Regional Water Quality Control Board

SAN FRANCISCO BAY REGION (2)

SECTION 303 (d) LIST PROPOSALS

Page left blank intentionally.

Region 2: Arroyo Hondo
Diazinon

Water Body	Arroyo Hondo
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life and Drinking water uses
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Only data of higher overall level of information were used.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life and Drinking water.
Utility of measure for judging if standards or uses are not attained	WQO, Basin Plan.
Water Body-specific Information	This water body was erroneously added to the 1998 as part of the Urban creek listing for Diazinon.
Data used to assess water quality	Listing Factor 3 mistake made in 1998 List. This water body was found to be not part of the Urban Creek tributaries listed on the 1998 list this creek isn't an urban creek at all. Field Reconnaissance in 2001, found this mistake.
Spatial representation	Data was spatially collected.
Temporal representation	Data was temporally collected.
Data type	Numerical data.
Use of standard method	RWQCB methods.
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	Delist.
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 removed from the section 303(d) list because this body was listed as a mistake and never should have been listed as an Urban Creek.

Region 2: Arroyo Las Positas
Diazinon

Water Body	Arroyo Las Positas
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life (MIGR; SPWN; (COLD); (WARM))
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life Uses.
Utility of measure for judging if standards or uses are not attained	WQO, Basin Plan.
Water Body-specific Information	Water Body was added to the Basin Plan in 1995 as part of the Urban Creeks. It should have been listed in 1998, along with the other Urban Creeks for Diazinon.
Data used to assess water quality	List based on the criteria that was used to list Urban creeks in 1998. This water body should have been listed for Diazinon then, however due to an oversight by staff it was left off the 1998 list and should be placed on the 2002 list.
Spatial representation	Data was collected by RWQCB field reconnaissance in 2001.
Temporal representation	Data was collected by RWQCB field reconnaissance in 2001.
Data type	Numerical data.
Use of standard method	RWQCB methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	Unknown.
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 it was an oversight to not list Arroyo Las Positas (13.5 miles) as part of the Urban Creeks in the San Francisco region.

Region 2: Arroyo Mocho
Diazinon

Water Body	Arroyo Mocho
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life (MIGR; SPWN; (COLD); (WARM))
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life Uses.
Utility of measure for judging if standards or uses are not attained	WQO, Basin Plan.
Water Body-specific Information	Water Body was added to the Basin Plan in 1995 as part of the Urban Creeks. It should have been listed in 1998, along with the other Urban Creeks for Diazinon.
Data used to assess water quality	List based on the criteria that was used to list Urban creeks in 1998. This water body should have been listed for Diazinon then, however due to an oversight by staff it was left off the 1998 list and should be placed on the 2002 list.
Spatial representation	Data was collected by RWQCB field reconnaissance in 2001.
Temporal representation	Data was collected by RWQCB field reconnaissance in 2001.
Data type	Numerical data.
Use of standard method	RWQCB methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	Unknown.
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 it was an oversight not to list Arroyo Mocho (28.5 miles) as part of the Urban Creeks in the San Francisco region.

Region 2: Castro Cove, Richmond
Mercury, Selenium, PAHs, Dieldrin

Water Body	Castro Cove, Richmond
Stressor/Media/Beneficial Use	Mercury, Selenium, PAHs, Dieldrin/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC.
Linkage between measurement endpoint and benefical use or standard	Toxicity linked to aquatic life beneficial use.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment chemistry used.
Water Body-specific Information	Data = 1 year.
Data used to assess water quality	Elevated sediment chemistry (ERM quotient), but only 1 sample, 0 and 33% amphipod survival--2 tests, significant urchin toxicity--1/3 samples, no benthic analyses.
Spatial representation	Samples were analyzed from of a number of sites in the Cove. The spatial extent of the chemical and sediment toxicity measurements are presented in the Consolidated Toxic Hot Spots Cleanup Plan.
Temporal representation	Data collected between 9/94- 5/95.
Data type	Numerical data.
Use of standard method	BPTCP methods used.
Potential Source(s) of Pollutant	Point sources and possibly urban runoff.
Alternative Enforceable Program	The Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified. ChevronTexaco has developed a remedial plan that will remove the polluted sediments. The plan was submitted to the RWQCB on June 7, 2002. The company is ready to implement the remedial plan as soon as a final decision on the disposal location of the removed sediments can be made. The company has also committed to spending approximately $16,000,000 to implement the remedial plan and to fulfill their responsibility to address the polluted sediments. The RWQCB staff estimate the cleanup order will be issued within one year.
RWQCB Recommendation	Monitoring 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 Enforceable Program list because applicable water quality standards are exceeded and another program is addressing the problem. The water quality problem is being addressed by ChevronTexaco in partnership with the RWQCB. ChevronTexaco is committed to cleaning up Castro Cove as described in a remediation plan developed with the

RWQCB. The company is in the final stages of developing an enforcement order with the RWQCB to address the polluted sediments. Together they have developed a remedial action plan, which is estimated to cost $16,000,000. This plan would remove polluted sediments from the Castro Cove and stands ready to be implemented as soon as a final decision on the disposal location of the removed sediments can be made.

Region 2: Central Basin, San Francisco
Mercury, PAHs

Water Body	Central Basin, San Francisco
Stressor/Media/Beneficial Use	Mercury, PAHs/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC.
Linkage between measurement endpoint and benefical use or standard	Sediment toxicity linked to aquatic life beneficial uses.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment chemistry used.
Water Body-specific Information	Data = 2 years.
Data used to assess water quality	Slightly elevated sediment chemistry (ERM quotient), only 1 test, significant amphipod toxicity--1/2 tests significant, urchin toxicity--1/2 samples, no benthic analyses.
Spatial representation	Spatial distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Temporal representation	Temporal distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Data type	Numerical data.
Use of standard method	BPTCP methods used.
Potential Source(s) of Pollutant	Not identified.
Alternative Enforceable Program	This site was identified as a moderate priority in the Consolidated Toxic Hot Spots Cleanup Plan. Remediation planning has yet to be completed.
RWQCB Recommendation	Monitoring 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 are applicable and apply to this water body. 4. The evaluation guideline used to interpret narrative water quality standards is adequate. 5. Data are numerical. 6. Standard methods were used.

An adequate amount of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate.

Region 2: Islais Creek
PCBs, Chlordane, Dieldrin, Endosulfan sulfate, PAHs, anthropogenically +

Water Body	Islais Creek
Stressor/Media/Beneficial Use	PCBs, Chlordane, Dieldrin, Endosulfan sulfate, PAHs, anthropogenically enriched Hydrogen sulfide and Ammonia/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
Linkage between measurement endpoint and benefical use or standard	Sediment Toxicity and benthic community effects are linked to aquatic life beneficial uses.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment chemistry used. WQO in the Basin Plan used.
Water Body-specific Information	Data = 3 years (94-97), Data measured at the site, Environmental Conditions considered at site.
Data used to assess water quality	Elevated sediment chemistry (ERM quotient), Significant amphipod toxicity in 3/4 samples (75%), Significant urchin toxicity in 4/5 samples (80%), Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data points in exceedance), the data shows 6/16 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit. Lead, mercury and zinc all consistently exceeded the ERM values at several stations in all three years surveys conducted. Levels of PAHs, PCBs, Chlordane, DDT and Dieldrin were at the highest detected levels at transect sampling stations 1N/S-4N/S with some pollutants in exceedance of the ERMs in 1998 only.
Spatial representation	Data was spatially collected over the length of the Creek.
Temporal representation	Data was collected from 9/94- 9/97.
Data type	Numerical data.
Use of standard method	BPTCP methods used.
Potential Source(s) of Pollutant	Combined Sewer Overflows/Industrial Point Sources.
Alternative Enforceable Program	The Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be

	remediated. Responsible parties have been identified.
RWQCB Recommendation	List: Current application of other regulatory authorities and the effects-based nature of the listing would give this listing a low-priority.
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 pollutants contribute to or cause 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 and are applicable. 4. The evaluation guideline used to interpret narrative water quality standards is adequate. 5. Data are numerical. 6. Standard methods were used. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate. Even though there is an alternative enforceable program in place, corrective actions to remedy the problem have yet to be implemented. Based on the report provided by SFPUC staff recommend that the extent of impairment should include the portion of Islais Creek from the beginning of the creek up to and encompassing study transect sampling stations 1N/S-- 4N/S.

