RWQCB feels there is insufficient information existing to list. The Maximum Weekly Average Temperature (MWAT) and the Maximum Weekly Maximum Temperature (MWMT) values for the Mad River Watershed exceed the criteria values (Sullivan, 2000 Published Temperature Thresholds -Peer Reviewed Literature), that were used to translate the narrative Water Quality Objective for Region 1 for Temperature.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data exhibited sufficient spatial and temporal coverage. 2. Beneficial uses apply to the water body.

3. Water quality standard used is applicable.
4. The evaluation guideline used to interpret narrative water quality standards is adequate.
5. Data are numerical.
6. Other water body- or site-specific information including the effects of season and age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Mattole River Sedimentation

Water Body	Mattole River
Stressor/Media/Beneficial Use	Sedimentation and Temperature/Water/Cold Freshwater Habitat; Spawning, Reproduction, and/or Early Development; Rare, Threatened, or Endangered Species.
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC plan were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	In-stream sediment indicators linked to salmonid requirements. Temperature thresholds (MWAT) linked to salmonid sensitive life-stage requirements.
Utility of measure for judging if standards or uses are not attained	Basin Plan water quality objectives for sediment, settleable solids, and turbidity; published sediment thresholds from peer reviewed literature, aerial photo interpretation. Basin Plan water quality objective for temperature; Sullivan, et al 2000 published temperature thresholds, stream temperature modeling.
Water Body-specific Information	Analysis of 1941 to 2000 aerial photo sets. 2002 road and stream survey data. 1994-2001 stream temperature data. Riparian vegetation conditions throughout entire watershed. Thermal infrared survey of entire mainstem and six large tributaries. Water temperature data collected every 1-1.5 hours throughout summer.
Data used to assess water quality	Stream substrate parameters. Channel morphology responsive/vulnerable to increased flows and input of upslope sediment. Water temperature data collected every 1-1.5 hours throughout summer.
Spatial representation	Targeted 40 road and stream surveys; 44 square miles of aerial photo analysis, complete representation of current and potential stream shade conditions, thermal infrared survey of entire mainstem and six large tributaries; well distributed stream temperature monitoring.
Temporal representation	Aerial photo data collected represents a 60 year period, stream temperature data collected over seven years.
Data type	Numeric data, aerial photo analysis, measured instream parameters, remotely gathered thermal infrared and vegetation coverages.
Use of standard method	Forest Science Project stream temperature data collection protocol, WA State Watershed Analysis Manual.
Potential Source(s) of Pollutant	Road construction, Timber harvest activity, Livestock grazing-riparian/upland, and Natural sources, Silviculture, Logging Road Construction.
Alternative Enforceable Program	None.
RWQCB Recommendation	Maintain Listing.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the

water body should not be removed from the section 303(d) list because applicable water quality standards are still exceeded and a pollutant contributes to or causes the problem. Maintain Listing. Original Listing Date:1993. Estimated TMDL Completion Date:1/06.

Region 1: Navarro River
Temperature

Water Body	Navarro River
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Noyo River Sedimentation/Siltation

Water Body	Noyo River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Redwood Creek
Temperature

Water Body	Redwood Creek
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	MWAT linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives/Historic Temperature Ranges/Sullivan 2000 Published Temperature Thresholds- Peer Reviewed Literature.
Water Body-specific Information	Data = 7 years (94-2001), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	MWAT values at 23 of the 31 locations exceeded criteria (Sullivan 2000) for 14.8 degrees C. 10 locations exceeded the criteria sub-lethal effects (10% reduced growth) 17 degrees C. 5 locations in the estuary, 3 locations in the mainstem, and 1 on Lacks Creek exceeded the criteria available for (20% reduced growth) sub-lethal effects. Maximum temperatures at 6 locations were higher than 24 Degrees Celsius (= Lethal).
Spatial representation	Targeted sites 31 locations over the 294 sq. miles of the creek.
Temporal representation	Data was collected over 7 years (94-2001), with at least two years of record at 20 locations.
Data type	Numerical data.
Use of standard method	USGS sampling.
Potential Source(s) of Pollutant	Landslides in the Redwood Creek Watershed/Floods/Erosion of decommissioned roads, Removal of Riparian Vegetation, Streambank Modification/Destabilization, Erosion/Siltation, Nonpoint Sources.
Alternative Enforceable Program	
RWQCB Recommendation	Watch List: The RWQCB feels there is insufficient information existing to list. The Maximum Weekly Average Temperature (MWAT) and the Maximum Weekly Maximum Temperature (MWMT) values for the Ten Mile River Watershed exceed the criteria values (Sullivan, 2000 Published Temperature Thresholds-Peer Reviewed Literature), that were used to translate the narrative Water Quality Objective for Region 1 for Temperature.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that:

