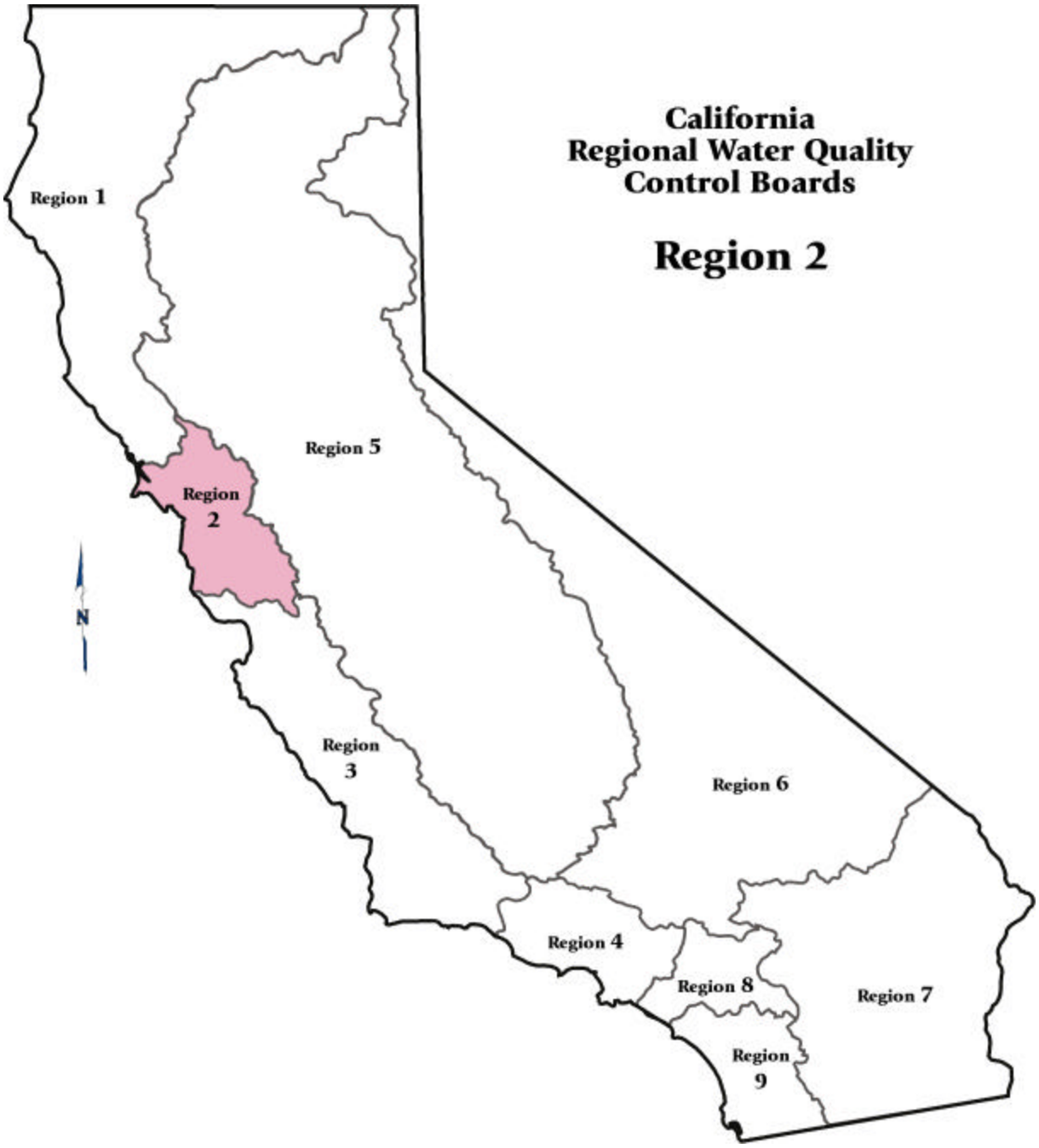
Fact Sheets Supporting
“Do Not Delist” Recommendations



September 2005

Region 2

Water Segment:	Butano Creek
Pollutant:	Sedimentation/Siltation
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for delisting under sections 4.9 and 4.11 of the Listing Policy. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.9, the measurements of benthic community and fish habitat indicate that biological resources are likely not impacted. Only one site was rated marginal for fish habitat and only one sample was rated poor for benthic community. Even though sedimentation continues, its effects are being reduced. Summer measurements of turbidity do not exceed guidelines for the protections of salmonids. There is limited habitat for Coho because of the lack of deep pools, spawning gravels, and large woody debris. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Even though only one fish habitat sample was found to be marginal and one benthic community sample was found to be poor, there are still potential impacts on Coho related to lack of suitable spawning habitat. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not exceeded.
Lines of Evidence:	

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	CO - Cold Freshwater Habitat, WA - Warm Freshwater Habitat
Matrix:	-N/A
Water Quality Objective/ Water Quality Criterion:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses

