

EXHIBIT A

Proposed Basin Plan Amendment

**2005 Basin Plan General Update
With Non-regulatory Revisions**

Tables

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Human Consumptive Uses										Aquatic Life				Wildlife Use
	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAI	SPWN	WARM	WILD	
MARIN COASTAL BASIN															
MARIN COUNTY															
Pacific Ocean (Marin)					E		E	E			E	E		E	
Abbotts Lagoon											E			E	
Drakes Estero							E	E			E	E		E	
First Valley Creek								E	E			E		E	
East Schooner Creek															
Limantour Estero							E	E			E	E		E	
Coast Creek								E	E			E		E	
Alamere Creek									E					E	
Crystal Lake									E			E	E	E	
Bolinas Bay															
Bolinas Lagoon							E	E			E	E		E	
Pine Gulch Creek		E							E			E	E	E	
Easkoot Creek															
McKernan Gulch Creek															
Morses Gulch Creek															
Pike County Gulch Creek															
McKernan Gulch Creek															
Redwood Creek (Marin)	E	E	E					E	E			E	E	E	
Rodeo Lagoon									E					E	
Rodeo Creek									E		E	E		E	
Tomales Bay							E	E			E	E		E	
Tomales Bay Estuary															
Millerton Gulch															
Lagunitas Creek	E	E							E			E	E	E	
Walker Creek									E			E	E	E	
Laguna Lake															
Frink Canyon Creek															
Walker Creek									E			E	E	E	
Verde Canyon Creek															
Salmon Creek															
Soule Joute Soula Jule Reservoir			E	E									E	E	
Lagunitas Creek	E	E							E			E	E	E	
Haggerty Gulch Creek															
Bear Valley Creek															
Oleria Creek									E			E	E	E	
Nicasio Reservoir		E	E						P			E	E	E	
Nicasio Creek		E	E						E			E		E	
Halleck Creek															
Devils Gulch Creek															
Kent Lake		E							E			E	E	E	
Big Carson Creek															
Alpine Lake		E							E			E	E	E	

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

<-Recreational Uses->

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Error Type					SOURCE OF ERROR
	REC-1	REC-2	NAV	Uses	Name	
MARIN COASTAL BASIN						
MARIN COUNTY						
Pacific Ocean (Marin)	E	E	E			
Abbotts Lagoon	E	E				
Drakes Estero	E	E		2		Transcription error between 1986 and 1995 Basin Plans
First Valley Creek East Schooner Cree	P	E				GGNRA staff indicated that the name of the stream is in error.
Limantour Estero	E	E				
Coast Creek	E	E				
Alamere Creek	P	E				
Crystal Lake	P	P				
Bolinas Bay						Same as Pacific Ocean (not an enclosed bay)
Bolinas Lagoon	E	E				
Pine Gulch Creek		E			1	Placed in wrong watershed in 1995 Basin Plan
Easkoot Creek						
McKenna Gulch Creek					1	Misspelled in 1995 Basin Plan
Morses Gulch Creek						
Pike County Gulch Creek						
McKenna Gulch Creek						Duplicative Listing
Redwood Creek (Marin)	E	E				
Rodeo Lagoon	E	E		4		1975 Basin Plan designated uses
Rodeo Creek	E	E				
Tomales Bay	E	E		9		Transcription error between 1986 and 1995 Basin Plans
Tomales Bay Estuary					1	
Millerton Gulch						
Lagunitas Creek	E	E			1	Duplicative Listing
Walker Creek	P	P				
Laguna Lake						
Frink Canyon Creek						
Walker Creek	P	P			1	Duplicative Listing
Verde Canyon Creek						
Salmon Creek						
Soule Joute Soula Jute Reservoir	E	E			1	Misspelled in 1995 Basin Plan
Lagunitas Creek	E	E				
Haggerty Gulch Creek					1	Omission error in 1995 Basin Plan
Bear Valley Creek						
Otema Creek	E	E	E	2		REC2 designated in 1975, 1986 Basin Plans (NAV = transcription error)
Nicasio Reservoir	E	E				
Nicasio Creek	E	E				
Halleck Creek						
Devils Gulch Creek						
Kent Lake	E	E				
Big Carson Creek						
Alpine Lake	E	E				

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Human Consumptive Uses										Aquatic Life Uses					Wildlife Use
	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAR	MIGR	RARE	SPWN	WARM	WILD
Bon Tempe Lake		E							E					E	E	E
Lake Lagunitas		E							E					E	E	E
Pine Gulch Creek		E							E		E			E	E	E
SAN MATEO COASTAL BASIN																
SAN MATEO COUNTY																
Pacific Ocean (San Mateo, San Francisco)					E		E	E			E	E	E	E		E
Lake Merced		P							E					E	E	E
San Pedro Creek		E							E		E			E	E	E
San Vicente Creek	E	E							E		E	E	E	E		E
Denniston Creek	E	E							E		E	E	E	E	E	E
Frenchmans Creek	E								E		E	E	E	E	E	E
Pilarcitos Creek	E	E							E		E	E	E	E	E	E
Apanolio Creek																
Arroyo Leon Creek																
Mills Creek																
Pilarcitos Lake		E							E				E	E	E	E
Purisima Creek	E								E		E	E	E	E		E
Lobitas Creek	E								E		E	E	E	E		E
Tunitas Creek	E								E		E	E	E	E	E	E
San Gregorio Creek	E								E		E	E	E	E	E	E
Alpine Creek																
El Corte de Madera Creek									E			P	E	P	E	E
La Honda Creek																
Woodruff Creek																
Clear Creek																
Harrington Creek																
Bogess Creek																
Mindego Creek																
Pomponio Creek	E								E		E			E	E	E
Pomponio Reservoir																
Pescadero Creek	E	E							E		E	E	E	E	E	E
Butano Creek																
Fail Creek																
Hoffman Creek																
Honsinger Creek																
Jones Gulch Creek																
McCormick Creek																
Oil Creek																
Lambert Creek																
Peters Creek																