Region 1: Redwood Creek
Temperature

1. The data exhibited sufficient spatial and temporal coverage.
2. Beneficial uses apply to the water body.
3. Water quality standard used is applicable.
4. The evaluation guideline used to interpret narrative water quality standards is adequate.
5. Data are numerical.
6. Other water body- or site-specific information including the effects of season and age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Redwood Creek Sedimentation

Water Body	Redwood Creek
Stressor/Media/Beneficial Use	Sedimentation/Water/Cold Freshwater Habitat; Spawning, Reproduction, and/or Early Development; Rare, Threatened, or Endangered Species.
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC plan were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	In-stream sediment indicators linked to salmonid habitat requirements.
Utility of measure for judging if standards or uses are not attained	Basin Plan water quality objectives for sediment, settleable solids, and turbidity; published sediment thresholds from peer reviewed literature.
Water Body-specific Information	1975-1995: particle size distribution data; 1977-1999: channel morphology data; 1973-2000 suspended sediment data; 1999 turbidity data; 2002 road inventory data.
Data used to assess water quality	Fine sediment loads exceed TMDL thresholds, particularly in the lower watershed. Channel morphology responsive/ vulnerable to increased flows and input of upslope sediment. Suspended sediment loads do not consistently meet TMDL threshold. Road densities throughout basin exceed densities protective of water quality. 15% of roads have been decommissioned, and 6% have been upgraded.
Spatial representation	Targeted 4 to 15 sites (depending on variable) throughout 282 square mile watershed.
Temporal representation	Data collected over 25 year period.
Data type	Numerical data.
Use of standard method	USGS sampling. Peer-reviewed monitoring/sampling techniques.
Potential Source(s) of Pollutant	Harvest-related erosion, Road-related surface erosion, gullies, Road crossing failures, Natural landslides, Logging road construction, Natural sources, Erosion/Siltation.
Alternative Enforceable Program	None.
RWQCB Recommendation	Maintain Listing.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be removed from the section 303(d) list because applicable water quality standards are still exceeded and a pollutant contributes to or causes the problem. Original Listing Date:1993 Estimated TMDL Completion Date:7/07

Region 1: Russian River
Pathogens

Water Body	Russian River
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	Pathogens/Bacteria (i.e. Fecal coliform) to REC-1 Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives.
Water Body-specific Information	Data = 15 Years (1987-2001), Data measured at site, Species or indicator present at site, Environmental conditions considered at sites.
Data used to assess water quality	Bacterial Data : 72% of the fecal coliform data from 1986-1994 at Healdsburg Memorial Beach exceed the WQO. 75% of the fecal coliform data from 1992-1994 at Monte Rio beach exceed the WQO.
Spatial representation	Healdsburg Memorial Beach and Monte Rio Beach areas, sample sites unknown.
Temporal representation	All of the Samples were collected in the summer months.
Data type	Numerical data.
Use of standard method	Unknown.
Potential Source(s) of Pollutant	Point sources, Nonpoint sources.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. Data has shown these water bodies have exceeded the WQO for pathogens. List the Monte Rio area from the confluence of Dutch Bill Creek to the confluence of Fife Creek. Also list Healdsburg Memorial Beach from the Highway 101 crossing to the railroad crossing upstream of the beach. This conclusion is based on the staff findings that: 1. The data exhibited sufficient spatial and temporal coverage. 2. Beneficial uses apply to the water body. 3. Water quality standard used is applicable. 4. The evaluation guideline used to interpret narrative water quality standards is adequate. 5. Data are numerical. 6. Other water body- or site-specific information including the age of the data were considered.