Data Used to Assess Water Quality:	One of 4 fish habitat assessments was considered poor habitat quality. Assessments of physical habitat quality, biotic conditions, pool habitat quality, and water quality in the Pescadero-Butano watershed revealed the following overall fisheries habitat conditions currently present in the watershed: (1) Accessible salmonid habitat is fairly abundant throughout the watershed, (2) salmonid habitat quality is higher in the mid and upper Pescadero Creek watershed and lower in the Butano Creek watershed as well as the low gradient reaches of Pescadero Creek, (3) pool habitat is fairly abundant but of limited depth and suboptimal cover, (4) water quality throughout both watersheds is generally adequate for salmonids and other aquatic organisms. The primary limiting factors with regards to salmonid habitat, based on the sampled reaches, are generally shallow pool depths, limited amounts and frequency of large woody debris, and relatively high levels of fine sediments. These limiting factors are likely to be of greater significance to coho salmon than steelhead. Coho in particular require deep pools with low water velocities and adequate cover for survival and growth while steelhead are more adapted to occupying and foraging in the faster and shallower areas of stream channels. Thus, current habitat conditions in the watershed favor steelhead over coho salmon (SWAMP, 2004).
Spatial Representation:	Four stations.
Temporal Representation:	Samples collected in 2002 and 2003.
Data Quality Assessment:	SWAMP and DFG quality assurance.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	CO - Cold Freshwater Habitat, WA - Warm Freshwater Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).
Evaluation Guideline:	Bioassessment protocols from the following publication were used (California Department of Fish and Game, 1999).
Data Used to Assess Water Quality:	Metric values from 4 sample sites for taxonomic richness, dominant taxon, members of three major benthic invertebrate families, a sensitive taxa index, the Shannon Diversity index, and tolerance value were scored and the 132 scores (6 scores for each sample site) summed to derive total scores for each site. Total scores were then used to assign "poor," "fair," "good," or "excellent" condition grades to each site along the Creek (Environmental Science Associates, 2004). Total sample site scores ranged from 6 to 22. The average score was 16, which is equivalent to a "fair" rating. One site was rated "poor." Three sites were rated "good." There were no "fair-" or "excellent-" rated sites.
Spatial Representation:	4 sample sites along the Creek (14 total Pescadaro and Butano SWAMP program sites were used.)
Temporal Representation:	SWAMP assessment made in April 2002. DFG assessments made in 1995.

	ESA (Environmental Science Associates) survey made in summer (August 21 to September 24) 2003.
Environmental Conditions:	April 2002 SWAMP data is not directly comparable to summer 2003 data. Habitat conditions in summer 2003 were evaluated at each site.
Data Quality Assessment:	California Stream Bioassessment Protocols (CDFG 1999) used (in 2002 and 2003 surveys).

Numeric Line of Evidence	Pollutant-Water
Beneficial Use:	CO - Cold Freshwater Habitat, MU - Municipal & Domestic, WA - Warm Freshwater Habitat
Matrix:	Water
Water Quality Objective/ Water Quality Criterion:	Basin Plan: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU). The suspended sediment load and suspended sediment discharge rate of surface waters shall not cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1999).
Evaluation Guideline:	Turbidity can be used to estimate the effects of sedimentation. Published sedimentation thresholds can be used. The evaluation guideline that has been selected to determine turbidity exceedance is from published-peer reviewed paper, "The Effects of Chronic Turbidity on Density and Growth of Steelheads and Coho Salmon", (Sigler, et.al.,1984). The guideline is as follows "In our studies, as little as 25 NTUs of turbidity caused a reduction in fish growth." (NTU is nephelometric turbidity units). Sigler also discusses the result of turbidities in the 25-50 NTU range reduced growth and caused more newly emerged salmonids to emigrate from laboratory streams than did clear water. Studies indicate that juvenile coho salmon avoided water with turbidities that exceeded 70 NTU (Bilson and Bilby, 1982). Other research reported that feeding and territorial behavior of juvenile coho salmon were disrupted by short-term exposures (2.5-4.5 days) to turbid water with up to 60 NTU (Meehan, 1991).
Data Used to Assess Water Quality:	Zero of 3 samples exceeded the standard (Environmental Science Associates, 2004).
Spatial Representation:	Three sample sites along Creek.
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer (August 21 to September 24, 2003).
Data Quality Assessment:	California Stream Bioassessment Protocols (CDFG 1999) (for supplemental information) used.

Line of Evidence	Testimonial Evidence
Beneficial Use	CO - Cold Freshwater Habitat, WA - Warm Freshwater Habitat
Information Used to Assess	From the RWQCB: (1) There is little suitable habitat at present within the creek

Water Quality:	for coho salmon, and primary hypothesized limiting factors (for coho) are lack of good cover and deep pools, the second factor of which is in part related to an abundant total and fine sediment supply; (2) Coho salmon are state listed as endangered south of the Golden Gate, and federally listed as threatened. Two-of-three brood years are believed to be extinct within Pescadero and Butano Creeks, and the third brood year appears to have a tenuous presence. (3) Although the steelhead trout run in both creeks does not appear to be immediately threatened by local extinction, run-size is substantially reduced from historical values by a variety of limiting factors including a lack of large woody debris and substantial increase in total and fine sediment supply.

Line of Evidence	Testimonial Evidence
Beneficial Use	CO - Cold Freshwater Habitat, WA - Warm Freshwater Habitat
Information Used to Assess Water Quality:	In 1998 a letter was sent to RWQCB staff from the California Department of Fish and Game requesting that several waters be added to the section 303(d) list because of the threats to Coho salmon and steelhead. The letter states: "...The Federal listing of both Coho salmon and steelhead as threatened species confirms the grave condition of these economically and intrinsically valuable fish populations. ...If these species are to survive, we must act now to improve aquatic habitat where it is most critical, namely in major rivers tributary to the Bay and ocean." The letter goes on to identify siltation as a problem in Pescadero and Butano Creeks. No data are provided or analyzed to support the conclusion that siltation is a water quality problem.
Non-Numeric Objective:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).