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

<-Recreational Uses->

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Error Type					SOURCE OF ERROR
	REC-1	REC-2	NAV	Uses	Name	
Bon Tempe Lake	E	E				
Lake Lagunitas	E	E				
Pine Gulch Creek		E			1	Placed in wrong watershed in 1995 Basin Plan
SAN MATEO COASTAL BASIN						
SAN MATEO COUNTY						
Pacific Ocean (San Mateo, San Franc	E	E	E	11	1	Recognize Pacific Ocean in counties other than Marin, with same Beneficial Uses
Lake Merced	E	E		1		Transcription error between 1986 and 1995 Basin Plans, omitting WILD use
San Pedro Creek		E		1		Transcription error between 1986 and 1995 Basin Plans, omitting WILD use
San Vicente Creek	P	P		1	1	Mispelled in 1995 Basin Plan; Transcription error between 1986 and 1995 Basin Plans, omitting WILD use
Denniston Creek	E	E		1		Transcription error between 1986 and 1995 Basin Plans, omitting WILD use
Frenchmans Creek	E	E				
Pilarcitos Creek	P	P				
Apanolio Creek						
Arroyo Leon Creek						
Mills Creek						
Pilarcitos Lake	L	E				
Purisima Creek	E	E				
Lobitas Creek	E	E				
Tunitas Creek	P	P				
San Gregorio Creek	E	E				
Alpine Creek						
El Corte de Madera Creek	P	E				
La Honda Creek						
Woodruff Creek						
Clear Creek						
Harrington Creek						
Bogess Creek						
Mindego Creek						
Pomponio Creek	EP	E	P	3		REC2 designated in 1975 Basin Plan, REC1 use was potential in 1975, 1986 Basin Plans, no NAV use in creek
Pomponio Reservoir						
Pescadero Creek	E	E				
Butano Creek						
Fall Creek						
Hoffman Creek						
Honsinger Creek						
Jones Gulch Creek						
McCormick Creek						
Oil Creek						
Lambert Creek						
Peters Creek						

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HYDROLOGIC UNIT / COUNTY/ WATER BODY	Human Consumptive Uses										Aquatic Life Uses					Wildlife Use
	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAR	MIGR	RARE	SPWN	WARM	WILD
Slate Creek																
Tarwater Creek																
Little Boulder Creek																
Waterman Creek																
CENTRAL BASIN																
SAN FRANCISCO COUNTY																
Golden Gate Channel																
San Francisco Bay Central					E	E	E	E		E		E	E	E		E
Golden Gate Park Lakes															E	E
MARIN COUNTY																
San Rafael Creek									E						E	E
Corte Madera Creek									E			P	E	P	E	E
Ross Creek																
Cascade Creek																
San Anselmo Creek																
Sleepy Hollow Creek																
Phoenix Lake		E							E					E	E	E
Phoenix Creek																
Bill Williams Creek																
Richardson Bay					E		E	E		E		E	E	E		E
Arroyo Corte Madera del Presidio								E	E					E		E
Old Mill Creek									E							E
Coyote Creek (Marin)									E						E	E
ALAMEDA COUNTY																
Berkeley Aquatic Park Lagoon										E		E		P		E
Lake Temescal									E					E	E	E
CONTRA COSTA COUNTY																
Old Mill Creek																
SOUTH BAY BASIN																
SAN FRANCISCO COUNTY																
San Francisco Bay Lower					E		E	E		E		E	E	P		E
SAN MATEO COUNTY																
San Mateo Creek			E						P				E	E		E
Lower Crystal Springs Reservoir-Lower		E							E				E	E	E	E
Upper Crystal Springs Reservoir Upper		E							E				E	E	E	E
San Andreas Lake		E							E				E	E	E	E
Foster City Lagoon																
Bair Island Wetlands																
ALAMEDA COUNTY*																
Lake Merritt										E				E		E
Lower San Leandro Creek			E									P		P	P	E
Lake Chabot (Alameda)		E							E					E	E	E
Cull Canyon Reservoir									E					E	E	E
Upper San Leandro Reservoir		E							E					E	E	E

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<-Recreational Uses->

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Error Type				Name	SOURCE OF ERROR
	REC-1	REC-2	NAV	Uses		
Slate Creek						
Tarwater Creek						
Little Boulder Creek						
Waterman Creek						
CENTRAL BASIN						
SAN FRANCISCO COUNTY						
Golden Gate Channel						
San Francisco Bay Central	E	E	E			
Golden Gate Park Lakes		E				
MARIN COUNTY						
San Rafael Creek		E	E			
Corte Madera Creek	P	E				
Ross Creek						
Cascade Creek						
San Anselmo Creek						
Sleepy Hollow Creek						
Phoenix Lake	E	E				
Phoenix Creek						
Bill Williams Creek						
Richardson Bay	E	E	E			
Arroyo Corte Madera del Presidio	P	E				
Old Mill Creek		E		3		COLD, REC2, WILD designated in 1975 Basin Plan
Coyote Creek (Marin)		E				
ALAMEDA COUNTY						
Berkeley Aquatic Park Lagoon	E	E		1		Transcription error between 1986 and 1995 Basin plans
Lake Temescal	E	E				
CONTRA COSTA COUNTY						
Old Mill Creek						
SOUTH BAY BASIN						
SAN FRANCISCO COUNTY						
San Francisco Bay Lower	E	E	E	1		SPWN potential use in 1975, 1986 Basin plans
SAN MATEO COUNTY						
San Mateo Creek	P	P				
Lower Crystal Springs Reservoir-Lowe		E			1	Mis-labeled water body name in 1995 Basin Plan
Upper Crystal Springs Reservoir Upp		E			1	Mis-labeled water body name in 1995 Basin Plan
San Andreas Lake	L	E				
Foster City Lagoon						
Bair Island Wetlands					1	Mis-labeled water body name in 1995 Basin Plan
ALAMEDA COUNTY*						
Lake Merritt	E	E		1		Transcription error between 1986 and 1995 Basin plans
Lower San Leandro Creek	P	P				
Lake Chabot (Alameda)	E	E				
Gulf Canyon Reservoir	E	E			1	Placed in wrong watershed
Upper San Leandro Reservoir	L	P			1	Mis-labeled water body name in 1995 Basin Plan