Region 1: Russian River
Pathogens

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Russian River
Temperature

Water Body	Russian River
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	MWAT linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives/Historic Temperature Ranges/Sullivan 2000 Published Temperature Thresholds- Peer Reviewed Literature.
Water Body-specific Information	Data = 5 years (1997-2001), Data measured at site, Species or indicator present at site , Environmental conditions considered at site.
Data used to assess water quality	All 26 locations had MWAT values exceeding the (Sullivan 2000) criteria of 14.8 and 17 Degrees, used to translate the narrative WQO for temperature.
Spatial representation	26 Site locations in the Russian River Watershed.
Temporal representation	More than one season for 5 years.
Data type	Numerical data.
Use of standard method	Unknown.
Potential Source(s) of Pollutant	Flow regulation/modification, Removal of riparian vegetation, Habitat Modification, Nonpoint Sources.
Alternative Enforceable Program	
RWQCB Recommendation	Watch List: The RWQCB feels there is sufficient information and recommends to list this water body. The Maximum Weekly Average Temperature (MWAT) and the Maximum Weekly Maximum Temperature (MWMT) values for the Russian River Watershed exceed the criteria values (Sullivan, 2000 Published Temperature Thresholds- Peer Reviewed Literature) that were used to translate the narrative Water Quality Objective for Region 1 for Temperature.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data exhibited sufficient spatial and temporal coverage. 2. Beneficial uses apply to the water body. 3. Water quality standard used is applicable. 4. The evaluation guideline used to interpret narrative water quality standards is adequate.

5. Data are numerical.
6. Other water body- or site-specific information including the age of the data were considered.

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Santa Rosa Creek
Pathogens

Water Body	Santa Rosa Creek
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	Pathogens/Bacteria (i.e. E. coli.) linked to REC-1 Beneficial Use.
Utility of measure for judging if standards or uses are not attained	CA. Draft DHS Guidance for Freshwater Beaches, Swimming Advisory Posting.
Water Body-specific Information	Data = 1-23 Years (1979/1980 and 2001), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	Bacterial Data n=38, 19 exceeding draft DHS Guidance standards NOT enough data to show exceedance of REC-1 WQO -Bacteria, but enough to show exceedance of the DHS guidance. The DHS guidance for fresh water beaches, which was used to post a swimming advisory for this water body.
Spatial representation	Targeted Sites, 12 along the creek.
Temporal representation	Data collected over 12 days in June/July 2001 and also during 4 separate months in 1979/1980.
Data type	Numerical data.
Use of standard method	City of Santa Rosa and Draft CA. State DHS Guidance for Fresh Water Beaches.
Potential Source(s) of Pollutant	Point sources and Nonpoint sources.
Alternative Enforceable Program	
RWQCB Recommendation	List
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list. This conclusion is based on the staff findings that: 1. The data exhibited sufficient spatial and temporal coverage. 2. The evaluation guideline used is adequate. A Swimming Advisory for this waterbody is in effect, based on the use of this Draft CA. DHS Guidance for Fresh Water Beaches, impacting the Beneficial Use. There was not enough data to show exceedances of REC-1, WQO- Bacteria. 3. Data are numerical. 4. Standard methods were used. 5. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the DHS guidance. The staff confidence that standards were exceeded in high.

Region 1: Santa Rosa Creek
Diazinon

Water Body	Santa Rosa Creek
Stressor/Media/Beneficial Use	Diazinon
Data quality assessment. Extent to which data quality requirements met.	
Linkage between measurement endpoint and benefical use or standard	
Utility of measure for judging if standards or uses are not attained	
Water Body-specific Information	
Data used to assess water quality	Brush Creeks in November of 1999 by the City of Santa Rosa were non-detect for all pesticides, including diazinon. Presented in the RWQCB November 16, 2002 303(d) List Update Recommendations report, a 1997 Department of Pesticides Regulations study reported that two of the fifty two samples from the Russian River above the reporting limit, at concentrations above that believed to be detrimental to freshwater organisms. The RWQCB recommends placing the Russian River watershed on the Watch List for diazinon, but not specifying individual tributaries.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Exclude from Listing.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be excluded from Listing. This conclusion is based on the staff findings that none of the water quality measurements exceeded the applicable water quality criteria. The RWQCB recommends placing the Russian River watershed on the Watch List for diazinon, but not specifying individual tributaries. The tributaries of the Russian River should not be placed on the Monitoring List. The Russian River should be on the Monitoring List for diazinon.