Region 2: Lake Merritt
Trash

Water Body	Lake Merritt
Stressor/Media/Beneficial Use	Trash/Water/Aquatic Habitat and REC uses
Data quality assessment. Extent to which data quality requirements met.	No quality assurance information was provided.
Linkage between measurement endpoint and benefical use or standard	Trash linked to Aquatic Habitat and REC uses.
Utility of measure for judging if standards or uses are not attained	Photographs can indicate gross impacts on beneficial uses and whether standards have been exceeded. Measurements of the amounts of trash can provide a relative measure of the potential for nuisance.
Water Body-specific Information	Photographs were submitted that were taken on one occasion. The data for trash removed from the Lake was collect by Lake Merritt Institute volunteers between 1998 and 2001.
Data used to assess water quality	Lake Merritt volunteers have documented trash removal from the Lake. Large amounts of trash were collected in the Lake as follows: Year — Amount (pounds) 1998 — 30,961 1999 — 39,233 2000 — 40,900 2001 — 20,640 (4 months only) Six photographs were submitted depicting what appeared to be locations in the Lake. The trash included accumulations of plastic bottles, styrofoam cups, paper wrappers, wood debris, aluminum cans, and other unidentifiable debris. A photograph was submitted depicting a dead bird in the lake wrapped in debris. Another bird death is reported as being caused by entanglement in a length of rope.
Spatial representation	Unknown.
Temporal representation	Trash removal data collected monthly over 3 1/3 years. Cannot tell when the bird deaths occurred.
Data type	Both numerical and non-numerical data.
Use of standard method	No methods described.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	Possibly the urban storm water permits.
RWQCB Recommendation	Change in listed water body. Change pollutant from Floating Material to Trash.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body pollutant should be changed in this already listed water body, from Floating Material to Trash.

Region 2: Marina Lagoon (San Mateo Co.)
High Coliform Count

Water Body	Marina Lagoon (San Mateo Co.)
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	High Coliform Counts are linked to REC-1 uses.
Utility of measure for judging if standards or uses are not attained	Basin Plan objectives and Ocean Plan water contact standards used.
Water Body-specific Information	Data = 2 years (98-2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	192 samples for total coliform there were Basin Plan Objectives violated in 1% of the samples. Basin Plan Objectives violated in 50% of samples for total coliform median. Basin Plan Objectives violated in 10% of samples for fecal coliform geomean. Basin Plan Objectives violated in 33% of samples for fecal coliform 90th percentile in dry weather months. Basin Plan Objectives violated for E. coli data in 31% of the samples.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 10/7/98-10/31/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective used is applicable. 5. Data are numerical. 6. Standard methods were used.

7. Other water body- or site-specific information including the effects of season and age of the data were considered.

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

Region 2: Mission Creek
Silver, Chromium, Copper, Mercury, Lead, Zinc, Chlordane, Chlorpyrifos +

Water Body	Mission Creek
Stressor/Media/Beneficial Use	Silver, Chromium, Copper, Mercury, Lead, Zinc, Chlordane, Chlorpyrifos, Dieldrin, Mirex, PCBs, PAHs, anthropogenically enriched Hydrogen sulfide and Ammonia/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
Linkage between measurement endpoint and benefical use or standard	Sediment toxicity and benthic community effects are linked to aquatic life beneficial uses.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment chemistry used.
Water Body-specific Information	Data = 2 years (95-97), Data measured at the site, Environmental Conditions considered at site.
Data used to assess water quality	BPTCP Data: Elevated sediment chemistry (ERM quotient) significant amphipod toxicity, 3/5 tests (60%) significant urchin toxicity, 3/5 samples (60%), relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4/20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit . Lead, mercury, zinc, silver and nickel all exceeded the ERM values at several stations in all three years surveys conducted. Levels of PAHs, PCBs, Chlordane, DDT and Dieldrin were at the highest detected levels at transect sampling stations 1N/S-4N/S with some pollutants in exceedance of the ERMs in 1998 only.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 5/95-4/97.
Data type	Numerical data.
Use of standard method	BPTCP methods used.
Potential Source(s) of Pollutant	Combined Sewer Overflows/Industrial Point Sources.
Alternative Enforceable Program	The Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be

	remediated. Responsible parties have been identified.
RWQCB Recommendation	List: Current application of other regulatory authorities and the effects-based nature of the listing would give this listing a low-priority.
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 pollutants contribute to or cause 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 and are applicable. 4. The evaluation guideline used to interpret narrative water quality standards is adequate. 5. Data are numerical. 6. Standard methods were used. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate. Even though there is an alternative enforceable program in place, corrective actions to remedy the problem have yet to be implemented. Based on the report provided by SFPUC staff recommend that the extent of impairment should include the portion of Mission Creek from the beginning of the creek up to approximately 4th Street (encompassing study transect sampling stations 1N/S-- 4N/S).

Region 2: Oakland Inner Harbor (Fruitvale site)
Chlordane, PCBs

Water Body	Oakland Inner Harbor (Fruitvale site)
Stressor/Media/Beneficial Use	Chlordane, PCBs/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC.
Linkage between measurement endpoint and benefical use or standard	Sediment Toxicity linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (ERM quotient) for sediment used.
Water Body-specific Information	Data = 2 years. Data are 5 years old.
Data used to assess water quality	Slightly elevated sediment chemistry (ERM quotient), but only 1 sample, significant amphipod toxicity 2/2 tests, no significant urchin toxicity 2 tests, no benthic analyses.
Spatial representation	Spatial distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Temporal representation	Data collected during 4/95- 4/97.
Data type	Numerical data.
Use of standard method	BPTCP methods used.
Potential Source(s) of Pollutant	Not identified.
Alternative Enforceable Program	This site was identified as a moderate priority in the Consolidated Toxic Hot Spots Cleanup Plan. Remediation planning has yet to be completed.
RWQCB Recommendation	Monitoring 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 are applicable and apply to this water body. 4. The evaluation guideline used to interpret narrative water quality standards is adequate. 5. Data are numerical. 6. Standard methods were used. An adequate amount of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate.

Region 2: Oakland Inner Harbor (Pacific Dry-dock Yard 1 site)
Copper, Lead, Mercury, Zinc, TBT, ppDDE, PCBs, PAHs, Chlorpyrifos, Chl +

Water Body	Oakland Inner Harbor (Pacific Dry-dock Yard 1 site)
Stressor/Media/Beneficial Use	Copper, Lead, Mercury, Zinc, TBT, ppDDE, PCBs, PAHs, Chlorpyrifos, Chlordane, Dieldrin, Mirex/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC.
Linkage between measurement endpoint and benefical use or standard	Sediment toxicity linked to aquatic life beneficial uses.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment chemistry used.
Water Body-specific Information	Data = 2 years. Data are 5 years old.
Data used to assess water quality	Elevated sediment chemistry (ERM quotient), significant amphipod toxicity 2/4 tests, no significant urchin toxicity (4 tests), no benthic analyses.
Spatial representation	Spatial distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Temporal representation	Data collected during 4/95- 4/97.
Data type	Numerical data.
Use of standard method	BPTCP methods used.
Potential Source(s) of Pollutant	Not identified.
Alternative Enforceable Program	This site was identified as a moderate priority in the Consolidated Toxic Hot Spots Cleanup Plan. Remediation planning has yet to be completed.
RWQCB Recommendation	Monitoring 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 are applicable and apply to this water body. 4. The evaluation guideline used to interpret narrative water quality standards is adequate. 5. Data are numerical. 6. Standard methods were used. An adequate amount of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate.

Region 2: Pacific Ocean at Baker Beach
High Coliform Count

Water Body	Pacific Ocean at Baker Beach
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	USEPA Storet data. QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Total and fecal coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO, Ocean Plan used.
Water Body-specific Information	Data = 11 months (7/97-5/98), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 164 samples total. Ocean Plan objectives violated in 9.7% of the samples for total coliform in dry-weather months. Combined sewer overflow events are not considered because all CSOs in the vicinity have been directed away from Lobos Creek drainage onto Baker Beach.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 7/1/97-5/29/98.
Data type	Numerical data.
Use of standard method	USEPA methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Combined Sewer Overflows.
Alternative Enforceable Program	Unknown.
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 Monitoring List because the data are inadequate to determine if applicable water quality standards are exceeded.

Region 2: Pacific Ocean at China Beach
Beach Closures

Water Body	Pacific Ocean at China Beach
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1.
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Beach Closures linked to REC-1.
Utility of measure for judging if standards or uses are not attained	USEPA Guidance (1996).
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The data show that no beach closures occurred on this beach from 1998-2002. The original RWQCB recommendation to list was based on rainfall and combined sewer overflow events. This data must not be considered since all CSOs in the city are treated and therefore do not result in beach closures. The recommendation was also based on NRDC data which lead the RWQCB to make recommendations on beach advisories or warnings, not actual beach closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Combined Sewer Overflows.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	The SFRWQCB discovered erroneous available information on which they relied to make recommendations to the 303(d) list. Specifically, "Testing the Waters, 2000", authored by the Natural Resources Defense Council (NRDC), intermingled posted beach warnings with beach closures, leading us to make recommendations for listing for beach closures that were based only on beach advisories or warnings. The EPA guidance used in the 303(d) analysis is only pertinent to evaluation of beach closure information, where more than one beach closure per year, or one beach closure over one week duration, both constitute adequate basis for inclusion in the 303(d) list. Therefore, the RWQCB re-examined the original rationale for beach closure-related listings, to verify whether or not the recommendations were made on posted warnings or actual closures. They recommend to exclude Pacific Ocean at China Beach 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 not be placed on the section 303(d) list because

applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Fitzgerald Marine Reserve
High Coliform Count

Water Body	Pacific Ocean at Fitzgerald Marine Reserve
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Total and Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan and Basin Plan used.
Water Body-specific Information	Data = 3 years (5/98-10/00), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 49 samples total. Ocean Plan Objectives violated in 43% of the samples for total coliform in dry-weather months. Basin Plan Objectives were violated in 16% of samples for log mean, and in 73% of samples in dry weather months.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 5/98-10/98, 5/99-10/99 and 5/00-10/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Department. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective 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.