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
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HYDROLOGIC UNIT / COUNTY/ WATER BODY	Human Consumptive Uses										Aquatic Life Uses						Wildlife Use
	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAR	MIGR	RARE	SPWN	WARM	WILD	
San Leandro Creek			E						E			P		P	P	E	
Kaiser Creek																	
Moraga Valley Creek																	
San Lorenzo Creek		E	E	E					E			E		E	E	E	
Don Castro Reservoir									E					E	E	E	
Cull Canyon Reservoir									E					E	E	E	
Palomares Creek									E			E		E	E	E	
Crow Creek									E			E		E	E	E	
Alameda Creek Quarry Ponds				E					E					E	E	E	
Alameda Creek	E			E					E			E		E	E	E	
San Antonio Reservoir		E							E					E	E	E	
Lacosta Creek																	
Arroyo de la Laguna				E					P			E		E	P	E	
Arroyo del Valle		E		E					E			P		E	E	E	
Shadow Cliffs Reservoir									E					E	E	E	
Del Valle Reservoir		E							E					E	E	E	
Arroyo Mocho				E					P			E		E	P	E	
Tassajara Creek				E					P			E		E	P	E	
Arroyo de las Positas				E					P			E		E	P	E	
Arroyo Seco (Alameda)				E					P			E		E	P	E	
Alamo Canal				E					P			E		E	P	E	
Alamo Creek				E					P			E		E	P	E	
Smith Creek																	
SANTA CLARA COUNTY																	
Calaveras Reservoir		E							E					E	E	E	
Arroyo Hondo		E	E						E					E	E	E	
Isabel Creek		E	E						E					E	E	E	
Smith Creek		E	E						E					E	E	E	
Sulphur Creek (Alameda/Santa Clara)		E	E						E					E	E	E	
SANTA CLARA BASIN																	
San Francisco Bay South					E		E	E		E		E	E	P		E	
ALAMEDA COUNTY																	
Lake Elizabeth Lake									E					E	E	E	

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<-Recreational Uses->

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Error Type					SOURCE OF ERROR
	REC-1	REC-2	NAV	Uses	Name	
San Leandro Creek	P	P				
Kaiser Creek						
Moraga Valley Creek					1	Mis-labeled water body name in 1995 Basin Plan
San Lorenzo Creek	E	E				
Don Castro Reservoir	E	E				
Cull Canyon Reservoir	E	E				
Palomares Creek	E	E		7		1975 Basin Plan designated these uses for upstream tributaries of San Lorenzo Creek
Crow Creek	E	E		7		1975 Basin Plan designated these uses for upstream tributaries of San Lorenzo Creek
Alameda Creek Quarry Ponds	E	E				
Alameda Creek	E	E				
San Antonio Reservoir	L	E				
Lacosta Creek						
Arroyo de la Laguna	E	E				
Arroyo del Valle	P	P			1	Misspelled water body name
Shadow Cliffs Reservoir	E	E				
Del Valle Reservoir	E	E				
Arroyo Mocho	E	E		8		1975 Basin Plan designated these uses for upstream tributaries of Arroyo de la Laguna
Tassajara Creek	E	E		8		1975 Basin Plan designated these uses for upstream tributaries of Arroyo de la Laguna
Arroyo de las Positas	E	E		8	1	1975 Basin Plan designated these uses for upstream tributaries of Arroyo de la Laguna, Misspelled water body name
Arroyo Seco (Alameda)	E	E		8		1975 Basin Plan designated these uses for upstream tributaries of Arroyo de la Laguna
Alamo Canal	E	E		8		1975 Basin Plan designated these uses for upstream tributaries of Arroyo de la Laguna
Alamo Creek	E	E		8		1975 Basin Plan designated these uses for upstream tributaries of Arroyo de la Laguna
Smith Creek					1	Placed in wrong watershed in 1995 Basin Plan
SANTA CLARA COUNTY						
Calaveras Reservoir	L	E				
Arroyo Hondo	E	E				
Isabel Creek	E	E		8		1975 Basin Plan designated these uses for upstream tributaries of Arroyo Hondo
Smith Creek	E	E		8		1975 Basin Plan designated these uses for upstream tributaries of Arroyo Hondo
Sulphur Creek (Alameda/Santa Clara)	E	E		8	1	Mis-labeled water body name in 1995 Basin Plan, 1975 Basin Plan designated these uses for upstream tributaries of Arroyo Hondo
SANTA CLARA BASIN						
San Francisco Bay South	E	E	E	1		Transcription error between 1986 and 1995 Basin Plans, omitting WILD use
ALAMEDA COUNTY						
Lake Elizabeth Lake		E			1	Misspelled water body name

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HYDROLOGIC UNIT / COUNTY/ WATER BODY	←-----Human Consumptive Uses-----→							←-----Aquatic Life Uses-----→							Wildlife Use	
	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAR	MIGR	RARE	SPWN		WARM
SAN MATEO AND SANTA CLARA COUNTIES																
San Francisquito Creek									E			E		E	E	E
Felt Lake	E													E	E	E
Los Trancos Creek																
West Union Creek																
Searsville Lake	E								E					E	E	E
SANTA CLARA COUNTY																
Matadero Creek									E			E		E	E	E
Permanente Creek									E					E	E	E
Stevens Creek			E						E			E		P	E	E
Stevens Creek Reservoir		E		E					E			E		E	E	E
Calabazas Creek	E			E					E						E	E
Saratoga Creek	E		E	E					E						E	E
Guadalupe River									E			P		P	E	E
Los Gatos Creek		E	E	E					E			P		P	E	E
Vasona Lake				E					E					E	E	E
Lexington Reservoir		E							E					E	E	E
Lake Elsmán		E							E							E
Los Gatos Creek																
Campbell Percolation Pond				E					E					E	E	E
Guadalupe Creek																
Guadalupe Reservoir		E		E					E					E	E	E
Alamitos Creek																
Calero Reservoir		E		E										E	E	E
Almaden Reservoir		E		E					E					E	E	E
Herbert Creek																
Anderson Lake		E		E					E					E	E	E
Barrett Canyon Creek																
Herbert Creek																
Coyote Creek				E					E			E	E	E	E	E
Elizabeth Lake									E					E	E	E
Lower Penitencia Creek																
Berryessa Creek																
Upper Penitencia Creek																
Cherry Flat Reservoir	E	E												E	E	E
Arroyo Agguague Creek																
Halls Valley Reservoir														E	E	E
Silver Creek																
Fremont Lagoon																
Sandy Wood Lake							E		E			E		E	E	E
Cotton Wood Lake									E					E	E	E