Region 1: Santa Rosa Creek
Chromium, Copper, and Zinc

Water Body	Santa Rosa Creek
Stressor/Media/Beneficial Use	Chromium, Copper, and Zinc
Data quality assessment. Extent to which data quality requirements met.	
Linkage between measurement endpoint and benefical use or standard	
Utility of measure for judging if standards or uses are not attained	
Water Body-specific Information	
Data used to assess water quality	Available copper, chromium, and zinc water quality and sediment data, including additional (new) data has submitted by the City of Santa Rosa collected from Santa Rosa Creek and Laguna de Santa Rosa. Comparison of these data to applicable criteria (maximum contaminant level, an agricultural criterion, public health goals, aquatic life criterion, and California Toxic Rule criteria) shows that all available data are below applicable criteria. The RWQCBs previous assessment did not include comparison to CTR. The City of Santa Rosa continues to monitor both Santa Rosa Creek and the Laguna de Santa Rosa for these metals, and the RWQCB will continue to review the results when available.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Exclude from Listing.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be excluded from Listing. This conclusion is based on the staff findings that none of the water quality measurements exceeded the applicable water quality criteria.

Region 1: South Fork Eel River
Temperature

Water Body	South Fork Eel River
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: South Fork Eel River
Sedimentation/Siltation

Water Body	South Fork Eel River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: South Fork Trinity River/Hayfork Creek Sedimentation/Siltation

Water Body	South Fork Trinity River/Hayfork Creek
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Stemple Creek/Estero de San Antonio Sediment

Water Body	Stemple Creek/Estero de San Antonio
Stressor/Media/Beneficial Use	Sediment/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	Turbidity linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality objectives for sediment. Published Sedimentation Thresholds- Peer Reviewed Literature.
Water Body-specific Information	Data = 5 Years (1996-2001), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	Have a narrative Objective for Sediment and Turbidity, Have data from 5 years for turbidity measurements. The data have exceeded the criteria (Published Sedimentation Thresholds- Peer Reviewed Literature). used to translate the narrative Basin Plan Water Quality Objectives for Sediment.
Spatial representation	Targeted stations, 3 sites along creek
Temporal representation	Data collected over 5 sampling years.
Data type	Numerical data.
Use of standard method	Dept. Fish and Game.
Potential Source(s) of Pollutant	Soil Erosion, Nonpoint Source.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data exhibited sufficient, insufficient spatial and temporal coverage. 2. The evaluation guideline used to interpret narrative water quality standards is adequate. 3. Data are numerical. 4. Standard methods were used. 5. Other water body- or site-specific information including the effects of season and age of the data were considered. A TMDL was approved in 1997 for this Watershed and "sediment" was inadvertently not included as a stressor in the original 303(d) List, it should have been included. All the elements for sediment are addressed in the 1997 TMDL, but sediment was not listed as a stressor, nutrients were.

Region 1: Stemple Creek/Estero de San Antonio Sediment

RWQCB wants to amend the 303(d) list to include sediment so that the TMDL can be completed. The data have exceeded the criteria (Published Sedimentation Thresholds- Peer Reviewed Literature) used to translate the narrative Basin Plan Water Quality Objectives for sediment.

Region 1: Ten Mile River Sedimentation/Siltation

Water Body	Ten Mile River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Ten Mile River Temperature

Water Body	Ten Mile River
Stressor/Media/Beneficial Use	Temperature/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	MWAT linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives/Historic Temperature Ranges/Sullivan 2000 Published Temperature Thresholds-Peer Reviewed Literature.
Water Body-specific Information	Data = 7 years (93-2000), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	Maximum recorded temperatures did not exceed 24 degrees at any of the locations. 31 out of the 37 locations exceeded the 14.8 criteria (Sullivan 2000). MWAT values at 17 locations exceeded the 17 degree MWAT criteria for sub-lethal effects (10% reduced growth) MWAT values at 3 of the locations exceeded the MWAT criteria for sub-lethal (20% reduced growth).
Spatial representation	Data were available from 37 locations.
Temporal representation	2 years of data were available for all of the 37 locations with the exception of 3 of them. 5 years of data were available from 26 locations.
Data type	Numerical data.
Use of standard method	Unknown.
Potential Source(s) of Pollutant	Streambank modification/destabilization, Removal of riparian vegetation, Habitat modification, Nonpoint sources.
Alternative Enforceable Program	
RWQCB Recommendation	Watch List: The RWQCB feels there is insufficient information existing to list. The Maximum Weekly Average Temperature (MWAT) and the Maximum Weekly Maximum Temperature (MWMT) values for the Ten Mile River Watershed exceed the criteria values (Sullivan, 2000 Published Temperature Thresholds -Peer Reviewed Literature), that were used to translate the narrative Water Quality Objective for Region 1 for Temperature.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data exhibited sufficient spatial and temporal coverage.