Line of Evidence	Pollutant-Sediment
Beneficial Use	CO - Cold Freshwater Habitat, WA - Warm Freshwater Habitat
Information Used to Assess Water Quality:	From the RWQCB: More than 80 percent of the estimated total sediment delivery to the channel network during the past two decades is associated with human land use activities. Much of this sediment is controllable (gullies associated with historical hillside agriculture, active and abandoned rural earth-surfaced roads, etc.).
Non-Numeric Objective:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Region 2

Water Segment:	Central Basin, San Francisco (part of SF Bay, Central)
Pollutant:	Mercury
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for delisting under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, it cannot be determined if the site has significant sediment toxicity or whether the pollutant is likely to cause or contribute to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies, with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 3 samples exceeded the 2.1 ug/g sediment quality guideline, 1 of 2 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	BPTCP Reference envelope approach.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 1 of 2 tests. Urchin toxicity in 1 of 2 samples (Hunt et al.,1998-b).
Spatial Representation:	Data was synoptically collected with chemical measurements.
Temporal Representation:	Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Sediment quality guideline of 2.1 ug/g used (PTI Environmental Services, 1991).
Data Used to Assess Water Quality:	None of 3 samples exceed the sediment quality guideline. Previous BPTCP analyses used a guideline that was a factor of 3 lower than the guideline used in the current analysis (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with toxicity measurements.
Temporal Representation:	Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Region 2

Water Segment:	Central Basin, San Francisco (part of SF Bay, Central)
Pollutant:	Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for delisting under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, it cannot be determined if the site has significant sediment toxicity or whether the pollutant is likely to cause or contribute to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies, with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One of 3 samples exceeded the sediment guideline, 1 of 2 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	BPTCP Reference envelope approach.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 1 of 2 tests. Urchin toxicity in 1 of 2 samples (Hunt et al.,1998-b).
Spatial Representation:	Data was synoptically collected with chemical measurements.
Temporal Representation:	Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Effects Range-Median for high molecular weight PAHs of 9,600 ng/g was used (Long et al., 1995). Probable Effects Level for low molecular weight PAHs of 1,442 ng/g was used (MacDonald et al., 1996).
Data Used to Assess Water Quality:	One of 3 samples exceeded the guideline for low molecular weight PAHs. One of 3 samples exceeded the guideline for high molecular weight PAHs (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with toxicity measurements.
Temporal Representation:	Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Region 2

Water Segment: Islais Creek

Pollutant: Ammonia

Decision: Do Not Delist

Weight of Evidence: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status.

Five lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration not exceeds the sediment guideline. The Consolidated Plan is not sufficiently developed to address this problem.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:
1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
4. All samples exceeded the sediment guideline and all samples exhibit toxicity. This exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

SWRCB Staff Recommendation: After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Lines of Evidence:

Numeric Line of Evidence Toxicity

Beneficial Use: ES - Estuarine Habitat, MA - Marine Habitat

Matrix: Sediment

Water Quality Objective/ Water Quality Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).

Evaluation Guideline: BPTCP Reference envelope approach used (SWRCB, 1997).

Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%), Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors

	are negatively impacting the benthic community.
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Effect thresholds for BPTCP toxicity test protocols (unionized ammonia) Purple Urchin Development NOEC 0.07 mg/L (Bay et al., 1993) Purple Urchin Fertilization NOEC >1.4 mg/L (Bay et al., 1993)
Data Used to Assess Water Quality:	Two samples exceeding the thresholds in two total measurements using purple sea urchin tests (Hunt et al., 1998a).
Spatial Representation:	Data was concurrently collected from samples tested for toxicity.
Temporal Representation:	Data was collected in September 1994.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Reference envelope approach was used.
Data Used to Assess Water Quality:	Two samples, both showed significant toxicity in purple urchin tests (Hunt et al., 1998a).
Spatial Representation:	Samples taken from one location.

Temporal Representation:	Samples collected in September 1994.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Islais Creek
Pollutant:	Chlordane
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.10 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.10, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration not exceeds the sediment guideline. The benthic community is impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Nineteen of 49 samples exceeded the 6 ng/g ERM sediment quality guideline, 14 of 27 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Data Used to Assess Water Quality:	One of 3 samples exceeded ERM (Hunt et al, 1998b).
Spatial Representation:	Data was collected at same locations as benthic community and toxicity samples.
Temporal Representation:	Data was collected in 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Data Used to Assess Water Quality:	Eighteen of 46 samples exceed the ERM (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Evaluation Guideline:	BPTCP Reference envelope approach used (SWRCB, 1997).
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%), Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).

Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Data Used to Assess Water	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et

Quality:	al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment: Islais Creek

Pollutant: Dieldrin

Decision: Do Not Delist

Weight of Evidence: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:
1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
4. Seven of 49 samples exceeded the 8 ng/g ERM sediment quality guideline, 14 of 27 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

SWRCB Staff Recommendation: After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Lines of Evidence:

Numeric Line of Evidence Pollutant-Sediment

Beneficial Use: ES - Estuarine Habitat

Matrix: Sediment

Water Quality Objective/ Water Quality Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a

	detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 8 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	One of 3 samples exceeded ERM (Hunt et al., 1998b).
Spatial Representation:	Data was collected at same locations as benthic community and toxicity samples.
Temporal Representation:	Data was collected in 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 8 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	Six of 46 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Samples were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Evaluation Guideline:	BPTCP Reference envelope approach used (SWRCB, 1997).
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%), Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity

	measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).

Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment: Islais Creek

Pollutant: Polychlorinated biphenyls

Decision: Do Not Delist

Weight of Evidence: This pollutant is being considered for removal from the 303(d) list under sections 4.6, and 4.10 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.10, a minimum of two lines of evidence are needed to assess delisting status.

Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6 the site has significant sediment toxicity but there is insufficient information to determine whether the pollutant contributes to the toxic effects. The benthic community may be impacted by this pollutant. A remedial program has scheduled actions to address this pollutant water body combination.

Based on the readily available data and information for sediments, the weight of evidence indicates that there sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This pollutant should not be removed from this segment because PCBs have been found to bioaccumulate in fish tissue.

This conclusion is based on the staff findings that:
1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
4. Two of 49 samples exceeded the sediment guideline and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. Ten of 22 samples exhibited significant amphipod toxicity, 4 of five samples exhibited significant sea urchin toxicity and the benthic community is considered to be degraded.
5. Pursuant to section 3.11 of the Listing Policy, PCBs have been listed throughout the Bay because of concerns with bioaccumulation in fish tissue.