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<-Recreational Uses->

Error Type

HYDROLOGIC UNIT / COUNTY/

WATER BODY	REC-1	REC-2	NAV	Uses	Name	SOURCE OF ERROR
SAN MATEO AND SANTA CLARA CO						
San Francisquito Creek	P	P				
Felt Lake	E	E				
Los Trancos Creek						
West Union Creek						
Searsville Lake	E	E				
SANTA CLARA COUNTY						
Matadero Creek	E	E				
Permanente Creek	E	E				
Stevens Creek	E	E				
Stevens Creek Reservoir		E				
Calabazas Creek	E	E	E	1		Transcription error in 1986 Basin Plan propagated in 1995 Basin Plan
Saratoga Creek	E	E				
Guadalupe River	P	E				Transcription error in 1986 Basin Plan propagated in 1995 Basin Plan
Los Gatos Creek		P				
Vasona Lake	E	E				
Lexington Reservoir	E	E				
Lake Elsmar		P		2		REC2 was a potential use in 1975 Basin Plan; Transcription error between 1986 and 1995 Basin Plans, omitting WILD use
Los Gatos Creek						
Campbell Percolation Pond	E	E		7		Transcription error between 1986 and 1995 Basin Plans
Guadalupe Creek					1	Misspelled water body name
Guadalupe Reservoir	E	E				
Alamitos Creek						
Calero Reservoir	E	E				
Almaden Reservoir	E	E				
Herbert Creek						
Anderson Lake	L	E			1	Placed in wrong watershed in 1995 Basin Plan
Barrett Canyon Creek						
Herbert Creek						
Coyote Creek	P	E				Transcription error between 1986 and 1995 Basin Plans
Elizabeth Lake		E			1	Placed in wrong watershed in 1995 Basin Plan
Lower Penitencia Creek					1	Misspelled water body name in 1995 Basin Plan
Berryessa Creek						
Upper Penitencia Creek						
Cherry Flat Reservoir	L	E				
Arroyo Aguague Creek					1	Misspelled water body name in 1995 Basin Plan
Halls Valley Reservoir	E	E		1		Transcription error between 1986 and 1995 Basin Plans
Silver Creek						
Fremont Lagoon						
Sandy Wool Lake	E	E		6		Transcription error between 1986 and 1995 Basin Plans
Cotton Wood Lake	E	E				

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	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAR	MIGR	RARE	SPWN	WARM	WILD
Anderson Lake		E		E					E				E	E	E	
San Felipe Creek									P				P	E	E	
Otis Canyon Creek																
Guadalupe Reservoir		E		E					E				E	E	E	
Coyote Lake	E	E							E				E	E	E	
Soda Springs Canyon Creek																
SAN PABLO BASIN																
San Pablo Bay					E		E	E		E		E	E		E	
SOLANO COUNTY																
White Slough																
Lake Chabot (Solano)	E	PE							E				E	E	E	
Geen Island																
Dalwick Lake																
Miller Creek									E			E	E	E	E	
CONTRA COSTA COUNTY																
Rodeo Creek													E	E	E	
Refugio Creek																
Pinole Creek									E			E	E	E	E	
San Pablo Creek												E	E	E	E	
San Pablo Reservoir		E							E				E	E	E	
San Pablo Creek												E	E	E	E	
Briones Reservoir		E							E				E	E	E	
Wildcat Creek												E	E	E	E	
Jewel Lake									E					E	E	
Lake Anza									E					E	E	
MARIN COUNTY																
Novato Creek		E							P			P	E	P	E	
Stafford Lake		E							E				E	E	E	
Pacheco Pond							E		E			P		P	E	
Miller Creek									E			E	E	E	E	
Gallinas Creek									E				E	E	E	
SONOMA COUNTY																
Petaluma River									E	E	E	E	E	E	E	
San Antonio Creek									E			P	P	E	E	
Willow Creek																
Adobe Creek (Sonoma)																
Sonoma Creek									E			E	E	E	E	
Adobe Creek (Sonoma)																
Fowler Creek																
Schnell Creek																
Arroyo Seco Creek (Sonoma)																
Nathanson Creek																
Agua Caliente Creek (Sonoma)																

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in the San Francisco Bay Region

<-Recreational Uses->

Error Type

HYDROLOGIC UNIT / COUNTY/

WATER BODY	REC-1	REC-2	NAV	Uses	Name	SOURCE OF ERROR
Anderson Lake	L	E				
San Felipe Creek	P	P				
Otis Canyon Creek						
Guadalupe Reservoir	E	E			1	Placed in wrong watershed in 1995 Basin Plan
Coyote Lake	E	E				
Soda Springs Canyon Creek					1	Misspelled water body name in 1995 Basin Plan
SAN PABLO BASIN						
San Pablo Bay	E	E	E			
SOLANO COUNTY						
White Slough						
Lake Chabot (Solano)	E	E		1		MUN existing use in 1975 Basin Plan
Coon Island						Not a waterbody
Dalwick Lake						
Miller Creek	E	E			1	Placed in wrong watershed in 1995 Basin Plan
CONTRA COSTA COUNTY						
Rodeo Creek	P	E				
Refugio Creek						
Pinole Creek	P	P				
San Pablo Creek		E				
San Pablo Reservoir	E	E				
San Pablo Creek		E			1	Redundant Water Body Listing in 1995 Basin Plan
Briones Reservoir	L	P				
Wildcat Creek		E				
Jewel Lake	E	E		5	1	Transcription error between 1986 and 1995 Basin Plan
Lake Anza	E	E		5		Transcription error between 1986 and 1995 Basin Plan
MARIN COUNTY						
Novato Creek	P	P				
Stafford Lake	E	E				
Pacheco Pond	P	P		3	1	Transcription error between 1986 and 1995 Basin Plan, Placed in wrong watershed
Miller Creek	E	E				
Gallinas Creek		E				
SONOMA COUNTY						
Petaluma River	E	E	E	2		MAR use not in 1975 Basin Plan, misidentified, should be EST
San Antonio Creek	P	P				
Willow Creek						
Adobe Creek (Sonoma)					1	Placed in wrong watershed in 1995 Basin Plan
Sonoma Creek	E	E				
Adobe Creek (Sonoma)					1	Placed in wrong watershed in 1995 Basin Plan
Fowler Creek						
Schnell Creek					1	Misspelled water body name in 1995 Basin Plan
Arroyo Seco Creek (Sonoma)						
Nathanson Creek						
Agua Caliente Creek (Sonoma)						