2. Beneficial uses apply to the water body.
3. Water quality standard used is applicable.
4. The evaluation guideline used to interpret narrative water quality standards is adequate.
5. Data are numerical.
6. Other water body- or site-specific information including the effects of season and age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 1: Trinity River Sedimentation/Siltation

Water Body	Trinity River
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Region 1: Tule Lake and the Lower Klamath National Wildlife Refuge
pH

Water Body	Tule Lake and the Lower Klamath National Wildlife Refuge
Stressor/Media/Beneficial Use	pH/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data with a QA/QC were given the greatest weight.
Linkage between measurement endpoint and benefical use or standard	pH linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objectives.
Water Body-specific Information	Data = 6 years (1992-1997), Data measured at site, Species or indicator present at Site, Environmental conditions considered at site.
Data used to assess water quality	For the Klamath Straights Data showed in 1996, 10 pH exceedances out of 15 measurements (7.9- 10 range), 1997 data showed 13 pH exceedances out of 15 measurements (8.1 - 10 Range). The 1992-95 data showed 3 exceedances out of 11 samples (4.6- 9.12 range). For the Tule Lake Data showed in 1996 10 pH exceedances out of 15 measurements (7.5 - 10.0 range). 1997 data showed 13 exceedances out of 15 measurements and the 1992-95 the data showed 7 exceedances out of 11 samples (range 5 - 10.2).
Spatial representation	Klamath Straights-sampling station/Tule Lake-Pump D sampling station.
Temporal representation	April through October Data from 1992-1997 for Klamath and Tule Lake.
Data type	Numerical data.
Use of standard method	Unknown.
Potential Source(s) of Pollutant	Nonpoint sources, Internal nutrient cycling.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem. This conclusion is based on the staff findings that: 1. The data exhibited sufficient spatial and temporal coverage. 2. Beneficial uses have been established. 3. Water quality standard used is applicable. 4. Data are numerical. 5. Standard methods were used. 6. Other water body- or site-specific information including the effects of season and age of the data were considered. Most of the water quality measurements exceeded the water quality standard. Data has shown that the pH values exceeded the WQO for pH.

Region 1: Tule Lake and the Lower Klamath National Wildlife Refuge pH

The staff confidence that standards were exceeded is high. List for pH for the portions of Tule Lake and Lower Klamath Lake National Wildlife Refuge in CA.

Region 1: Van Duzen River/Yager Creek Sedimentation/Siltation

Water Body	Van Duzen River/Yager Creek
Stressor/Media/Beneficial Use	Sedimentation-Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	USEPA has approved a TMDL for this water body-pollutant combination.
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	None.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the TMDLs Completed List because a plan to implement the TMDL has not been adopted or approved even though the TMDL has been approved by USEPA.