SWRCB Staff Recommendation: After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because the PCB sediment quality is not exceeded and although there is significant sediment toxicity it cannot be determined if the pollutant contributes to or causes the documented toxicity effects.

Lines of Evidence:

Numeric Line of Evidence Pollutant-Sediment

Beneficial Use: ES - Estuarine Habitat

Matrix: Sediment

Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Evaluation Guideline:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000).
Data Used to Assess Water Quality:	One of 3 samples exceeded sediment guideline (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan (Stephenson et al, 1994).

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SRBRWQCB, 1995).
Evaluation Guideline:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000).
Data Used to Assess Water Quality:	One of 46 samples exceeded the sediment quality guideline (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson et al., 1994). All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Evaluation Guideline:	BPTCP Reference envelope approach used (SWRCB, 1997).
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%), Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat, MA - Marine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity

	measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment: Islais Creek

Pollutant: Sulfide-Hydrogen Sulfide

Decision: Do Not Delist

Weight of Evidence: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status.

Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration does not exceed the sediment guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:
1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
4. All samples in the two lines of evidence exhibited significant toxicity and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

SWRCB Staff Recommendation: After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Lines of Evidence:

Numeric Line of Evidence Toxicity

Beneficial Use: ES - Estuarine Habitat

Matrix: Sediment

Water Quality Objective/ Water Quality Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBWQCB, 1995).

Evaluation Guideline: Effect thresholds for BPTCP toxicity test protocols
Eohaustorius LOEC 0.114 mg/L (Knezovich et al., 1996)
Mytilus LOEC 0.0053 mg/L (Hunt et al., 1998).Rhepoxynius LOEC 0.087 mg/L

	(Hunt et al,. 1998). Purple Urchin Development LOEC 0.0076 mg/L (Knezovich et al., 1996) Purple Urchin Fertilization LOEC 0.007-0.014 NOEC (Bay et al., 1993)
Data Used to Assess Water Quality:	Six samples exceeding the threshold in six total measurements. Eohaustorius and purple urchin tests (Hunt et al., 1998a).
Spatial Representation:	Data was concurrently collected from samples tested for toxicity .
Temporal Representation:	Data was collected in September 1994.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan (SWRCB, 1994).

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Evaluation Guideline:	BPTCP Reference envelope approach was used.
Data Used to Assess Water Quality:	Six samples, all showed significant toxicity (Hunt et al., 1998b).
Spatial Representation:	Samples taken from one location.
Temporal Representation:	Samples collected in September 1994.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Mission Creek
Pollutant:	Chlordane
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Twenty-nine of 47 samples exceeded the sediment guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Data Used to Assess Water Quality:	Two of 3 sample measurements exceed the sediment guideline (Hunt et al., 1998b).
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Data Used to Assess Water Quality:	Twenty-eight of 44 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.

Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a

	calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Mission Creek
Pollutant:	Dieldrin
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Seventeen of 49 samples exceeded the 8 ng/g ERM sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 8 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	One of 5 samples exceeded the guideline (Hunt et al., 1998b).
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 8 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	Sixteen of 44 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.

Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a

	calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Mission Creek
Pollutant:	Lead
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Twenty-seven of 47 samples exceeded the 112.18 ug/g PEL sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (MacDonald et al., 1996).
Data Used to Assess Water Quality:	Two of 3 samples exceeded the sediment guideline (Hunt et al., 1998b).
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected in 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (MacDonald et al., 1996).
Data Used to Assess Water Quality:	Twenty-five of 44 samples exceeded the Probable Effects Level (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Mission Creek
Pollutant:	Mercury
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Five of 47 samples exceeded the 2.1 ug/g sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Sediment guideline of 2.1 ug/g was used (PTI Environmental Services, 1991).
Data Used to Assess Water Quality:	One of 3 samples exceeded guideline (Hunt et al., 1998b).
Spatial Representation:	Data were collected concurrently with benthic community and toxicity samples.
Temporal Representation:	Data was collected, from 5/95-4/97.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Sediment guideline of 2.1 ug/g was used (PTI Environmental Services, 1991).
Data Used to Assess Water Quality:	Four of 44 samples exceeded the sediment quality guideline (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index

	value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment: Mission Creek

Pollutant: Polychlorinated biphenyls

Decision: Do Not Delist

Weight of Evidence: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:
1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
4. Ten of 47 samples exceeded the 400 ng/g sediment guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

SWRCB Staff Recommendation: After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Lines of Evidence:

Numeric Line of Evidence Pollutant-Sediment

Beneficial Use: ES - Estuarine Habitat

Matrix: Sediment

Water Quality Objective/ Water Quality Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000).
Data Used to Assess Water Quality:	BPTCP Data: Two of 3 samples exceeded the sediment quality guideline. 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). Levels of PCBs at the highest detected levels at transect sampling stations 1N/S-4N/S with some pollutants in exceedance of the ERMs in 1998 only (Battelle Memorial Institute, 2002).
Spatial Representation:	BPTPC data collected concurrently with benthic and toxicity data.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000).
Data Used to Assess Water Quality:	Eight of 44 samples exceeded the sediment quality guideline (Battelle Memorial institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a

	detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a

	detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Mission Creek
Pollutant:	Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Thirteen of 47 samples exceeded the 9,600 ng/g ERM sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 9,600 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	Two of 3 samples exceeded sediment guideline (Hunt et al., 1998b).
Spatial Representation:	Data were collected concurrently with benthic and toxicity measurements.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 9,600 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	Eleven of 44 samples exceeded the ERM (Battelle Memorial institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant

Quality:	urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean

	species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Mission Creek
Pollutant:	Silver
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration not exceeds the sediment guideline. The benthic community is impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Sixteen of 49 samples exceeded the 1.77 ug/g PEL sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	PEL of 1.77 ug/g used (MacDonald et al., 1996).
Data Used to Assess Water Quality:	One of 3 samples exceed sediment guideline (Hunt et al., 1998b).
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected in 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
	Data were collected between 1998 and 2000.
Evaluation Guideline:	PEL of 1.77 ug/g used (MacDonald et al., 1996).
Data Used to Assess Water Quality:	Fifteen of 44 samples exceeded the PEL (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a

	detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a

	detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Mission Creek
Pollutant:	Zinc
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Nine of 47 samples exceeded the sediment guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 410 ug/g used (Long et al., 1995).
Data Used to Assess Water Quality:	One of 3 samples exceeded the ERM. Hunt et al,. 1998-b).
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected in 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 410 ug/g used (Long et al., 1995).
Data Used to Assess Water Quality:	Eight of 44 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.

Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). 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 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a

	calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. the index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Line of Evidence	Remedial Program in Place
Beneficial Use	ES - Estuarine Habitat
Information Used to Assess Water Quality:	The BPTCP 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.

Region 2

Water Segment:	Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Central)
Pollutant:	Chlordane
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for delisting under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, it cannot be determined if the site has significant sediment toxicity or whether the pollutant is likely to cause or contribute to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 2 samples exceeded the sediment guideline, 2 of 2 samples exhibit toxicity, but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	Reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 2 samples. No significant toxicity in two urchin toxicity tests (Hunt et al., 1998b).
Spatial Representation:	Data were synoptically collected with chemical measurements in sediments.
Temporal Representation:	Data collected between April 1995 and April 1997.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	An Effects Range Median guideline of 6 ng/g dw was used to evaluate Total Chlordane data. This guideline is higher than the guideline used in previous analyses.
Data Used to Assess Water Quality:	None of the 2 samples exceed the sediment quality guideline (Hunt et al., 1998b).
Spatial Representation:	One station. Data was synoptically collected with toxicity measurements.
Temporal Representation:	Data collected in April 1995 and April 1997.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Region 2

Water Segment:	Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Central)
Pollutant:	Polychlorinated biphenyls
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for delisting under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, it cannot be determined if the site has significant sediment toxicity or whether the pollutant is likely to cause or contribute to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 2 samples exceeded the sediment guideline, 2 of 2 samples exhibit toxicity, but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	Reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 2 samples. No significant toxicity in two urchin toxicity tests (Hunt et al., 1998b).
Spatial Representation:	Data were synoptically collected with chemical measurements in sediments.
Temporal Representation:	Data collected between April 1995 and April 1997.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	A sediment quality guideline of 400 ng/g was used (McDonald et al., 2000). This guideline is higher than the guideline used in previous analyses (Hunt et al., 1998b).
Data Used to Assess Water Quality:	None of 2 samples exceeded the sediment quality guideline (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with toxicity measurements.
Temporal Representation:	Data collected April 1994 and April 1997.
Data Quality Assessment:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Chlordane
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. The sediments are toxic in 2 of 4 tests. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (BPTCP, 1998). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any

	other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Data Used to Assess Water Quality:	One of 2 samples exceed the sediment quality guideline (Hunt et al, 1998b).
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 in 1995.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Copper
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status. Two lines of evidence are available in the administrative record to assess this pollutant. The site has significant sediment toxicity and the pollutant concentration does not exceed the sediment guideline but there are only a few chemical measurements. The number of samples is insufficient to determine with the confidence and power required by the Listing Policy. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 2 samples exceeded the sediment guideline, 2 of 4 samples exhibit toxicity. The number of samples is insufficient to determine if standards are attained. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any

	other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	ERM of 270 ug/g was used (Long et al., 1995).
Data Used to Assess Water Quality:	Two samples, no samples exceeding (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Dieldrin
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. The sediments are toxic in 2 of 4 tests. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	ERM of 8 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	One of 2 samples exceed the sediment quality guideline (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Lead
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence is available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (McDonald et al., 1996).
Data Used to Assess Water Quality:	One sample exceeds the sediment quality guideline (Hunt et al., 1998-b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Mercury
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One of two samples exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. The sediments are toxic in 2 of 4 tests. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	Sediment guideline of 2.1 ug/g was used (PTI Environmental Services, 1991).
Data Used to Assess Water Quality:	One of 2 samples exceed the sediment quality guideline.(Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Polychlorinated biphenyls
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. The sediments are toxic in 2 of 4 tests. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	Sediment guideline of 400 ng/g used (McDonald et al., 2000).
Data Used to Assess Water Quality:	One sample exceeds the sediment guideline (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected in 1997.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. The sediments are toxic in 2 of 4 tests. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	ERM of 9,600 ng/g used (Long et al., 1995).
Data Used to Assess Water Quality:	One sample exceeded the sediment quality guideline (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected in 1997.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Central)
Pollutant:	Zinc
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. The sediments are toxic in 2 of 4 tests. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	ERM of 410 ug/g used (Long et al., 1995).
Data Used to Assess Water Quality:	One of 2 samples exceed the sediment guideline (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP reference envelope approach used.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Data Quality Assessment:	Used BPTCP QA/QC.

Region 2

Water Segment:	Pacific Ocean at Rockaway Beach
Pollutant:	Coliform Bacteria
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of 23 samples exceeded the coliform water quality objective. At least 26 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.2 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Water
Beneficial Use:	R1 - Water Contact Recreation
Matrix:	Water
Water Quality Objective/ Water Quality Criterion:	Ocean Plan: Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml) (SWRCB, 2001).
Data Used to Assess Water Quality:	Three of 23 sample exceeded the objective. Samples exceeding were collected during dry-weather season (SWRCB, 2003).

Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 5/2000-10/2000.
Data Quality Assessment:	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.