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

Region 2: Pacific Ocean at Fitzgerald Marine Reserve Beach Closures

Water Body	Pacific Ocean at Fitzgerald Marine Reserve
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Basin Plan and Ocean Plan used.
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The information used to recommend this listing from the NRDC report was based on the SWRCB's year 2000 beach advisory postings, and not actual closures. A review of the SWRCB information on San Mateo County beaches shows that the listings were recommended in error. All of the information in the NRDC report was based on SWRCB's year 2000 beach advisory "postings", and not actual closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	We recommend excluding five San Mateo County beaches from the 303(d) list recommendations for beach closures. The RWQCB recommends excluding Pacific Ocean at Fitzgerald Marine Reserve 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Fort Funston Beach
Beach Closures

Water Body	Pacific Ocean at Fort Funston Beach
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Beach Closures linked to REC-1.
Utility of measure for judging if standards or uses are not attained	USEPA Guidance (1996).
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The data show that no beach closures occurred on this beach from 1998-2002. The original RWQCB recommendation to list was based on rainfall and combined sewer overflow events. This data must not be considered since all CSOs in the city are treated and therefore do not result in beach closures. The recommendation was also based on NRDC data which lead the RWQCB to make recommendations on beach advisories or warnings, not actual beach closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	RWQCB methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Combined Sewer Overflows.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	The SFRWQCB discovered erroneous available information on which they relied to make recommendations to the 303(d) list. Specifically, "Testing the Waters, 2000", authored by the Natural Resources Defense Council (NRDC), intermingled posted beach warnings with beach closures, leading us to make recommendations for listing for beach closures that were based only on beach advisories or warnings. The EPA guidance used in the 303(d) analysis is only pertinent to evaluation of beach closure information, where more than one beach closure per year, or one beach closure over one week duration, both constitute adequate basis for inclusion in the 303(d) list. Therefore, the RWQCB re-examined the original rationale for beach closure-related listings, to verify whether or not the recommendations were made on posted warnings or actual closures. They were not made on actual beach closures. They recommend to exclude Pacific Ocean at Fort Funston Beach 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Ocean Beach
Beach Closures

Water Body	Pacific Ocean at Ocean Beach
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Beach Closures linked to REC-1.
Utility of measure for judging if standards or uses are not attained	USEPA Guidance (1996).
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The data show that no beach closures occurred on this beach from 1998-2002. The original RWQCB recommendation to list was based on rainfall and combined sewer overflow events. This data must not be considered since all CSOs in the city are treated and therefore do not result in beach closures. The recommendation was also based on NRDC data which lead the RWQCB to make recommendations on beach advisories or warnings, not actual beach closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	RWQCB methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Combined Sewer Overflows.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	The SFRWQCB discovered erroneous available information on which they relied to make recommendations to the 303(d) list. Specifically, "Testing the Waters, 2000", authored by the Natural Resources Defense Council (NRDC), intermingled posted beach warnings with beach closures, leading us to make recommendations for listing for beach closures that were based only on beach advisories or warnings. The EPA guidance used in the 303(d) analysis is only pertinent to evaluation of beach closure information, where more than one beach closure per year, or one beach closure over one week duration, both constitute adequate basis for inclusion in the 303(d) list. Therefore, the RWQCB had to re-examine the original rationale for beach closure-related listings, to verify whether or not the recommendations were made on posted warnings or actual closures. They were not made on actual closures and they recommend to exclude Pacific Ocean at Ocean Beach 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Pacifica State Beach (Linda Mar or San Ped + High Coliform Count

Water Body	Pacific Ocean at Pacifica State Beach (Linda Mar or San Pedro Beach)
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Total and Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 3 years (1/98-1/01), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 36 wet weather samples. Ocean Plan Objectives violated in 22% of samples for total coliform in wet-weather months. This listing is driven by wet weather only. Ocean Plan objectives violated in 19% of samples for fecal coliform. No exceedances between May and October. Wet weather exceedances.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 1/98-1/01.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical.

Region 2: Pacific Ocean at Pacifica State Beach (Linda Mar or San Ped + High Coliform Count

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.

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

Region 2: Pacific Ocean at Pacifica State Beach (Linda Mar or San Ped + Beach Closures

Water Body	Pacific Ocean at Pacifica State Beach (Linda Mar or San Pedro Beach)
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The data show that since Spring of 1998 no closures at this beach have been reported. The information used to recommend this listing from the NRDC report was based on the SWRCB's year 2000 beach advisory postings, and not actual closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Nonpoint Source.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	A review of the SWRCB information on San Mateo County beaches shows that the listings were recommended in error. All of the information in the NRDC report was based on SWRCB's year 2000 beach advisory "precautionary postings", and not actual closures. As such, the RWQCB recommends excluding five San Mateo County beaches from the 303(d) list recommendations for beach closures. The RWQCB recommends excluding Pacific Ocean at Pacifica State Beach 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Pillar Point Beach
Beach Closures

Water Body	Pacific Ocean at Pillar Point Beach
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO, Ocean Plan.
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The information used to recommend this listing from the NRDC report was based on the SWRCB's year 2000 beach advisory postings, and not actual closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	A review of the SWRCB information on San Mateo County beaches shows that the listings were recommended in error. All of the information in the NRDC report was based on SWRCB's year 2000 beach advisory "precautionary postings", and not actual closures. As such, the RWQCB recommends excluding five San Mateo County beaches from the 303(d) list recommendations for beach closures. The RWQCB recommends excluding Pacific Ocean at Pillar Point Beach 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Pillar Point Beach
High Coliform Count

Water Body	Pacific Ocean at Pillar Point Beach
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Total and Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 3 years (5/98-10/00), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 143 samples total. Ocean Plan objectives violated in 40% of samples for total coliform in dry-weather months. Ocean Plan objectives violated in 9% of the samples for log mean and 35% of the samples for fecal coliform in dry weather months.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 5/98-10/98, 5/99-10/99 and 5/00-10/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective 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.

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

Region 2: Pacific Ocean at Rockaway Beach
High Coliform Count

Water Body	Pacific Ocean at Rockaway Beach
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Total and Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 1 year (2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 23 samples total. Ocean Plan objectives violated in 13% of samples for total coliform in dry-weather months.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 5/00-10/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective 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.

Region 2: Pacific Ocean at Rockaway Beach
High Coliform Count

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate.

Region 2: Pacific Ocean at San Gregorio Beach
High Coliform Count

Water Body	Pacific Ocean at San Gregorio Beach
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Total and Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used
Water Body-specific Information	Data = 3 years (98-2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 56 samples for total coliform, 23 samples for fecal coliform. Ocean Plan objectives violated in 5% of samples for total coliform in combined dry- and wet-weather months. Ocean Plan objectives violated in 8% samples for fecal coliform, wet-weather only. No exceedances between May and October. Listing driven by wet weather exceedances.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 9/98-3/01.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 Monitoring List because the data are inadequate to determine if applicable water quality standards are exceeded.

Region 2: Pacific Ocean at Sharp Park Beach
Beach Closures

Water Body	Pacific Ocean at Sharp Park Beach
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Beach Closures linked to REC-1.
Utility of measure for judging if standards or uses are not attained	USEPA Guidance (1996)
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The information used to recommend this listing from the NRDC report was based on the SWRCB's year 2000 beach advisory postings, and not actual closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	RWQCB methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	A review of the SWRCB information on San Mateo County beaches shows that the listings were recommended in error. All of the information in the NRDC report was based on SWRCB's year 2000 beach advisory "precautionary postings", and not actual closures. As such, the RWQCB recommends excluding five San Mateo County beaches from the 303(d) list recommendations for beach closures. The RWQCB recommends excluding Pacific Ocean at Sharp Park Beach 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Surfer's Beach
Total Coliform

Water Body	Pacific Ocean at Surfer's Beach
Stressor/Media/Beneficial Use	Total Coliform/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Total and Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 4 years (97-2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 134 total coliform samples, 126 fecal coliform samples. Ocean Plan objectives violated in 5% samples for total coliform in combined dry-weather and wet-weather months. Ocean Plan objectives violated in 9% of samples for fecal coliform in combined wet-dry weather. No exceedances between May and October. Listing driven by wet weather only.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 7/97-1/01.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 Monitoring List because the applicable water quality standards are not exceeded.

Region 2: Pacific Ocean at Surfer's Beach
Beach Closures

Water Body	Pacific Ocean at Surfer's Beach
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 2000 Beach closure data.
Data used to assess water quality	The information used to recommend this listing from the NRDC report was based on the SWRCB's year 2000 beach advisory postings, and not actual closures.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	A review of the SWRCB information on San Mateo County beaches shows that the listings were recommended in error. All of the information in the NRDC report was based on SWRCB's year 2000 beach advisory "precautionary postings", and not actual closures. As such, the RWQCB recommends excluding five San Mateo County beaches from the 303(d) list recommendations for beach closures. The RWQCB recommends excluding Pacific Ocean at Surfer's Beach 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) list because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Pacific Ocean at Venice Beach
High Coliform

Water Body	Pacific Ocean at Venice Beach
Stressor/Media/Beneficial Use	High Coliform/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 2 years (98-2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 30 samples. Ocean Plan violated in 13% of samples for total coliform in dry-weather months.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 9/28/98-10/31/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective 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.