Water Bodies Proposed for the Monitoring List in Region 1

Water Body	Pollutant/Stressor	Rationale
Alder Creek		
	Sediment and Temperature	Data regarding instream conditions and sediment impact are not available in this watershed. Temperature data for Alder Creek provided by a recent survey (Pjerrou, 2001) indicate that high temperature levels may be a source of impairment of cold water fisheries in Alder Creek. Additional information on the temporal and spatial extent of elevated temperatures, including MWATs, are required to determine the extent of stream temperature impairment. Staff recommends conducting additional instream sediment and temperature assessments of Alder Creek to determine whether spawning and rearing habitat of cold water fisheries and other beneficial uses are impaired due to sedimentation and/or elevated temperatures.
Beith Creek		
	Sediment	Beneficial uses of concern include those associated with cold water fisheries (commercial and sport fishing, spawning, reproduction, and/or early development). Chief threats are sedimentation and increased runoff, and possibly urban runoff (Farhi, 2001) Based on the available information, it is difficult to determine whether the instream sediment conditions are impairing the cold water fishery. Additional information on instream sediment conditions, channel aggradation, and historic and current fish presence/absence is necessary to determine whether water quality objectives are being exceeded and beneficial uses impaired.
Brush Creek		
	Sediment	Data suggests low impact by fine sediments on the streambed. However, further information regarding instream sediment conditions is necessary to verify the transport capacity for Elk Creek and evaluate the conditions of the other southern Mendocino Coast streams. Staff recommends conducting additional instream sediment assessments in these southern Mendocino Coast streams to determine whether spawning and rearing habitat of cold water fisheries and other beneficial uses are impaired due to sediments.
Casper Creek		
	Pathogens	There is not enough data over a 30-day time period to make a determination of water quality objective exceedance for contact recreation, according to Basin Plan water quality objectives. While the results may be due to a residual effect of the sewer line break, the lack of baseline data makes it difficult to determine with any certainty. Given the anecdotal accounts of surfers getting sinusitis/ear infections, staff recommends putting Virgin Creek, Casper Creek, and Pudding Creek on the watch list and conducting baseline monitoring for pathogens to assess whether beneficial uses are threatened or impaired.
Cottaneva Creek		
	Sediment	Information regarding sediment loading, instream conditions, and sediment transport capacity of these streams is insufficient to determine whether beneficial uses are impaired. Staff recommends conducting instream sediment and temperature assessments of these northern Mendocino Coast streams to determine whether beneficial uses are impaired due to sediments.

Water Body	Pollutant/Stressor	Rationale
Dehaven Creek		
	Sediment	Fish population data and timber harvest histories were not available for these watersheds. However, both these streams have been documented to provide historic habitat for coho salmon which are currently absent from the watersheds (Pjerrou, 2001). Due to lack of fish population data, it is difficult to determine whether the instream sediment conditions have impaired the cold water fishery and other beneficial uses. Staff recommends additional research to characterize historic fisheries conditions, as well as obtaining more information on harvest histories and instream conditions necessary for making a beneficial use impairment determination.
East Fork Trinity River		
	Mercury	An assessment of water quality around abandoned mine sites in Trinity County revealed that water quality standards are being met, except at the site of the Altoona mercury mine at the northern end of Trinity County above the East Fork of the Trinity River (Trinity Journal, 2001). A USGS monitoring program, to be completed in 2002, will evaluate the impact of abandoned mines such as the Altoona mine on federal lands in the Trinity River watershed. Staff recommends assessing the results of the study when available to determine whether beneficial uses are impaired by mercury.
Elk Creek		
	Sediment	Data suggests low impact by fine sediments on the streambed. However, further information regarding instream sediment conditions is necessary to verify the transport capacity for Elk Creek and evaluate the conditions of the other southern Mendocino Coast streams. Staff recommends conducting additional instream sediment assessments in these southern Mendocino Coast streams to determine whether spawning and rearing habitat of cold water fisheries and other beneficial uses are impaired due to sediments.
Greenwood Creek		
	Sediment and Temperature	The most sensitive beneficial uses supported by Greenwood Creek include uses associated with the cold water fishery and municipal and domestic supply. There is conflicting evidence regarding the impairment of Greenwood Creek's instream conditions due to fine sediment. The results of all of these studies are mixed, and seem to indicate, at a minimum, the existence of localized degradation of streambed quality due to fine sediments. At this time, staff is unable to determine the contributing factors causing the impairment to the domestic water supply. It is unclear, based upon the available information, whether upstream timber harvest practices contributed to the bank erosion Furthermore, temperature data from two locations on Greenwood Creek spanning six years of record from 1992 to 2000 indicate that high temperature levels may be a source of impairment of cold water fisheries in Greenwood Creek. Based on the complicated circumstances regarding the drinking water supply, as well as the mixed information on the instream sediment conditions in Greenwood Creek, staff recommends putting Greenwood Creek on the watch list for sediment. Staff also recommends that Greenwood Creek be added to the watch list for temperature, and that additional temperature monitoring at more locations throughout the watershed be conducted to evaluate possible temperature impairment of the cold water fishery.
Grotzman Creek		
	Sediment	Beneficial uses of concern include those associated with cold water fisheries (commercial and sport fishing, spawning, reproduction, and/or early development). Chief threats are sedimentation and increased runoff, and possibly urban runoff (Farhi, 2001) Based on the available information, it is difficult to determine whether the instream sediment conditions are impairing the cold water fishery. Additional information on instream sediment conditions, channel aggradation, and historic and current fish presence/absence is necessary to determine whether water quality objectives are being exceeded and beneficial uses impaired.