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Human Consumptive Uses										Aquatic Life Uses					Wildlife Use
	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAR	MIGR	RARE	SPWN	WARM	WILD
Stuart Creek																
Graham Creek																
Yulupa Creek																
NAPA COUNTY																
Napa River	E	E							E			E	E	E	E	E
Huichica Creek																
Carneros Creek																
Suscol Creek																
Toulucay Creek																
Lake Marie	PE	E							P					E	P	E
Napa Creek																
Browns Valley Creek																
Redwood Creek (Napa)																
Pickle Creek																
Milliken Creek																
Sarco Creek																
Milliken Reservoir		E							E					E	E	E
Soda Creek																
Dry Creek (Napa)	E	E							E			E		E	E	E
Conn Creek		E	E						E			E		E		E
Rector Creek																
Rector Reservoir		E							E					E	E	E
Lake Hennessey-Lake		E							E					E	E	E
Sage Creek		E	E						E					E	E	E
Chiles Creek		E	E						E					E	E	E
Bear Canyon Creek																
Sulphur Creek (Napa)																
York Creek									E			E		E		E
Mill Creek (Napa)																
Ritchey Creek																
Bell Canyon Reservoir																
Napa River	E	E							E			E	E	E	E	E
Cyrus Creek																
Garnett Creek																
Hopper Creek																
Jericho Canyon Creek																
Kimball Reservoir		E													E	E
Bear Canyon Creek																
Wildcat Creek												E		E	E	E
San Pablo Creek												E		E	E	E
Rodeo Creek														E	E	E
Refugio Creek																
SUISUN BASIN																
Carquinez Strait					E		E			E		E	E	E		E

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

<-Recreational Uses->

Error Type

HYDROLOGIC UNIT / COUNTY/

WATER BODY	REC-1	REC-2	NAV	Uses	Name	SOURCE OF ERROR
Stuart Creek						
Graham Creek						
Yulupa Creek						
NAPA COUNTY						
Napa River	E	E	E			
Huichica Creek						
Carneros Creek						
Suscol Creek						
Toulucay Creek					1	Misspelled water body name in 1995 Basin Plan
Lake Marie	E	E		2		MUN, AGR existing uses in 1975 Basin Plan
Napa Creek						
Browns Valley Creek						
Redwood Creek (Napa)						
Pickie Creek						
Milliken Creek						
Sarco Creek						
Milliken Reservoir	L	P				
Soda Creek						
Dry Creek (Napa)	E	E				
Conn Creek	E	E				
Rector Creek						
Rector Reservoir	L	E		1		REC2 existing use in 1975 Basin Plan
Lake Hennessey-Lake	E	E			1	Mis-labeled water body in 1995 Basin Plan
Sage Creek	P	P				
Chiles Creek	P	P				
Bear Canyon Creek						
Sulphur Creek (Napa)						
York Creek	P	P				
Mill Creek (Napa)						
Ritcheyie Creek					1	Misspelled water body name in 1995 Basin Plan
Bell Canyon Reservoir						
Napa River	E	E	E		1	Redundant Water Body name in 1995 Basin Plan
Cyrus Creek						
Garnett Creek						
Hopper Creek						
Jericho Canyon Creek						
Kimball Reservoir	E	E				
Bear Canyon Creek						
Wildcat Creek		E			1	Redundant Water Body name in 1995 Basin Plan
San Pablo Creek		E			1	Placed in wrong watershed in 1995 Basin Plan
Rodeo Creek	P	E			1	Placed in wrong watershed in 1995 Basin Plan
Refugio Creek					1	Placed in wrong watershed in 1995 Basin Plan
SUISUN BASIN						
Carquinez Strait	E	E	E			

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

HYDROLOGIC UNIT / COUNTY/ WATER BODY	Human Consumptive Uses							Aquatic Life Uses						
	AGR	MUN	FRSH	GWR	IND	PROC	COMM	SHEL	COLD	EST	MAR	MIGR	RARE	SP
Suisun Bay					E	E	E			E		E	E	
Sacramento-San Joaquin Delta	E	E		E	E	E	E			E		E	E	
SOLANO COUNTY														
Lake Herman-Lake		PE			E				E					
Green Valley Creek			E						E					
Lake Frey		E							E					
Lake Madigan	E	E							E					
Suisun Slough														
Suisun Creek			E						E			E		
Suisun Reservoir														
Wooden Valley Creek														
Lake Curry		E												
Ledgewood Creek			E						E			E		
Laurel Creek (Solano)			E						E			E		
Montezuma Slough													E	
CONTRA COSTA COUNTY														
Peyton Slough														
Pacheco Pond							E					P		
Pacheco Creek														
Walnut Creek									E			E		
Pine Creek									E					
Lafayette Creek														
Lafayette Reservoir Lake		E							E					
Mt. Diablo Creek									E			E		
Mallard Reservoir	E	E			E	E								

* Portions of San Leandro Creek and Alameda Creek watersheds are in Contra Costa County

* Portions of Alameda Creek watershed are in Santa Clara County

* Portions of Coyote Creek watershed are in Alameda County

KEY

Black Text - 1995 Basin Plan

Strikeout Text - Proposed Deletions (with justification in far right column)

Blue Bold Text - Proposed Additions based on 1975, 1986 Basin Plans

(accidentally omitted from printed 1995 Basin Plan, due in part to type offset errors in printed 1986 Basin Plan)

E = Existing Beneficial Use

P = Potential Beneficial Use

L = Limited Beneficial Use (e.g., no swimming/fishing in some drinking water reservoirs)

Table 2-1 Existing and Potential Beneficial Uses of Water Bodies
in the San Francisco Bay Region