Region 2: Pacific Ocean at Venice Beach
High Coliform

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate.

Region 2: Pacific Ocean at Venice Beach
Beach Closures

Water Body	Pacific Ocean at Venice Beach
Stressor/Media/Beneficial Use	Beach Closures/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Fecal Coliform linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Ocean Plan used.
Water Body-specific Information	Data = 2000 Beach closure data. Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	The beach closures were based on high coliform counts. Percent exceedances were calculated for the maximum, median, and geomean Basin Plan and Ocean Plan Objectives. There were exceedances of the objectives, and consistent with USEPA guidance (1996), the beach is recommended to be listed.
Spatial representation	Data was spatially collected.
Temporal representation	Data was temporally collected.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	
RWQCB Recommendation	A review of the SWRCB information on San Mateo County beaches shows that the listings were recommended in error. All of the information in the NRDC report was based on SWRCB's year 2000 beach advisory "precautionary postings", and not actual closures. As such, the RWQCB recommends excluding five San Mateo County beaches from the 303(d) list recommendations for beach closures. The RWQCB recommends excluding Pacific Ocean at Surfer's Beach 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 not be placed on the section 303(d) list because applicable water quality standards are not exceeded. This water body should be excluded from the 303(d) List, because the indicator used did not characterize beach conditions or represent standards exceedances.

Region 2: Petaluma River
Diazinon

Water Body	Petaluma River
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic life (WARM; MIGR)
Data quality assessment. Extent to which data quality requirements met.	Abelli-Amen, Petaluma Tree Planters data used. QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG Acute Criterion, WQO
Water Body-specific Information	Data = 4 months (7/98-11/98), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 36 samples total. CDFG acute criteria for Diazinon was violated in 33% of the samples. The criteria was used to determine the exceedance of the WQO.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 7/98-11/98.
Data type	Numerical data.
Use of standard method	Abelli-Amen, Petaluma Tree Planters, RWQCB methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	Unknown.
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.

Region 2: Petaluma River
Diazinon

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

Region 2: Petaluma River (tidal portion)
Nickel

Water Body	Petaluma River (tidal portion)
Stressor/Media/Beneficial Use	Nickel/Water/Aquatic Life (WARM, MIGR)
Data quality assessment. Extent to which data quality requirements met.	Used Regional Monitoring Program (RMP) and Special TMDL study QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Nickel linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CTR, WQO Basin Plan.
Water Body-specific Information	Data = 8 years (93-2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Using the CTR, there have been 4 exceedances since 1993, two were twice the Basin Plan Objective amounts.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 3/93-4/01.
Data type	Numerical data.
Use of standard method	Regional Monitoring Program (RMP) methods.
Potential Source(s) of Pollutant	Municipal Point Sources, Urban Runoff/Storm Sewers, Atmospheric Deposition.
Alternative Enforceable Program	Unknown
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.

Region 2: Petaluma River (tidal portion)
Nickel

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate. List the Petaluma River (tidal portion) for nickel.

Region 2: Petaluma River (tidal portion)
Copper

Water Body	Petaluma River (tidal portion)
Stressor/Media/Beneficial Use	Copper/Water/Aquatic Life (WARM, MIGR)
Data quality assessment. Extent to which data quality requirements met.	Used Regional Monitoring Program (RMP) and Special TMDL study QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Copper linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO Basin Plan used.
Water Body-specific Information	Data = 8 years (93-2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	There were 15 exceedances since 1993. New information sent to the SWRCB in a memo on 2/26/02 changes this finding. The modified rationale, based on water effect ratio (WER) information, shows that copper levels are below applicable thresholds of impairment in the Petaluma River (tidal portion). Available water effect ratio (WER) data support the RWQCB recommendation to de-list copper.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 3/93-4/01.
Data type	Numerical data.
Use of standard method	Regional Monitoring Program (RMP) methods.
Potential Source(s) of Pollutant	Municipal Point Sources, Urban Runoff/Storm Sewers, Atmospheric Deposition.
Alternative Enforceable Program	Unknown.
RWQCB Recommendation	Exclude from the List. This listing was made in the Draft Staff report. However a memo sent on 2/26/02 made mention that the RB no longer wishes to list the mouth of the Petaluma river for copper. This finding to withdraw the recommendation is based on the modified rationale to list, based on Water Effect Ratio (WER) information. The new information shows the copper levels are below the threshold for exceedance, there is no need for the river to be listed.
SWRCB Staff Recommendation	Exclude from the List. SWRCB staff agrees with the RWQCB recommendation to withdraw this listing for 2002 due to new WER information.

Region 2: Peyton Slough
Silver, Cadmium, Copper, Selenium, Zinc, PCBs, Chlordane, ppDDE, Pyren +

Water Body	Peyton Slough
Stressor/Media/Beneficial Use	Silver, Cadmium, Copper, Selenium, Zinc, PCBs, Chlordane, ppDDE, Pyrene/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Sediment toxicity linked to the aquatic life beneficial use. Benthic community effects are direct measures of the aquatic life beneficial use.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment chemistry used.
Water Body-specific Information	Data = 2 years (95-97), Data measured at the site, Environmental Conditions considered at site.
Data used to assess water quality	Elevated sediment chemistry (ERM quotient), significant amphipod toxicity in 4/5 samples (80%), significant urchin toxicity--4/5 samples (80%), relative benthic index = 0.36, 0.51, 0.34 (3 benthic gradient samples).
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected, from 5/95-4/97.
Data type	Numerical data.
Use of standard method	BPTCP methods.
Potential Source(s) of Pollutant	Industrial Point Sources.
Alternative Enforceable Program	Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.
RWQCB Recommendation	List: Current application of other regulatory authorities and the effects-based nature of the listing would give this listing a low-priority.
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 Enforceable Program list because applicable water quality standards are exceeded and another program is addressing the problem.

Region 2: Peyton Slough
Silver, Cadmium, Copper, Selenium, Zinc, PCBs, Chlordane, ppDDE, Pyren +

The water quality problem is being addressed by implementation of the Consolidated Toxic Hot Spots Cleanup Plan using Cleanup and Abatement Orders.

Region 2: Pomponino Creek
High Coliform Count

Water Body	Pomponino Creek
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	High Coliform Counts are linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Basin Plan used.
Water Body-specific Information	Data = 5 months (2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 44 samples for total coliform, 23 samples for fecal coliform, 21 E. coli samples. Basin Plan objectives violated in 64% samples for total coliform median. Basin Plan objectives violated in 3% samples for fecal coliform geomean. Basin Plan Objectives violated in 17% samples for fecal coliform in dry-weather months. E. coli data showed Basin Plan objectives violated in 5% samples for all the beach uses in dry weather months.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 6/12/00-10/31/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective used is applicable. 5. Data are numerical.

6. Standard methods were used.
7. Other water body- or site-specific information including the effects of season and age of the data were considered.

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

Region 2: San Gregorio Creek
High Coliform Count

Water Body	San Gregorio Creek
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	High Coliform Counts are linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Basin Plan used.
Water Body-specific Information	Data = 2 years (98-2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 56 samples for total coliform, 23 samples for fecal coliform, 22 samples for E. coli. Basin Plan objectives violated in 2% samples for total coliform maximum. Objectives violated in 73% samples for total coliform median. Basin Plan objectives violated in 26% samples for fecal coliform geomean. Objectives violated in 43% samples for fecal coliform in dry-weather months. E. coli data show 45% samples for total coliform maximum designated beach violated the Basin Plan Objectives. Basin Plan objectives violated in 45% samples for E. coli maximum moderately-used beach, violated in 18% samples for maximum lightly-used beach and violated in 45% samples for maximum infrequently-used beach, in dry weather months.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 9/28/98-10/31/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Department, Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective used is applicable.
5. Data are numerical.
6. Standard methods were used.
8. 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 water quality standard. The staff confidence that standards were exceeded is high.

Region 2: San Leandro Bay
Mercury, Lead, Selenium, Zinc, PAHs, DDT, Pesticides

Water Body	San Leandro Bay
Stressor/Media/Beneficial Use	Mercury, Lead, Selenium, Zinc, PAHs, DDT, Pesticides/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	BPTCP QA/QC. SFEI Study dated 2001 used appropriate QA/QC.
Linkage between measurement endpoint and benefical use or standard	Sediment toxicity linked to aquatic life beneficial uses.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment chemistry used.
Water Body-specific Information	
Data used to assess water quality	Elevated sediment chemistry (ERM quotient), 5/6 tests, Significant amphipod toxicity 3/7 tests, Significant urchin toxicity 3/7 tests, no indication of significant degradation from benthic analyses.
Spatial representation	Spatial distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Temporal representation	Temporal distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Data type	Numerical data.
Use of standard method	BPTCP methods used.
Potential Source(s) of Pollutant	Not identified.
Alternative Enforceable Program	This site was identified as a moderate priority in the Consolidated Toxic Hot Spots Cleanup Plan. Remediation planning has yet to be completed. A listing is not proposed for PCBs in San Leandro Bay because such a proposal is already subsumed in the more general listing for PCBs in Central San Francisco Bay. Consequently, it is not necessary to list San Leandro Bay for PCBs because the PCBs in sediment will be addressed in the development of the TMDL for PCBs in Central San Francisco Bay.
RWQCB Recommendation	Monitoring 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 listing is not proposed for PCBs in the sediments of San Leandro Bay because such a proposal is already subsumed in the more general listing for PCBs in Central San Francisco Bay. 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 are applicable and apply to this water body.
4. The evaluation guideline used to interpret narrative water quality standards is adequate.
5. Data are numerical.
6. Standard methods were used.