Region 2

Water Segment:	Pescadero Creek
Pollutant:	Sedimentation/Siltation
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for delisting under sections 4.9 and 4.11 of the Listing Policy. Six lines of evidence are available in the administrative record to assess this pollutant. The original listing was based on a recommendation to list by the Department of Fish and Game. The available data, the water body has optimal or suboptimal habitat to support salmonids and generally good insect community even though sedimentation from past practices will continue for some time. Summer measurements of turbidity measurements did not exceed evaluation guidelines for the protection of salmonids. There is limited habitat for Coho because of the lack of deep pools, spawning gravels, and large woody debris. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The biological assessments used comply with the requirements of the Listing Policy (section 6.1.5.8). 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Even though most of the samples indicate optimal or suboptimal fish habitat and the benthic bioassessments indicate most of the samples have good or excellent ratings, there are still potential impacts on Coho related to lack of suitable spawning habitat. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards are exceeded.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Water
Beneficial Use:	CO - Cold Freshwater Habitat, MU - Municipal & Domestic, WA - Warm Freshwater Habitat
Matrix:	Water
Water Quality Objective/	Basin Plan: Waters shall be free of changes in turbidity that cause nuisance or

Water Quality Criterion:	adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU (SFBRWQCB, 1995).
Evaluation Guideline:	The WQOs address conditions both in the water column (sediment and turbidity narratives). Published sedimentation thresholds can be used as appropriate interpretive evaluation guidelines. The evaluation guideline used to determine turbidity exceedance is from published-peer reviewed paper, "The Effects of Chronic Turbidity on Density and Growth of Steelheads and Coho Salmon", John W Sigler, et.al.1984. The guideline is as follows "In our studies, as little as 25 NTUs of turbidity caused a reduction in fish growth." (NTU is nephelometric turbidity units). Sigler also discusses the result of turbidities in the 25-50 NTU range reduced growth and caused more newly emerged salmonids to emigrate from laboratory streams than did clear water (Sigler et al. 1984). Bisson and Bilby (1982) reported that juvenile coho salmon avoided water with turbidities that exceeded 70 NTU. Berg and Northcote (1985, as cited in Meehan 1991) reported that feeding and territorial behavior of juvenile coho salmon were disrupted by short-term exposures (2.5-4.5 days) to turbid water with up to 60 NTU.
Data Used to Assess Water Quality:	One of 8 data values exceed the secondary MCL for turbidity. Smallest = 1.24, largest = 5.28 (NTU). Average = 2.74 (NTU). Comparison to the "changes in turbidity" objective cannot be made because background information is not available. None of the measurements exceed the 25 NTU evaluation guideline (Environmental Science Associates, 2004).
Spatial Representation:	Eight sample sites along the Creek and its immediate tributaries (14 total Pescadero and Butano SWAMP program sites were used.)
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer, August 21 to September 24, 2003.
Data Quality Assessment:	Methodology discussed in ESA 2004 report.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	CO - Cold Freshwater Habitat, WI - Wildlife Habitat
Matrix:	-N/A
Water Quality Objective/ Water Quality Criterion:	Basin Plan: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota (SFBRWQCB, 1995).
Evaluation Guideline:	Bioassessment guidelines from the following publication were used: [California Department of Fish and Game (CDFG), 1999]
Data Used to Assess Water Quality:	Metric values from 18 sample sites for taxonomic richness, dominant taxon, members of three major benthic invertebrate families, a sensitive taxa index, the Shannon Diversity index, and tolerance value were scored and the 132 scores (6 scores for each sample site) summed to derive total scores for each site. Total scores were then used to assign "poor," "fair," "good," or "excellent" condition grades to each site along the Creek (SWAMP, 2004). Total sample site scores ranged from 10 to 28. The average score was 20.4,

	which is equivalent to a "good" rating. One site was rated "poor." Two sites were rated "fair." Eight sites were "good" and seven sites were "excellent."
Spatial Representation:	18 sample sites along the Creek and its immediate tributaries (14 total Pescadero and Butano SWAMP program sites were used.) (ESA, 2004).
Temporal Representation:	SWAMP assessment made in April 2002. DFG assessments made in 1995. ESA (Environmental Science Associates) survey made in summer (August 21 to September 24) 2003.
Environmental Conditions:	April 2002 SWAMP data is not directly comparable to summer 2003 data. Habitat conditions in summer 2003 were evaluated at each site.
Data Quality Assessment:	California Stream Bioassessment Protocols (CDFG 1999) used (in 2002 and 2003 surveys). SWAMP QAPP was used.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	CO - Cold Freshwater Habitat
Matrix:	-N/A
Water Quality Objective/ Water Quality Criterion:	All waters shall remain free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota (SFBRWQCB, 1995).
Data Used to Assess Water Quality:	Assessments of physical habitat quality, biotic conditions, pool habitat quality, and water quality in the Pescadero-Butano watershed revealed the following overall fisheries habitat conditions currently present in the watershed: (1) Accessible salmonid habitat is fairly abundant throughout the watershed, (2) salmonid habitat quality is higher in the mid and upper Pescadero Creek watershed and lower in the Butano Creek watershed as well as the low gradient reaches of Pescadero Creek, (3) pool habitat is fairly abundant but of limited depth and suboptimal cover, (4) water quality throughout both watersheds is generally adequate for salmonids and other aquatic organisms. The primary limiting factors with regards to salmonid habitat, based on the sampled reaches, are generally shallow pool depths, limited amounts and frequency of large woody debris, and relatively high levels of fine sediments. These limiting factors are likely to be of greater significance to coho salmon than steelhead. Coho in particular require deep pools with low water velocities and adequate cover for survival and growth while steelhead are more adapted to occupying and foraging in the faster and shallower areas of stream channels. Thus, current habitat conditions in the watershed favor steelhead over coho salmon.
Spatial Representation:	Eighteen sites along the creek and in small tributaries.
Temporal Representation:	Data and information collected in 2002 and 2003.
Data Quality Assessment:	SWAMP quality assurance and comparable ESA methods.