<-Recreational Uses->

Error Type

HYDROLOGIC UNIT / COUNTY/

WATER BODY	REC-1	REC-2	NAV	Uses	Name	SOURCE OF ERROR
Suisun Bay	E	E	E	1		PROC designated use in 1975 Basin Plan
Sacramento-San Joaquin Delta	E	E	E		1	"Delta" and Uses placed back in Basin Plan in 1997 Nunc-pro- tunc amendments, add "Sacramento-San Joaquin" for consistency with 303d list
SOLANO COUNTY						
Lake Herman Lake	E	E		1	1	MUN existing use in 1975 Basin Plan; Mis-labeled water body in 1995 Basin Plan
Green Valley Creek	E	E				
Lake Frey		PE		1		REC2 existing use in 1975 Basin Plan
Lake Madigan		PE		1		REC2 existing use in 1975 Basin Plan
Suisun Slough	E	E	E			
Suisun Creek	P	P				
Suisun Reservoir						
Wooden Valley Creek						
Lake Curry	E	E				
Ledgewood Creek	E	E				
Laurel Creek (Solano)	E	E				
Montezuma Slough	E	E	E			
CONTRA COSTA COUNTY						
Peyton Slough						
Pacheco Pond	P				1	Placed in wrong watershed
Pacheco Creek						
Walnut Creek	P	P				
Pine Creek	E	E				
Lafayette Creek						
Lafayette Reservoir Lake	E	E		1	1	REC1 Use designated in 1975 Basin Plan; Mis-labeled water body in 1995 Basin Plan
Mt. Diablo Creek	E	E				
Mallard Reservoir	L	P				

Total changes 169 47
 Uses Names

Delete Table 2-8 in 2005 Basin Plan General Update

TABLE 2-8 GROUNDWATER BASIN CHARACTERISTICS ⁽¹⁾

GROUNDWATER BASIN	COUNTY	DWR BASIN NO. ⁽²⁾	AREAL EXTENT (SQ. MI.)	DEPTH ZONE (FEET) ⁽³⁾	STORAGE CAPACITY ⁽⁴⁾	PERENNIAL YIELD ⁽⁵⁾
Alameda Creek (Niles Cone)	Alameda	2 - 9.01	97.0	40 - >500 ^a	1.3 mil ^a	32,600 ^a
Castro Valley	Alameda	2 - 8	4.0	NA	NA	NA
East Bay Plain	Alameda	2 - 9.01	114.0	25 - 596 ^b	2.77 mil ^a	NA
Livermore Valley	Alameda	2 - 10	170.0	0 - 500 ^a	540,000 ^a	13,500 ^a
Sunol Valley	Alameda	2 - 11	28.0	160 - 500 ^c	>2,800 ^a ?	140 ^a ?
Arroyo Del Hambre Valley	Contra Costa	2 - 31	2.0	NA	NA	NA
Clayton Valley	Contra Costa	2 - 5	30.0	50 - 300 ^b	180,000 ^a ?	NA
Pittsburg Plain	Contra Costa	2 - 4	30.0	50 - 160 ^b	NA	NA
San Ramon Valley	Contra Costa	2 - 7	30.0	300 - 600 ^c	NA	NA
Ygnacio Valley	Contra Costa	2 - 6	30.0	20 - 300 ^b	50,000 ^b	NA
Novato Valley	Marin	2 - 30	17.5	55 - 90 ^c	NA	NA
Sand Point Area	Marin	2 - 27	2.0	20 - 300 ^b	NA	NA
San Rafael	Marin	2 - 29	NA	NA	NA	NA
Ross Valley	Marin	2 - 28	18.0	10 - 60 ^c	1380 ^c	350 ^c
Napa Valley	Napa	2 - 2 & 2 - 2.01	210.0	50 - 500 ^m	240,000 ^a	24,000 ^m
Islais Valley	San Francisco	2 - 33	NA	NA	NA	NA
Merced Valley (North)	San Francisco	2 - 35	16.0	NA	NA	NA
San Francisco Sands	San Francisco	2 - 34	14.0	NA	NA	NA
Visitation Valley	San Francisco	2 - 32	7.5	NA	NA	NA
Half Moon Bay Terrace	San Mateo	2 - 22	25.0	20 - 15 ^a	10,300 ^a	2,200 ^a
Merced Valley (South)	San Mateo	2 - 35A	16.0	250 - 745 ^p	NA	NA
Pescadero Valley	San Mateo	2 - 26	2.0	NA	NA	NA
San Gregorio Valley	San Mateo	2 - 24	2.0	NA	NA	NA
San Mateo Plain	San Mateo	2 - 9A	32.5	100 - 500 ^a	NA	NA
San Pedro Valley	San Mateo	2 - 36	2.0	NA	NA	NA
Santa Clara Valley (& Coyote)	Santa Clara	2 - 9B	240.0	10 - 1010 ^d	3.0 mil ^f	100,000 ^f
Suisun/Fairfield Valley	Solano	2 - 3	203.0	30 - 400 ⁿ	40,000 ^f	NA
Kenwood Valley	Sonoma	2 - 19	6.0	0 - 1000 ^d	460,000 ^f	NA
Petaluma Valley	Sonoma/Mrn.	2 - 1	41.0	0 - 900 ^d	2.1 mil ^f	NA
Sebastopol-Merced Fm. Highlands	Sonoma	2 - 25	150.0	NA	NA	NA
Sonoma Valley	Sonoma	2 - 2.022	50.0	0 - 1000 ^d	2.66 mil ^f	NA

NA - Not Available.

NOTES:

- (1) Information compiled from DWR and local water management agencies. (References are listed below.)
- (2) DWR Bulletin 118-80 (1980).
- (3) Average depth to aquifers below land surface. These depths are provided for information only and cannot be used to characterize site specific conditions.
- (4) Total available storage in acre-feet. (References are listed below.)
- (5) The average annual amount of groundwater that can be withdrawn without producing an undesired result. (References are listed below.)

REFERENCES:

- a. Alameda County Water District Staff, 1992, Personal Communication.
- b. Alameda County Flood Control and Water Conservation District, 1988, Geohydrology and Groundwater Quality Overview, East Bay Plain Area, 205(j) Report.
- c. California Department of Water Resources, 1991, Groundwater Storage Capacity of the Alameda Bay Plain, Draft Report for Alameda Public Works Agency.
- d. California Department of Water Resources, 1975, California's Groundwater, Bulletin 118.
- e. U.S. Geological Survey, 1984, Water quality conditions and an evaluation of ground- and surface water based sampling in Livermore-Arroyo Valley, WRI 84-4262.
- f. California Department of Water Resources, 1974, Evaluation of groundwater resources in the Livermore and Sunol Valleys, Bulletin 118-2.
- g. California Department of Water Resources, 1963, Alameda County Investigation, Bulletin 13.
- h. Contra Costa County Health Department, 1986, Small Community Water Systems.
- i. California Department of Water Resources, 1964, Alameda Creek watershed above Niles; Chemical qualities of surface water, waste discharges and groundwater.