An adequate amount of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate.

Region 2: San Pablo Reservoir
Mercury

Water Body	San Pablo Reservoir
Stressor/Media/Beneficial Use	Mercury/Water/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Used California Office of Health Hazard Assessment and Contra Costa County Health Services data. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to fish consumption.
Utility of measure for judging if standards or uses are not attained	Interim fish advisory issued Feb. 2000, USEPA screening criteria (0.3 ppm), WQO.
Water Body-specific Information	Data = 1 month (11/97), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	5 out of 12 composite fish-tissue samples exceed the USEPA criteria. All of the fish were trophic Level 4 samples (large mouth bass). There was also a fish advisory issued in February 2000.
Spatial representation	
Temporal representation	Data was collected during 11/97.
Data type	Numerical data.
Use of standard method	Unknown.
Potential Source(s) of Pollutant	Atmospheric Deposition.
Alternative Enforceable Program	Unknown.
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. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. 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 2: San Pablo Reservoir
Mercury

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

Region 2: San Pedro Creek
High Coliform Count

Water Body	San Pedro Creek
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Dept. Beach Monitoring/Surfrider data/lab QA/QC used. USEPA Region IX Laboratory data used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	High Coliform Counts are linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Basin Plan used.
Water Body-specific Information	Data = 3 years (98-2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 99 samples for total coliform, 6 samples for fecal coliform, for Basin Plan data set. 41 samples for total coliform, 23 samples for fecal coliform for Ocean Plan data set. Basin Plan objectives violated in 13% samples for total coliform, 98% samples for total coliform median, and 100% violated for samples of fecal coliform geomean and fecal coliform in dry weather months. Ocean Plan objectives violated in 90% of the samples for total coliform, 96% of samples for fecal coliform geomean, and 100% fecal coliform in dry weather months. E. coli data show 67% samples for total coliform maximum designated beach violated the Basin Plan Objectives. Basin Plan objectives violated in 63% samples for E. coli maximum moderately-used beach, violated in 57% samples for maximum lightly-used beach and violated in 57% samples for maximum infrequently-used beach, in dry weather months.
Spatial representation	Data was collected at 15 sampling sites.
Temporal representation	Data was collected, from 5/26/98-8/14/00, and 4/24/00-11/13/00.
Data type	Numerical data.
Use of standard method	California Office of Health Hazard Assessment and Contra Costa County Health Services methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers, Nonpoint Source.
Alternative Enforceable Program	Unknown.
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.

Region 2: San Pedro Creek
High Coliform Count

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 objective 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.

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

Region 2: San Vicente Creek
High Coliform Count

Water Body	San Vicente Creek
Stressor/Media/Beneficial Use	High Coliform Count/Water/REC-1, REC-2
Data quality assessment. Extent to which data quality requirements met.	San Mateo County Environmental Health Department. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	High Coliform Counts linked to REC-1.
Utility of measure for judging if standards or uses are not attained	WQO Basin Plan used.
Water Body-specific Information	Data = 2 years (98-2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 38 samples for total coliform, 22 samples for fecal coliform, and 6 samples for E. coli. E. coli data show 100% violations of the Basin Plan Objectives for total coliform maximum at all beaches in dry-weather months. Basin Plan violated in 3% of samples for total coliform maximum, 100% samples violated for total coliform median, 100% samples violated for fecal coliform geomean and 100% samples violated for fecal coliform (REC-1). Basin Plan objectives violated in 32% of samples for fecal coliform mean, and 23% violated samples for fecal coliform (REC-2) in dry-weather months.
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 10/6/98-9/26/00.
Data type	Numerical data.
Use of standard method	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab methods, RWQCB.
Potential Source(s) of Pollutant	Nonpoint Source.
Alternative Enforceable Program	Unknown.
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 objective 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.

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

Region 2: Stege Marsh
Arsenic, Copper, Mercury, Selenium, Zinc, Chlordane, Dieldrin, ppDDE, +

Water Body	Stege Marsh
Stressor/Media/Beneficial Use	Arsenic, Copper, Mercury, Selenium, Zinc, Chlordane, Dieldrin, ppDDE, Dacthal, Endosulfan 1, Endosulfan sulfate, Dichlorobenzophenone, Heptachlor epoxide, Hexachlorobenzene, Mirex, Oxidiazon, Toxaphene, PCBs/Sediment/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	The observed sediment toxicity and benthic community effects are linked to aquatic life beneficial uses.
Utility of measure for judging if standards or uses are not attained	Toxicity test results (and ERM quotient) for sediment used.
Water Body-specific Information	Data = 2 months (1997), Data measured at the site, Environmental Conditions considered at site.
Data used to assess water quality	Elevated sediment chemistry (ERM quotient) 0-1% amphipod Survival, 5/5 tests, significant urchin toxicity, 3/3 samples, Relative benthic index = 0.00 (2 benthic samples).
Spatial representation	Data was spatially collected.
Temporal representation	Data was collected from 10/97-12/97.
Data type	Numerical data.
Use of standard method	BPTCP methods.
Potential Source(s) of Pollutant	Industrial Point Sources.
Alternative Enforceable Program	Stege Marsh is identified as a toxic hot spot on the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through Cleanup and Abatement Orders.
RWQCB Recommendation	List: Current application of other regulatory authorities and the effects-based nature of the listing would give this listing a low-priority.
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 Enforceable Program list because applicable water quality standards are exceeded and another program is addressing the problem. The water quality problem is being addressed by implementation of the Consolidated Toxic Hot Spots Cleanup Plan using Cleanup and Abatement Orders.

Region 2: Tomales Bay
Mercury

Water Body	Tomales Bay
Stressor/Media/Beneficial Use	Mercury/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Aquatic life.
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	Data was spatially collected.
Temporal representation	Data was temporally collected.
Data type	Numerical data.
Use of standard method	N/A
Potential Source(s) of Pollutant	Mine Tailings.
Alternative Enforceable Program	N/A
RWQCB Recommendation	Change in listed water body. Change pollutant from Metals to Mercury.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body pollutant should be changed in this already listed water body. Change pollutant from Metals to Mercury.

Region 2: Walker Creek
Mercury

Water Body	Walker Creek
Stressor/Media/Beneficial Use	Mercury/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	QA/QC requirement. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Aquatic life.
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	Data was spatially collected.
Temporal representation	Data was temporally collected.
Data type	Numerical data
Use of standard method	N/A
Potential Source(s) of Pollutant	Surface Mining, Mine Tailings
Alternative Enforceable Program	N/A
RWQCB Recommendation	Change in listed water body. Change pollutant from metals to mercury.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body pollutant should be changed in this already listed water body. Change pollutant from metals to mercury.

Page left blank intentionally.

Water Bodies Proposed for the Monitoring List in Region 2

Water Body	Pollutant/Stressor	Rationale
Carquinez Strait		
	Copper	Data = 466 samples total collectively for S.F. Bay segments North of the Dumbarton Bridge. Since March 1993, there have been 6 exceedances, and there have been no exceedances of the objective since 1997.
	Nickel	Data = 463 samples total collectively for S.F. Bay segments North of the Dumbarton Bridge. Using the CTR standard, there have been no exceedances since March of 1993.
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. For PBDEs: No available WQ objective or evaluation guideline. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
Lake Merced		
	Low Dissolved Oxygen	5/14 (36%) Dissolved Oxygen violations at East Lake, 64% Dissolved Oxygen violations, South Police Range, 57% Dissolved Oxygen violations, South Pump Station, 93% Dissolved Oxygen violations, North Lake, 57% Dissolved Oxygen violations, East Lake, 5/14 (36%) violations of pH (>8.5) at North Lake. Because DO and pH are such dynamic parameters in this water body, the spatial and temporal coverage of this study is not adequate to assess impairment. RWQCB staff recommends that DO and pH be monitored systematically by a public agency such as the SFWD, the San Francisco Public Utilities Commission, or other stakeholder. This monitoring should be conducted at the same sites as the SFWD program plus additional sites within the different portions of the lake, and more frequently than before, continuously where resources allow, to assess whether the lake is truly impaired due to lack of DO or elevated pH. In the next listing cycle the RWQCB will re-evaluate DO and pH information, including the 1997-2000 data, and will make a determination for DO and pH listings.