Water Body	Pollutant/Stressor	Rationale
Hardy Creek		
	Sediment	Information regarding sediment loading, instream conditions, and sediment transport capacity of these streams is insufficient to determine whether beneficial uses are impaired. Staff recommends conducting instream sediment and temperature assessments of these northern Mendocino Coast streams to determine whether beneficial uses are impaired due to sediments.
Howard Creek		
	Sediment	Information regarding sediment loading, instream conditions, and sediment transport capacity of these streams is insufficient to determine whether beneficial uses are impaired. Staff recommends conducting instream sediment and temperature assessments of these northern Mendocino Coast streams to determine whether beneficial uses are impaired due to sediments.
Humboldt Bay		
	PCBs and Dieldrin	Preliminary 1999-2000 data (SWRCB, 2001) from the State Mussel Watch Program (SMWP) shows levels of dieldrin and Total PCBs in transplanted California Mussels that exceed maximum tissue residue levels for enclosed bays and estuaries (Humboldt Del Norte Pier, C Street, and J Street). Given that the SMWP results are considered preliminary, and the lack of supporting information, staff recommends conducting additional monitoring at these sites for Total PCBs and dieldrin through the State Mussel Watch Program. Additional study may be conducted through the Surface Water Ambient Monitoring Program.
	Sediment	According to accounts submitted for the 303(d) List update, sedimentation from streams which drain into the Bay, such as Jacoby Creek, has led to aggradation near the mouths of these creeks (Friedrichsen, 2001). Further, elevated turbidity and suspended solids can result in decreased light penetration through the water column, impacting aquatic plants such as eelgrass and the organisms dependent on them. It is not clear based on the available information whether water quality objectives are being exceeded and beneficial uses impaired in Humboldt Bay. Staff recommends additional study to determine whether beneficial uses are threatened due to sedimentation in Humboldt Bay.
Juan Creek		
	Sediment	Information regarding sediment loading, instream conditions, and sediment transport capacity of these streams is insufficient to determine whether beneficial uses are impaired. Staff recommends conducting instream sediment and temperature assessments of these northern Mendocino Coast streams to determine whether beneficial uses are impaired due to sediments.
Klamath River		
	Sediment	Beneficial uses may be impaired in portions of the mainstem Klamath (particularly in the lower Klamath River) and tributaries to the Klamath River (Beaver Creek and tributaries to the Klamath below the confluence with the Trinity River have been specifically identified) due to excessive sediment loading and instream sediment conditions. Insufficient information is available at this time to make a listing determination. Staff recommends focused study of the instream sediment conditions to assess beneficial use impairment of the mainstem and tributaries.
Lake Mendocino		
	Mercury	RWQCB staff are scheduled to conduct intensive monitoring of fish tissue mercury levels in Lake Mendocino in cooperation with the Office of Environmental Health and Hazard Assessment. This monitoring is needed in order to evaluate the need for a Health Advisory for mercury contamination of fish tissue in Lake Mendocino. Staff recommends deferring action until this investigation is completed.