- j. Blackie & Wond, Consulting Engineers, 1967, Report to the North Marin County Water District on Water Supply Development, Project Number 2.
- k. Wallace, Roberts & Todd, 1988, Revised Draft Dillon Beach Community Plan, prepared for Marin County Planning Department.
- l. Ellis, William C. and Associates, 1978, Groundwater resources of Ross Valley; A report on water planning investigations prepared for Marin Municipal Water District, Marin County, California.
- m. Napa County Flood Control and Water Conservation District, 1991, Water Resource Study for Napa County Region.
- n. U.S. Geological Survey, 1960, Geology and Groundwater in Napa and Sonoma Valleys, Water Supply Paper 1496.
- o. Geoconsultants, Inc., 1991, Annual Report 1990-1991, Groundwater Resources, Half Moon Bay, California, prepared for the City of Half Moon Bay.
- p. Applied Consultants, 1991, Report on the Daly City Groundwater Investigation and Model Study, prepared for Daly City.
- q. University of California, Berkeley, Sanitary Engineering and Environmental Health Research Laboratory, 1967, San Francisco Bay Region Groundwater Resource Study Volume 10 - San Mateo Ground Water Basin Characteristics, SEEHRL Report No. 87-8/10.
- r. Santa Clara Valley Water District, 1975, Master Plan - expansion of in-county water distribution system.
- s. University of California, Berkeley, Sanitary Engineering and Environmental Health Research Laboratory, 1967, San Francisco Bay Region Groundwater Resource Study Volume 6 - Suisun/Fairfield Ground Water Basin Characteristics, SEEHRL Report No. 87-8/6.
- t. U.S. Geological Survey, 1960, Geology, Water Resources, and Usable Groundwater Storage Capacity of part of Solano County, California, Water Supply Paper 1464.

Table 2-2 Existing and Potential Beneficial Uses of Groundwater In Idents

County	Groundwater Basin Name (1)	Groundwater Sub-Basin (1)	Basin Number (1)	MUN (2)	PROC (3)	IND (4)	FRESH (6)
Alameda	Castro Valley	--	2-8	P	P	P	--
Alameda	<u>Santa Clara Valley</u>	<u>Niles Cone</u>	2-9.01	E	E	E	--
Alameda and Contra Costa	<u>Santa Clara Valley</u>	<u>East Bay Plain</u>	2-9.04	E	E	E	--
Alameda and Contra Costa	Livermore Valley	--	2-10	E	E	E	--
Alameda	Sunol Valley	--	2-11	E	E	E	--
Contra Costa	Pittsburg Plain	--	2-4	P	P	P	--
Contra Costa	Clayton Valley	--	2-5	E	P	P	--
Contra Costa	Ygnacio Valley	--	2-6	P	P	P	--
Contra Costa	San Ramon Valley	--	2-7	E	P	P	--
Contra Costa	Arroyo del Hambre Valley	--	2-31	P	P	P	--
Marin	Sand Point Area	--	2-27	E	P	P	--
Marin	Ross Valley	--	2-28	E	P	P	--
Marin	San Rafael Valley	--	2-29	P	P	P	--
Marin	Novato Valley	--	2-30	P	P	P	--
Napa	<u>Napa-Sonoma Valley</u>	<u>Napa Valley</u>	2-2.01	E	E	E	--
Napa and Solano	<u>Napa-Sonoma Valley</u>	<u>Napa - Sonoma Lowlands</u>	2-2.03	E	E	E	--
San Francisco and San Mateo	Visitacion Valley	--	2-32	P	E	E	--
San Francisco and San Mateo	<u>Islais Valley A (7)</u>	--	<u>2-33 A</u>	P	E	E	--
San Francisco	<u>Islais Valley B (7)</u>	--	<u>2-33 B</u>	P	P	P	--
San Francisco	<u>South San Francisco</u>	--	<u>2-37</u>	P	E	E	--
San Francisco and San Mateo	<u>Westside A (7)</u>	--	<u>2-35 A</u>	E	P	P	--
San Francisco	<u>Lobos (7)</u>	--	<u>2-38</u>	E	P	P	--
San Francisco	<u>Marina (7)</u>	--	<u>2-39</u>	E	P	P	--
San Francisco	<u>Downtown (7)</u>	--	<u>2-40</u>	E	P	P	--
San Francisco	<u>Westside B (7)</u>	--	<u>2-35 B</u>	P	P	P	--
San Mateo	<u>Westside C (7)</u>	--	<u>2-35 C</u>	E	P	P	--
San Mateo	<u>Westside D (7)</u>	--	<u>2-35 D</u>	E	E	E	--
San Mateo	<u>Santa Clara Valley</u>	<u>San Mateo Plain</u>	<u>2-9.03</u>	E	E	E	--

Table 2-2 Existing and Potential Beneficial Uses of Groundwater In Identified Basins

County	Groundwater Basin Name (1)	Groundwater Sub-Basin (1)	Basin Number (1)	MUN (2)	PROC (3)	IND (4)	AGR (5)	FRESH (6)
San Mateo and Santa Clara	<u>Santa Clara Valley (8)</u>	<u>Santa Clara</u>	<u>2-9.02</u>	E	E	E	E	--
San Mateo	Half Moon Bay Terrace	--	2-22	E	P	P	E	--
San Mateo	San Gregorio Valley	--	2-24	E	P	P	E	--
San Mateo	Pescadero Valley	--	2-26	E	P	P	E	--
San Mateo	San Pedro Valley	--	2-36	P	P	P	P	--
Solano	Suisun-Fairfield Valley	--	2-3	E	E	E	E	--
Sonoma and Marin	Petaluma Valley	--	2-1	E	P	P	E	--
Sonoma	<u>Napa-Sonoma Valley</u>	<u>Sonoma Valley</u>	<u>2-2.02</u>	E	P	P	E	--
Sonoma and Marin	<u>Wilson Grove Formation Highlands A</u>	--	<u>1.59 A</u>	E	P	P	E	--
Sonoma and Marin	<u>Wilson Grove Formation Highlands B</u>	--	<u>1.59 B</u>	<u>See RB1 Basin Plan (9)</u>				
Sonoma	Kenwood Valley	--	2-19	E	P	P	E	--
Sonoma	Napa - Sonoma Volcanic Highlands	--	2-23	X	X	X	X	X
Santa Clara	<u>Gilroy-Hollister Valley</u>	<u>Llagas Area</u>	<u>3-3.01</u>	<u>See RB3 Basin Plan (10)</u>				