Water Body	Pollutant/Stressor	Rationale
Lake Merritt		
	Low Dissolved Oxygen	In 1998, the USEPA listed Lake Merritt as impaired by low dissolved oxygen (D.O.) and organic enrichment. The original data used by USEPA to recommend listing does not meet quality and quantity requirements necessary to support 303(d) listing, specified in USEPA guidance. No assessment methodology for organic enrichment was followed, and the organic matter discharged to the lake would probably be better characterized as a source of potential D.O. impairment. Statewide the 303(d) list couples low D.O. with organic enrichment. Information submitted to the RWQCB during the public solicitation provided anecdotal-level information that D.O. levels may be inadequate to support beneficial uses, especially when the tide gates are closed by the Alameda County 303(d) Staff Report San Francisco Bay Regional Water Quality Control Board Flood Control District (ACFCD), but the study design did not document surface D.O. levels, particularly pre-dawn levels, which provide the necessary estimator of D.O. to support beneficial uses. No evidence of beneficial use impairment, such as number and frequency of fish kills, has been submitted. A quick review of 1997-98 surface D.O. data from the county indicates that the Basin Plan standard is met, but specific time-of-day information for this data is not available, and therefore this review is inconclusive. Because of community concern and anecdotal evidence of continued impairment, RWQCB staff does not recommend de-listing at this time, but recommends that D.O. be monitored systematically by a public agency such as the ACFCD, City of Oakland, Alameda County Public Works Agency, or other stakeholder. This monitoring should be conducted at a minimum at the same sites as studies submitted by the Lake Merritt Institute, but more frequently than before, continuously where resources allow, to assess whether the lake is truly impacted due to lack of D.O.
Lakes and Shorelines of San Francisco Bay Region		
	Trash	Volunteers have documented trash removal from the Lake Merritt but other lakes and shoreline conditions are unknown. More data and information are needed documenting in space and time the abundance and amount of trash and debris in lakes and along the shoreline.
Novato Creek below Stafford Dam		
	Sedimentation and Siltation	The two sediment reports have resulted from conditions of 401 certifications granted by the RWQCB for dredging permits in lower Novato Creek. Because there is a sediment management planning process underway required by regulatory action, RWQCB staff believes that the water quality standard may be implemented within the next listing 303(d) Staff Report San Francisco Bay Regional Water Quality Control Board cycle. Also, the sediment control plan recommends identifying areas of potential and existing salmonid spawning habitat and will better link the effects of sediment input from in-stream (the major source) and hillslope sources on beneficial uses. The RWQCB recommends that sediment threatens to impair water quality in Novato Creek. In the next listing cycle, the RWQCB will evaluate the planned sediment management and salmonid habitat identification efforts and an impairment listing will be determined. If the sediment control plan is not implemented, then the impairment listing may be triggered.
Pacific Ocean at Baker Beach		
	High Coliform Count	Data = 164 samples total. Ocean Plan objectives violated in 9.7% of the samples for total coliform in dry-weather months. Combined sewer overflow events are not considered because all CSOs in the vicinity have been directed away from Lobos Creek drainage onto Baker Beach.
Pacific Ocean at San Gregorio Beach		
	High Coliform Count	Data = 56 samples for total coliform, 23 samples for fecal coliform. Ocean Plan objectives violated in 5% of samples for total coliform in combined dry- and wet-weather months. Ocean Plan objectives violated in 8% samples for fecal coliform, wet-weather only. No exceedances between May and October. Listing driven by wet weather exceedances.

Water Body	Pollutant/Stressor	Rationale
Pacific Ocean at Surfer's Beach		
	Total Coliform	Data = 134 total coliform samples, 126 fecal coliform samples. Ocean Plan objectives violated in 5% samples for total coliform in combined dry-weather and wet-weather months. Ocean Plan objectives violated in 9% of samples for fecal coliform in combined wet-dry weather. No exceedances between May and October. Listing driven by wet weather only.
Pilarcitos Creek below Pilarcitos Reservoir		
	Sedimentation and Siltation	Turbidity monitoring has not been conducted in Pilarcitos Creek so it is not possible, at this time, to determine whether a problem exists in Pilarcitos Creek. Pilarcitos Creek should be placed on the Monitoring List because: (1) there is a clear linkage between sediment and degradation of habitat for steelhead in this watershed; (2) it remains to be determined whether human activities are an important factor; and (3) there is an active watershed restoration program, the Pilarcitos Creek Watershed Advisory Committee (PCWAC), that has broad stakeholder participation and support. The sources of fine sediment are not adequately characterized to support a 303(d) listing at this time.
Redwood Creek, tidal portion (San Mateo County)		
	High Coliform Count	The data was from one year from one season with only 12 samples. The data showed 4 of 12 samples exceed the objective. The available data and information are inadequate to draw a conclusion. More monitoring is needed to determine if listing is necessary.
Richardson Bay		
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos, For PBDEs: No available WQ criterion/objective. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
Sacramento-San Joaquin Delta		
	Copper	Data = 466 samples total collectively for S.F. Bay segments North of the Dumbarton Bridge. Since March 1993, there have been 6 exceedances, and there have been no exceedances of the objective since 1997.
	Nickel	Data = 463 samples total collected for S.F. Bay segments North of the Dumbarton Bridge. Using the CTR standard, there have been no exceedances since March of 1993.

Water Body	Pollutant/Stressor	Rationale
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos. For PBDEs: No available WQ criterion/objective. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
San Francisco Bay, Central		
	Copper	Data = 466 samples total collectively for S.F. Bay segments North of the Dumbarton Bridge. Since March 1993, there have been 6 exceedances, and there have been no exceedances of the objective since 1997.
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos. For PBDEs: No available WQ criterion/objective. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
San Francisco Bay, Lower		
	Copper	Data = 466 samples total collected for S.F. Bay segments North of the Dumbarton Bridge. Since March 1993, there have been 6 exceedances, and there have been no exceedances of the objective since 1997.
	Nickel	Data = 463 samples total collected for S.F. Bay segments North of the Dumbarton Bridge. Using the CTR standard, there have been no exceedances since March of 1993.
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos. For PBDEs: No available WQ criterion/objective. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.

Water Body	Pollutant/Stressor	Rationale
San Francisco Bay, South		
	Copper	Data = 690 samples total collected for S.F. Bay south of the Dumbarton Bridge. Available ambient dissolved copper concentrations in the estuary never exceed the most conservative WER-based objectives. For example, out of 50 WERs recently generated based on USEPA guidance if the lowest 5th percentile WER of 1.7 were used, the CTR marine chronic objective for dissolved copper would be 5.3 ug/l, which has not been exceeded in 466 samples in the San Francisco Estuary since the Regional Monitoring Program began in 1993.
	Nickel	Data = 604 samples total collected for S.F. Bay south of the Dumbarton Bridge. Using the CTR standard, 1% (6) of the samples exceed it.
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos. For PBDEs: No available WQ criterion/objective. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
San Pablo Bay		
	Copper	Data = 466 samples total collectively for S.F. Bay segments North of the Dumbarton Bridge. Since March 1993, there have been 6 exceedances, and there have been no exceedances of the objective since 1997.
	Nickel	Data = 463 samples total collected for S.F. Bay segments North of the Dumbarton Bridge. Using the CTR standard, there have been no exceedances since March of 1993.
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos. For PBDEs: No available WQ criterion/objective. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
Suisun Bay		
	Copper	Data = 466 samples total collectively for S.F. Bay segments North of the Dumbarton Bridge. Since March 1993, there have been 6 exceedances, and there have been no exceedances of the objective since 1997.
	Nickel	Data = 463 samples total collectively for S.F. Bay segments North of the Dumbarton Bridge. Using the CTR standard, there have been no exceedances since March of 1993.

Water Body	Pollutant/Stressor	Rationale
	PAHs, PBDEs	For PAHs: Did not exceed threshold concentrations for adverse effects to fish embryos. For PBDEs: No available WQ criterion/objective. Occasional exceedances of the human health criteria in ambient samples, evidence of increasing shellfish concentrations, and preponderance of PAHs at toxic sites warrant increased assessment activities for PAHs by dischargers and cities around the region. RMP resources will be expected to better assess PAH impacts in the estuary, since the current spatial and temporal coverage does not address areas near the shoreline that may be greater impacted by PAHs in discharges of urban runoff and other sources. PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
Urban Creeks of San Francisco Bay Region		
	Trash	More data and information are needed documenting in space and time the abundance and amount of trash and debris in urban creeks of the San Francisco Bay Region. Guadelupe River: Thirty-four photographs were submitted depicting what appeared to be locations along the River. The trash included plastic bottles, styrofoam cups, paper wrappers, wood debris, and other unidentifiable debris. San Leandro Creek: Six photographs were submitted depicting what appeared to be locations along the Creek. The trash included accumulations of plastic bottles, styrofoam cups, paper wrappers, wood debris, shopping carts, aluminum cans, and other unidentifiable debris. Damon Slough: Six photographs were submitted depicting what appeared to be locations along the Slough. The trash included accumulations of plastic bottles, styrofoam cups, paper wrappers, wood debris, shopping carts, aluminum cans, and other unidentifiable debris. Glen Echo Creek: Two photographs were submitted depicting what appeared to be locations along the Creek. The trash included accumulations of plastic, styrofoam cups, paper wrappers, wood debris, shopping carts, and other unidentifiable debris.