Water Body	Pollutant/Stressor	Rationale
Lake Sonoma		
	Mercury	RWQCB staff are scheduled to conduct intensive monitoring of fish tissue mercury levels in Lake Sonoma in cooperation with the Office of Environmental Health and Hazard Assessment. This monitoring is needed in order to evaluate the need for a Health Advisory for mercury contamination of fish tissue in Lake Sonoma. Staff recommends deferring action until this investigation is completed.
Mad River Slough		
	PCBs	Preliminary 1999-2000 data (SWRCB, 2001) from the State Mussel Watch Program (SMWP) shows levels of Total PCBs in transplanted California Mussels sampled at the mouth of Mad River Slough that exceed maximum tissue residue levels for enclosed bays and estuaries. Given that the SMWP results are considered preliminary and there is little supporting information, staff recommends conducting additional monitoring of Mad River Slough for Total PCBs through the State Mussel Watch Program. Additional study may be conducted through the Surface Water Ambient Monitoring Program.
Mallo Pass Creek		
	Sediment	Data suggests low impact by fine sediments on the streambed. However, further information regarding instream sediment conditions is necessary to verify the transport capacity for Elk Creek and evaluate the conditions of the other southern Mendocino Coast streams. Staff recommends conducting additional instream sediment assessments in these southern Mendocino Coast streams to determine whether spawning and rearing habitat of cold water fisheries and other beneficial uses are impaired due to sediments.
Pudding Creek		
	Pathogens	There is not enough data over a 30-day time period to make a determination of water quality objective exceedance for contact recreation, according to Basin Plan water quality objectives. While the results may be due to a residual effect of the sewer line break, the lack of baseline data makes it difficult to determine with any certainty. Given the anecdotal accounts of surfers getting sinusitis/ear infections, staff recommends putting Virgin Creek, Casper Creek, and Pudding Creek on the watch list and conducting baseline monitoring for pathogens to assess whether beneficial uses are threatened or impaired.
Russian River		
	Diazinon	Brush Creeks in November of 1999 by the City of Santa Rosa were non-detect for all pesticides, including diazinon. Presented in the RWQCB November 16, 2002 303(d) List Update Recommendations report, a 1997 Department of Pesticides Regulations study reported that two of the fifty two samples from the Russian River above the reporting limit, at concentrations above that believed to be detrimental to freshwater organisms. The RWQCB recommends placing the Russian River watershed on the Watch List for diazinon, but not specifying individual tributaries. The tributaries of the Russian River should not be placed on the Monitoring List. The Russian River should be on the Monitoring List for diazinon.
Schooner Gulch		
	Sediment	Data suggests low impact by fine sediments on the streambed. However, further information regarding instream sediment conditions is necessary to verify the transport capacity for Elk Creek and evaluate the conditions of the other southern Mendocino Coast streams. Staff recommends conducting additional instream sediment assessments in these southern Mendocino Coast streams to determine whether spawning and rearing habitat of cold water fisheries and other beneficial uses are impaired due to sediments.

Water Body	Pollutant/Stressor	Rationale
Shasta River		
	Sediment and Nutrients	Information on instream sediment and nutrient conditions available during the 303(d) List update process was insufficient to determine whether water quality objectives are being met and beneficial uses supported in the Shasta River. Staff recommends additional assessment of instream sediment conditions, to evaluate whether beneficial uses are currently impaired as a result of excessive sediment.
Tule Lake and Lower Klamath Lake National Wildlife Refuge		
	Low Dissolved Oxygen and Unionized Ammonia	The available data are insufficient to support a listing for numeric objective exceedance. California does not have a standard for un-ionized ammonia. US EPA criteria were used for assessment of available data collected in 1996-1997. The US EPA criteria vary depending on temperature, pH and sensitive species present; the criteria become stricter as pH and temperature increase. Based on the information available during the 303(d) List update period, there are not sufficient data to list these surface waters for un-ionized ammonia. These surface waters should, however, be prioritized for additional un-ionized ammonia testing, including pH and water temperature. Additional work is suggested to evaluate the toxicity of un-ionized ammonia and the protection of the beneficial uses of these water bodies. In addition, the seasonal status of un-ionized ammonia concentrations should be examined.
Usal Creek		
	Sediment	The available data suggest that instream sediment conditions may contribute to a decline in the salmonid fishery. Staff recommends conducting additional instream monitoring and fish population surveys to determine whether spawning and rearing habitat of cold water fisheries and other beneficial uses are impaired due to sedimentation.
Virgin Creek		
	Pathogens	There is not enough data over a 30-day time period to make a determination of water quality objective exceedance for contact recreation, according to Basin Plan water quality objectives. While the results may be due to a residual effect of the sewer line break, the lack of baseline data makes it difficult to determine with any certainty. Given the anecdotal accounts of surfers getting sinusitis/ear infections, staff recommends putting Virgin Creek, Casper Creek, and Pudding Creek on the watch list and conducting baseline monitoring for pathogens to assess whether beneficial uses are threatened or impaired.
Wages Creek		
	Sediment	Fish population data and timber harvest histories were not available for these watersheds. However, both these streams have been documented to provide historic habitat for coho salmon which are currently absent from the watersheds (Pjerrou, 2001). Due to lack of fish population data, it is difficult to determine whether the instream sediment conditions in Dehaven and Wages Creeks have impaired the cold water fishery and other beneficial uses. Staff recommends additional research to characterize historic fisheries conditions, as well as obtaining more information on harvest histories and instream conditions necessary for making a beneficial use impairment determination.

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