Line of Evidence	Narrative Description Data
Beneficial Use	CO - Cold Freshwater Habitat, MU - Municipal & Domestic, WA - Warm Freshwater Habitat

Information Used to Assess Water Quality:	1. Analysis of the flood record on Pescadero Creek (1951 through 2001). 2. Analysis of changes in streambed elevation at the gauging station (1951 through 2001).
Non-Numeric Objective:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995). Turbidity Objective: "Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU."
Data Used to Assess Water Quality:	Graphs of "Maximum Annual Flood Peaks Greater than Bankfull as a Ratio to the Mean Annual Flood" and "Maximum Annual Flood Peaks Greater than Bankfull as a Ratio to the Mean Annual Flood" appear to show that flooding continues to be periodic and occasional (e.g., Pages 4-5, 4-6). Sediment Source Investigation (e.g., Analysis of aerial photos). "Erosional features associated with land management account for by far the greatest sediment delivery volumes from the watershed." (Page 6-48). "The sandstone and mixed lithology HGUs that underlie much of the forested area of the watershed may continue to produce relatively large quantities of sediment for some time." (Page 6-49). "While erosion and sediment delivery resulting from past management will likely continue for some time, there should be an overall decrease in sediment delivery to stream channels as land use practices continue to improve and as degraded lands recover both naturally and through proactive treatments." (Pages 6-49, 6-50).
Spatial Representation:	Single USGS gauging station, "Pescadero Creek," located at a bridge on Pescadero Road, 3.0 miles east of the town of Pescadero and 5.3 miles upstream of the mouth of Pescadero Creek.
Temporal Representation:	Series of annual maximum instantaneous flood peaks (annual flood series) for the 1952 through the 2001 water years.

Line of Evidence	Testimonial Evidence
Beneficial Use	CO - Cold Freshwater Habitat, WA - Warm Freshwater Habitat
Information Used to Assess Water Quality:	In 1998 a letter was sent to RWQCB staff from the California Department of Fish and Game requesting that several waters be added to the section 303(d) list because of the threats to Coho salmon and steelhead. The letter states: "...The Federal listing of both Coho salmon and steelhead as threatened species confirms the grave condition of these economically and intrinsically valuable fish populations. ...If these species are to survive, we must act now to improve aquatic habitat where it is most critical, namely in major rivers tributary to the Bay and ocean." The letter goes on to identify siltation as a problem in Pescadero and Butano Creeks. No data are provided or analyzed to support the conclusion that siltation

	is a water quality problem.
Non-Numeric Objective:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).

Line of Evidence	Pollutant-Sediment
Beneficial Use	CO - Cold Freshwater Habitat, WA - Warm Freshwater Habitat
Information Used to Assess Water Quality:	From the RWQCB: More than 80 percent of the estimated total sediment delivery to the channel network during the past two decades is associated with human land use activities. Much of this sediment is controllable (gullies associated with historical hillside agriculture, active and abandoned rural earth-surfaced roads, etc.).
Non-Numeric Objective:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Line of Evidence	Testimonial Evidence
Beneficial Use	CO - Cold Freshwater Habitat
Information Used to Assess Water Quality:	From the RWQCB: (1) There is little suitable habitat at present within the creek for coho salmon, and primary hypothesized limiting factors (for coho) are lack of good cover and deep pools, the second factor of which is in part related to an abundant total and fine sediment supply; (2) Coho salmon are state listed as endangered south of the Golden Gate, and federally listed as threatened. Two-of-three brood years are believed to be extinct within Pescadero and Butano Creeks, and the third brood year appears to have a tenuous presence. (3) Although the steelhead trout run in both creeks does not appear to be immediately threatened by local extinction, run-size is substantially reduced from historical values by a variety of limiting factors including a lack of large woody debris and substantial increase in total and fine sediment supply.

Region 2

Water Segment:	San Gregorio Creek
Pollutant:	Coliform Bacteria
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess delisting status. One line of evidence is available in the administrative record to assess this pollutant. A large number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. High percentages of samples exceeded the total and fecal coliform water quality objectives and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards for the pollutant are not exceeded.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Water
Beneficial Use:	R1 - Water Contact Recreation
Matrix:	Water
Water Quality Objective/ Water Quality Criterion:	Basin Plan objectives (SFBRWQCB, 1995) Fecal coliform Log mean <200 MPN/100ml 90th percentile <400 MPN/100ml Total coliform Log mean <240 MPN/100ml 90th percentile >10,000 MPN/100ml
Data Used to Assess Water Quality:	Fifty-six 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 (SWRCB, 2003).
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 9/28/98-10/31/00.
Data Quality Assessment:	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.

Region 2

Water Segment:	San Leandro Bay (part of SF Bay, Central)
Pollutant:	Lead
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is not impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Four of 7 samples exceeded the sediment guideline, 3 of 7 samples exhibit toxicity, but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success,

	larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (MacDonald et al., 1996).
Data Used to Assess Water Quality:	Four of 7 measurements exceeded the sediment quality guideline (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Region 2

Water Segment:	San Leandro Bay (part of SF Bay, Central)
Pollutant:	Mercury
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for delisting under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the water body has significant sediment toxicity and it cannot be determined if the pollutant causes or contributes to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 7 samples exceeded the sediment guideline, 3 of 7 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any

	other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Sediment quality guideline of 2.1 ug/g was used (PTI Environmental Services,

	1991).
Data Used to Assess Water Quality:	None of 7 measurements exceeded the sediment quality guideline. In previous BPTCP analyses the guideline used was much lower than the guideline used in the current analysis (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Region 2

Water Segment:	San Leandro Bay (part of SF Bay, Central)
Pollutant:	Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration may not exceed the sediment guideline. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Two of 7 samples exceeded the sediment guideline and this does not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because it cannot be determined if applicable water quality standards are attained.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach.

Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Effects Range-Median for high molecular weight PAHs of 9,600 ng/g was used (Long et al., 1995). Probable Effects Level for low molecular weight PAHs of 1,442 ng/g was used (MacDonald et al., 1996).
Data Used to Assess Water	Two of 7 samples exceed the guideline for high molecular weight PAHs (Hunt et

Quality:	al., 1998).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Region 2

Water Segment:	San Leandro Bay (part of SF Bay, Central)
Pollutant:	Zinc
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is not impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Four of 7 samples exceeded the sediment quality guideline of 410 ug/g, 3 of 7 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1. In addition, at least 28 total samples are required before a pollutant can be considered for removal from the 303(d) list using the frequencies presented in table 4.1 of the Listing Policy. The benthic community in this water body is not impacted. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Toxicity
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	BPTCP Reference envelope approach.
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Population/Community Degradation
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Numeric Line of Evidence	Pollutant-Sediment
Beneficial Use:	ES - Estuarine Habitat
Matrix:	Sediment
Water Quality Objective/ Water Quality Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success,

	larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Evaluation Guideline:	Effects Range-Median of 410 ug/g was used (Long et al., 1995).
Data Used to Assess Water Quality:	Four of 7 measurements exceed the ERM (Hunt et al., 1998b).
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Data Quality Assessment:	BPTCP Quality Assurance Project Plan.

Region 2

Water Segment:	San Pablo Reservoir
Pollutant:	Mercury
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.5 of the Listing Policy. Under section 4.5 a single line of evidence is necessary to assess delisting status. One line of evidence is available in the administrative record to assess this pollutant. A large number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Five of 12 samples exceeded the water quality objective and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. Too few samples are available to consider delisting. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Lines of Evidence:

Numeric Line of Evidence	Pollutant-Tissue
Beneficial Use:	CM - Commercial and Sport Fishing (CA)
Matrix:	Tissue
Water Quality Objective/ Water Quality Criterion:	Basin Plan: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in aquatic life (SFBRWQCB, 1995).
Evaluation Guideline:	Interim fish advisory issued Feb. 2000, USEPA screening criterion (0.3 ppm) (USEPA, 2000).
Data Used to Assess Water Quality:	Five 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 (TSMP, 2002).
Temporal Representation:	Data was collected during 11/97.

Data Quality Assessment:	Used California Office of Environmental 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.

Region 2

Water Segment:	San Pedro Creek
Pollutant:	Coliform Bacteria
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess delisting status. One line of evidence is available in the administrative record to assess this pollutant. A large number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Most of the samples exceeded the total and fecal water quality objectives and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Water
Beneficial Use:	R1 - Water Contact Recreation
Matrix:	Water
Water Quality Objective/ Water Quality Criterion:	Basin Plan objectives (SFBRWQCB, 1995) Fecal coliform Log mean <200 MPN/100ml 90th percentile <400 MPN/100ml Total coliform Log mean <240 MPN/100ml 90th percentile >10,000 MPN/100ml Ocean Plan Objectives (SWRCB, 2001) Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day

	period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).
Data Used to Assess Water Quality:	Ninety-nine 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 (SWRCB, 2003). 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 Quality Assessment:	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.

Region 2

Water Segment:	San Vicente Creek
Pollutant:	Coliform Bacteria
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess delisting status. One line of evidence is available in the administrative record to assess this pollutant. A large number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. All samples exceeded the fecal and total coliform water quality objectives and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Lines of Evidence:

Numeric Line of Evidence	Pollutant-Water
Beneficial Use:	R1 - Water Contact Recreation
Matrix:	Water
Water Quality Objective/ Water Quality Criterion:	Basin Plan objectives (SFBRWQCB, 1995) Fecal coliform Log mean <200 MPN/100ml 90th percentile <400 MPN/100ml Total coliform Log mean <240 MPN/100ml 90th percentile >10,000 MPN/100ml
Data Used to Assess Water Quality:	Thirty-eight 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 (SWRCB, 2003).
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/6/98-9/26/00.
Data Quality Assessment:	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.

Region 2

Water Segment:	Tomales Bay
Pollutant:	Mercury
Decision:	Do Not Delist
Weight of Evidence:	This pollutant is being considered for removal from the section 303(d) list under section 3.5 of the Listing Policy. One line of evidence is available in the administrative record to assess this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Twenty-seven out of 55 samples exceeded the OEHHA Screening Value and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
SWRCB Staff Recommendation:	After review of the available data and information, SWRCB staff concludes that the water body-pollutant combination should not be removed from on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
Lines of Evidence:	

Numeric Line of Evidence	Pollutant-Tissue
Beneficial Use:	CM - Commercial and Sport Fishing (CA)
Matrix:	Tissue
Water Quality Objective/ Water Quality Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Evaluation Guideline:	0.3 ug/g (OEHHA Screening Value)
Data Used to Assess Water Quality:	Twenty-seven out of 55 samples exceeded (Health Advisory for Hg in fish and shellfish). Filet composite and individual samples were collected from the following species: bat ray, brown smooth hound shark, California halibut, cockle, jack smelt, leopard shark, Pacific angle shark, red rock crab, redtail surfperch, and shiner surfperch. Species exceeding guideline were bat ray,

	brown smooth hound shark, cockle, leopard shark, and Pacific angle shark (TSMP, 2002).
Spatial Representation:	Seven station were sampled: Outer Bay, Mid Bay, Blake's Landing, Hamlet, McDonald, Millerton Park, and S. Millerton Ramp.
Temporal Representation:	Samples were collected in 1998-99.
Data Quality Assessment:	Data and Quality Assurance/Quality Control Report For Trace Metals - Coastal Fish Contaminant Project Year 1, 1998-1999. Department of Fish and Game.

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