Reference List for Region 2

Staff Report

California Regional Water Quality Control Board. San Francisco Bay Region. 2001. Proposed Revisions to Section 303(d) List and Priorities for Development of Total Maximum Daily Loads (TMDLs) for the San Francisco Bay Region. Staff Report. November 14, 2001.

Technical References

Alameda Creek Watershed Key Point Monitoring for Alameda Creek, Alameda Creek Water Quality Monitoring Station, Alamo Canal, Arroyo de la Laguna, Arroyo del Valle, Arroyo las Positas, Arroyo Mocho, Sinbad, Stonybrook, and Vallecitos Creek. Jul. 1997-Apr. 2001. Alameda County Water District.

Alameda Creek Watershed Key Point Monitoring for Alamo Creek, South San Ramon Creek, and Tassajara Creek. May 1998-Apr. 2001. Alameda County Water District.

Anderson, J.W., Zeng, E.y., Jones, J.M., 1999. Environ. Toxicol. Chem. 1999, 18, 1506-1510.

Bay Area Clean Water Agencies (BACWA), 2001. Draft Report for Copper and Nickel North of the Dumbarton Bridge. Prepared by EOA, Inc. and Larry Walker Associates, December 6, 2001.

Bel Marin Keys Community Services District Water Quality Testing Results 1997-1998; 2000-2001 Novato Creek and Bel Marin Keys Lagoon, Novato, California.

Belsky, E. and S. Lattanzio. Feb 2001. Request for Assessment and Clean-Up at Pacheco pond. Waterkeepers Northern California.

BPTCP, 1998. Sediment Quality and Biological Effects in San Francisco Bay. Bay Protection and Toxic Cleanup Program. Final Technical Report. California State Water Resources Control Board, Division of Water Quality, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Game Marine Pollution Studies Laboratory, California State University Moss Landing Marine Laboratories, University of California, Santa Cruz, Institute of Marine Sciences. August 1998.

Cabral, B. Water Quality Project Manager. Watershed Sanitary Survey for the CA Water Service Company. Bear Gulch Water Treatment Facility. CA Water Service Company.

California Department of Pesticide Regulation, Surface Water Database. Sept. 24, 2000. Pesticide Action Network.

City of Benicia Monitoring Program for Lake Herman. Jul. 1997-Apr. 2001. City of Benicia.

Cloak D. and L.A.J. Buchan. Sept. 2000. Stormwater Environmental Indicators Demonstration Project Draft Report. Water Environment research Foundation.

Coastal Clean-up Data for Alameda and Contra Costa East Bay Regional Park District. 1998-2000. Kathleen Fusek. Alameda and Contra Costa East Bay Regional Park District

Coastal Clean-up Data for Marin County. 1997-2000. Christianne Gallagher. Marin Bay Model Visitor Center.

Coastal Clean-up Data for Sonoma County. 1997-2000. Christie Brown. Sonoma-Sierra.

Collins, L. Jul. 1998. Sediment Sources and Fluvial Geomorphic Processes of Lower Novato Creek Watershed.

Collins, L., D. Morton, and P. Amato. 2001. Carriger Creek Watershed Science Approach, San Francisco estuary Institute Draft.

Collins, L., P. Amato, and D. Morton. Dec. 2000. Application of the SFEI Watershed Science Approach to San Antonio Creek, Sonoma and Marin Counties, California.

Collins, L., P. Amato, and D. Morton. 2001. San Pedro Creek Geomorphic Analysis. San Mateo County.

Department of Water Resources. 1999. Assessment of MTBE in State Water Project Reservoirs. Apr.1999.

Draft Environmental Impact Report and Stream Maintenance Program Report for the Multi-Year Stream Maintenance Program. Mar. 28, 2001. Santa Clara County, Santa Clara Valley Water District.

Draft IR Site 2 Remedial Investigation Report Alameda Point Alameda, California. Dec 2000. Neptune and Company, Inc.

Draft Seaplane Lagoon Site Characterization Memorandum. April 2001. WaterKeepers of Northern California.

Eljarrat, E., J. Caixach and J. Rivera. 2001. Toxic Potency Assessment of Non- and Mono-*ortho* PCBs, PCDDs, PCDFs, and PAHs in Northwest Mediterranean Sediments (Catalonia, Spain). Env. Sci. Tech. 35:18 3589-3594.

Environmental Protection Agency Region IX Laboratory Data for San Pedro Creek. Jan. 1997-Nov. 2000. Environmental Protection Agency.

Fairfield-Suisun Water Treatment Plant Slough Data for Suisun Slough and Boynton Slough. Jun. 1997-Jun. 2000. NPDES Permit CA0038024. Fairfield-Suisun Sewer District.

Fairfield-Suisun Sewer District. 2001. Mercury Reduction Study-Final Report. July 10, 2001. NPDES Permit CA0038024.

Friends of Novato Creek Photo Journal. Friends of Novato Creek.

Friends of Sausal Creek Monitoring Program for Palo Seco, El Centro, and Hickory. Feb. 1998-Mar. 2000. Friends of Sausal Creek.

Grovhoug, T. R. and S. Salvia. Aug. 17, 2000. Work Plan for Copper and Nickel Impairment Assessment to Assist in Preparation of 2002 303(d) List-San Francisco Bay North of Dumbarton Bridge. Bay Area Clean Water Agencies (BACWA).

Haible, W.W., 1980. Holocene profile changes along a California coastal stream. Earth Surface Processes 5(3): 249-264.

Hecht, B., 1992. Sediment overview report: development of an initial sediment management plan for Lagunitas Creek, Marin County, California> Prepared for Marin Municipal Water District by Balance Hydrologics, Inc., February 1992.

Kannan, K., Villeneuve, D., Yamashita, N., Imagawa, T., Hashimoto, S., Miyazaki, A., Giesy, J. 2000. Environ. Sci. Tech. 2000, 34, 3568-3573.

Khim, J.S.; Villeneuve, D.L., Kannan, K., Koh, C., Giesy, G. 1999. Environ. Sci. Tech. 1999, 33, 4206-4211.

Lake Merritt Institute Monitoring Program. Sept. 1998-May 1999. Lake Merritt Institute, Alameda County.

Lawrence Livermore National Laboratory Storm Water Monitoring Program for Arroyo Seco and Arroyo Los Positas. Nov. 1997-Mar. 2000. Lawrence Livermore National Laboratory.

Leidy, Robert, 1997. Distribution and ecology of stream fishes in the San Francisco Bay drainage. Hilgardia 52, no. 8:1-175.

Marin County Macroinvertebrate Survey Fall 1999-Spring 2000. Sustainable Land Stewardship Institute for the Marin County Stormwater Pollution Prevention Program.

Marin County Stormwater Pollution Prevention Program's Aquatic Macroinvertebrate Sampling Program. World Wide Web. http://www.mywatershed.org/bmi/sampliesites.htm. Apr. 2001.

Marin-Sonoma Counties Agricultural Runoff Influence Investigation 1999-2000 Summary. Dec 2000. Department of Fish and Game.

McMurtry, R. Jan. 2001. PCBs and Clams in Creeks The Results of An Environmental Partnership. Silicon Valley Toxics Coalition, Clean Streams/Clean Bay Project.

Moore, C.J. et al. 1999. Marine Debris in the North Pacific Gyre, with a Biomass Comparison of Neustonic Plastic and Plankton. (in preparation).

Moore, S.L. and M.J. Allen. 2000. Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of the Southern California Bight. Marine Pollution Bulletin 40:83-88.

National Research Council (NRC), 2001. Assessing the TMDL Approach to Water Quality Management. Committee to Assess the Scientific Basis of the Total Maximum Daily Load Approach to Water Pollution Reduction. Water Science and Technology Board. Division of Earth and Life Studies. Governing Board of the National Research Council, with members of the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine.

Natural Resources Defense Council (NRDC), 2001. Testing the Waters XI: A Guide to Water Quality at Vacation Beaches. August 2001.

North Bay Dischargers Group, Bay Area Dischargers Association, Western States Petroleum Association. 2001. Copper and Nickel Impairment Assessment to Assist in Preparation of 2002 303(d) List, San Francisco Bay North of Dumbarton Bridge. May 15, 2001.

Pereira, W. E., F. D. Hostettler, S. N. Luoma, Alexander van Geen, C. C. Fuller, and R. J. Anima. 1999. Sedimentary record of anthropogenic and biogenic polycyclic aromatic hydrocarbons in San Francisco Bay, California. Marine Chemistry. 64:99-113.

Petaluma Tree Planters, 1999. Diazinon and Chlorpyrifos in the Upper Petaluma River Watershed Petaluma, California. B. Abelli-Amen, BASELINE Environmental Consulting.

Phillip Williams & Associates, Ltd. 1996. Pilarcitos Creek Restoration Plan. Aug.1996.

Prunuske Chatham, Inc., 2001. Novato Creek Watershed Erosion Inventory and Sediment Control Plan. Prepared for Marin County Department of Public Works, April 2001.

Randall, Paul. 2001. Response to Recommendation by WaterKeepers of Northern California that San Pedro Creek be added to the 303(d) List for Total Coliform, Fecal Coliform, and Sedimentation. Memorandum to Bob Davidson, San Mateo STOPPP. June 27, 2001.

Rich, A. May. 1995. Feasibility Study to Rehabilitate the Fishery Resources of the Arroyo Corte Madera del Presidio Watershed, Mill Valley, California. A.A Rich and Associates Fisheries and Ecological Consultants.

Rich, A. Nov. 2000. Fishery Resources Conditions of the Corte Madera Creek Watershed, Marin County, California.

RWQCB, 1995. San Francisco Bay Water Quality Control Plan (Basin Plan).

RWQCB, 1999. Final Regional Toxic Hot Spot Cleanup Plan. March 1999.

San Francisco Public Utilities Commission Quarterly Lake Monitoring. Sept. 1997-Dec. 2000. Friends of Lake Merced, San Francisco Public Utilities Commission.

San Jose Copper and Nickel Monitoring Program. Feb. 1997-Dec. 2000.

Sanitary Survey Update Report 2001, Vol. 1,2. Municipal Water Quality Investigations Program. California State Water Project Watershed. Division of Planning and Local Assistance, CA Department of Water Resources.

San Mateo County Environmental Health Data for Marina Lagoon. Oct. 1998-Oct. 2000. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for North Coast: Fitzgerald Marine Reserve, Linda Mar Beach #5, Linda Mar Beach #6, Pillar Point Harbor, Sharp Park Beach #3, and Sharp Park Beach #6. Jan. 1998-Jan. 2001. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for North Coast: Montara Beach. Feb. 2000-Jan. 2000. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for North Coast: Pillar Point #4, #5, and #7. Jan. 2000-Jan.2001. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for North Coast: Rockaway Beach. Mar.2000-Jan. 2001. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for North Coast: Surfer's Beach. Jan.1998-Jan. 2001. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for San Pedro. May.1998-Aug.2000. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for San Vicente. Oct.1998-Sept.2000. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for South Coast: Francis Beach, Pescadero Beach, Pomponio Beach, Pomponio Creek, San Gregorio Beach, and San Gregorio Creek. Sept. 1998-Mar.2001. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for South Coast: Pescadero Creek. Sept.2000-Oct. 2000. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for South Coast: Roosevelt Beach. Sept.1998-Mar.2001. WaterKeepers of Northern California.

San Mateo County Environmental Health Data for South Coast: Venice Beach. Sept.1999-Mar. 2001. WaterKeepers of Northern California.

Santa Clara Basin Watershed Management Initiative TMDL Work Group, 2000. Impairment Assessment Report for Copper and Nickel in Lower South San Francisco Bay. June 2000.

Santa Clara Basin Watershed Management Initiative TMDL Work Group, 1999. Conceptual Model Report for Copper and Nickel in Lower South San Francisco Bay, December 1999.

Santa Clara Watershed Monitoring for Almaden Reservoir. Jan.1998-Feb.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Anderson EROP Packwood, EROP North, EROP South, and EROP Holiday Estates. Jul.1997-Dec.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Anderson Reservoir. Jan.1998-Feb.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Anderson Reservoir Basin. Feb.1998-Jun.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Calero EROP Beach, EROP Cherry Cove, and EROP

Portal. Jul.1997-Aug.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Calero Horse Ranch and Calero Inlet. Jul.1997-Aug. 2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Calero Reservoir Basin. Feb.1998-May.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Coyote Reservoir. Jan.1998-Feb.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Horse Ranch Monitoring Program and Lightfoot Stable Monitoring Program. Jan.1998-Jan.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Hydrolab Anderson. Jul.1997-Jun.2001. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Hydrolab Calero. Jan.2000-Dec.2000. Santa Clara Valley Water District.

Santa Clara Watershed Monitoring for Twin Creeks Monitoring Program. Jul.1997-Oct.2000. Santa Clara Valley Water District.

Scanlin, J. and A. Y. Feng. Oct. 20, 1997. Characterization of the Presence and Sources of Diazinon in the Castro Valley Creek Watershed. Alameda County.

San Francisco Estuary Institute. 2000. Sediment Contamination in San Leandro Bay, CA. Dec. 2000.

San Francisco Estuary Institute, 2001. Letter and attached information from Rainer Hoenicke to Thomas Mumley re: 303(d) List, May 15, 2001.

She, J., Petreas, M., Winkler, J., Visita, P., McKinney, M., and D. Kopec. 2001. PBDEs in the San Francisco Bay Area: Measurements in Harbor Seal Blubber and Human Breast Adipose Tissue. Chemosphere, In Press, 2001.

Smeltzer, M., J. Reilly, and D. Dawdy. Dec. 2000. Geomorphic Assessment of the Corte Madera Creek Watershed Marin County, California Final Report. Stetson Engineers Inc.

Southern Sonoma County Resource Conservation District, 1999. Petaluma River Enhancement Plan.

Spies, R. B., and D. W. Rice, Jr. 1988. Effects of organic contaminants on reproduction of the starry flounder Platichthys stellatus in San Francisco Bay [California, USA]: II. Reproductive success of fish captured in San Francisco Bay and spawned in the laboratory. Marine Biology (Berlin). 98:191-200.

Sykes, R.G. 2000. East Bay Watershed Sanitary Survey. East Bay Municipal Utility District.

Stafford Lake Watershed Sanitary Survey. 1995. North Marin Water District.

Thompson, B., B. Anderson, J. Junt, K. Taberski, and B. Phillips. 1999. Relationships between sediment contamination and toxicity in San Francisco Bay. Marine Environmental Research. 48:285-309.

U.S. Environmental Protection Agency, 1992. Plastic Pellets in the Aquatic Environment: Sources and Recommendations.

U.S. Environmental Protection Agency, 1996. Guidelines for Preparation of the 1996 State Water Quality Assessments (305(b) Reports).

U.S. Environmental Protection Agency. 2000. Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; (40 CFR Part 131); Part II. In: Federal Register, May 18, 2000. (California Toxics Rule). U.S. EPA. Washington, D.C.

U.S. Environmental Protection Agency, 2001a. DRAFT Consolidated Assessment and Listing Methodology (CALM), Toward a Compendium of Best Practices. April 20, 2001.

U.S. Environmental Protection Agency, 2001b. Draft Assessing and Monitoring Floatable Debris.

U.S. Geological Survey Water Quality Monitoring for Abbotts Lagoon Lower, Middle and Upper. Nov.1998-Aug.1999. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Alameda Creek. Feb.2000-May.2000. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Arroyo de la Laguna. Dec.1997-Mar.2000. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Arroyo Valle. Jan.1999-Mar.2000. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Cull Creek and San Lorenzo Creek. Nov. 1997-May.2000. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Crow Creek. Oct.1999-May.2000. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Lagunitas Creek, Olema Creek, Pine Creek, and Redwood Creek (Alameda County). Nov.1998-Jan.2001. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Lobos Creek. Jul.1997-May.1998. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Redwood Creek (Marin County). Sept. 1997-Mar.1998. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for San Antonio Creek. Jan.2000-Apr.2000. U.S. Geological Survey.

U.S. Geological Survey Water Quality Monitoring for Torogas Creek. Jan.2000-May.000. U.S. Geological Survey.

Watershed Sanitary Survey. Jan.1996. Citizens Utilities Company of California Montara District.

Watershed Sanitary Survey 1997. Jan. 1997. Inverness Public Utility District, Marin County.

Watershed Sanitary Survey for Anderson, Coyote, Calero, Almaden 1989. Dec.1995. Santa Clara Valley Water District.

Watershed Sanitary Survey for Denniston and San Vicente Watersheds. Apr.1996. San Mateo Cunty and Coast Side County Water District.

Watershed Sanitary Survey for Los Gatos and Saratoga Creek Watersheds. San Jose Water Company.

Watershed Sanitary Survey Update. Dec.2000. Citizens Water Resources Company Montara System.

Watershed Sanitary Survey Update 2000. Dec. 2000. Marin Municipal Water District, Kennedy Jenks Consultant.

Watershed Sanitary Survey Updates for the Alameda and Peninsula Watersheds. Dec.2000. Executive Summary. San Francisco Public Utilities Commission.

WaterKeepers of Northern California. Jan.-Apr. 2001. Photographs of trash in Guadalupe River, San Leandro Creek, Damon Slough, Lake Merritt and Glen Echo Creek.

WaterKeepers of Northern California. Mar. 1, 2001. Photographs of trash in Guadalupe River.

Other Information Considered

D'Alessio, C. and S. Guldman. May 1, 2001. Letter to Christine Kennelly at BayKeeper. Friends of Corte Madera Creek Watershed.

Dick, M. Jan. 15, 2001. Letter to Tom Mumley at San Francisco bay Regional Water Quality Control Board. Santa Clara Basin Watershed Management Initiative.

Johmann, L. May 12, 2001. Letter to Steve Moore in Response to Public Solicitation of Water Quality Information Notice. Western Waters Canoe Club.

Olivieri, A. W. May 11, 2001. Letter to Loretta Barsamian in Response to Solicitation of Water Quality Information. Santa Clara Valley Urban Runoff Pollution Prevention Program.

Salzman, B. May 14, 2001. Letter to Loretta Barsamian in Response to Solicitation of Water Quality Information. Marin Audubon Society.