Table 2-2 Existing and Potential Beneficial Uses of Groundwater in Identified Basins

County	Groundwater Basin Name (1)	Groundwater Sub-Basin (1)	Basin Number (1)	MUN (2)	PROC (3)	IND (4)	AGR (5)	FRESH (6)
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Notes:

- 1 Department of Water Resources (DWR) Bulletin 118 "California Groundwater", 2003
- 2 MUN = Municipal and domestic water supply
- 3 PROC = Industrial process water supply
- 4 IND = Industrial service water supply
- 5 AGR - Agricultural water supply

6 FRESH = Freshwater replenishment to surface water; designation will be determined at a later date, for the interim, a site-by-site determination will be made

7 The existing and potential beneficial uses for groundwater basins listed in the 1995 Basin Plan (Table 2-3) were assigned to the new groundwater basins based on the geographic location of the old basins compared to the new basins. The basin names, such as Westside A, Westside B, etc., are informal names assigned by the Water Board to preserve the beneficial use designations in the 1995 Basin Plan and do not represent sub-basins identified by the Department of Water Resources.

8 The Santa Clara Valley groundwater basin/ Santa Clara groundwater sub-basin is also known as Coyote Valley.

9 This groundwater basin is also located in the North Coast Region (RB1); beneficial uses of groundwater are specified in the Basin Plan for RB1

10 This groundwater basin is also located in the Central Coast Region (RB3); beneficial uses of groundwater are specified in the Basin Plan for RB3

E = Existing beneficial uses; based on best available information

P = Potential beneficial uses; based on best available information

X = This groundwater basin was not listed in the 1995 Basin Plan; designation will be determined at a later date, for the interim, a site-by-site determination will be made

See DWR Bulletin 118 (2003) for groundwater basin characteristics.

Table 2-3 Examples of Existing and Potential Beneficial Uses of Selected Wetlands

TABLE 4-17 EXISTING AND POTENTIAL BENEFICIAL USES OF WETLANDS

BENEFICIAL USE	TYPE OF WETLAND				
	MARINE	ESTUARINE	RIVERINE	LACUSTRINE	PALUSTRINE
AGR		○	○	○	○
COLD			○	○	○
COMM	○	○			
EST		○			
FRESH			○	○	○
GWR	○	○	○	○	○
IND		○	●	●	
MAR	○				
MIGR	○	○	○	○	
NAV	○	○	○	○	○
PROC					
REC-1	○	○	○	○	○
REC-2	○	○	○	○	○
SHELL	○	○	○		
SPWN	○	○	○	○	○
WARM			○	○	○
WILD	○	○	○	○	○
RARE	○	○	○	○	○

NOTE:

- Existing beneficial use
- Potential beneficial use

**Table 2-4
Areas**

Examples of Beneficial Uses of Wetlands

TABLE 2-10 BENEFICIAL USES OF WETLAND AREAS^a

BASIN/MARSH AREA	WETLAND TYPES		BENEFICIAL USES									
	FRESH	BRACKISH	EST	MAR	MIGR	COMM	RARE	REC 1	REC 2	SALT	SPWN	WILD
ALAMEDA COUNTY												
Arrowhead			•				•	•	•	•	•	•
Coyote Hills			•				•	•	•	•	•	•
Emeryville Crescent			•				•	•	•	•	•	•
Hayward			•					•	•	•	•	•
CONTRA COSTA COUNTY												
North Contra Costa		•	•				•	•	•	•	•	•
Point Edith		•	•				•		•	•	•	•
San Pablo Creek			•				•	•	•	•	•	•
Wildcat Creek			•				•	•	•		•	•
MARIN COUNTY												
Abbotts Lagoon				•				•	•	•		•
Bolinas Lagoon				•				•	•	•		•
Corte Madera			•				•	•	•	•	•	•
Drakes Estero								•	•	•	•	•
Gallinas Creek		•	•				•	•	•	•	•	•
Limantour Estero				•				•	•	•	•	•
Corte Madera Ecological Reserve			•					•	•	•	•	•
Novato Creek		•	•		•		•	•	•	•	•	•
Richardson Bay			•				•	•	•	•	•	•
Rodeo Lagoon				•				•	•	•	•	•
San Pedro		•	•			•	•	•	•	•	•	•
San Rafael Creek		•	•				•	•	•	•	•	•
Tomaes Bay				•	•			•	•	•	•	•
NAPA COUNTY												
Mare Island			•						•	•		•
Napa		•	•		•	•	•	•	•		•	•
San Pablo Bay			•		•	•	•	•	•	•	•	•
SAN MATEO COUNTY												
Bair Island			•				•	•	•	•		•
Belmont Slough			•				•	•	•	•	•	•
Pescadero	•			•	•		•	•	•	•	•	•
Princeton		•						•	•	•		•
Redwood City Area			•				•	•	•			•
SANTA CLARA COUNTY												
South San Francisco Bay			•		•	•	•	•	•	•	•	•
SOLANO COUNTY												
Southampton Bay			•				•	•	•	•	•	•
Suisun	•	•	•		•		•	•	•	•	•	•
White Slough			•		•		•	•	•	•	•	•
SONOMA COUNTY												
Petaluma		•	•		•	•	•	•	•		•	•

NOTE:
a. General locations of wetlands areas are depicted in Figure 2-11.

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Table 3-1: Water Quality Objectives for Coliform Bacteria^a

Beneficial Use	Fecal Coliform (MPN/100ml)	Total Coliform (MPN/100ml)
Water Contact Recreation	geometric mean < 200 90th percentile < 400	median < 240 no sample > 10,000
Shellfish Harvesting ^b	median < 14 90th percentile < 43	median < 70 90th percentile < 230 ^c
Non-contact Water Recreation ^d	mean < 2000 90th percentile < 4000	
Municipal Supply: - Surface Water ^e - Groundwater	geometric mean < 20	geometric mean < 100 < 1.1 ^f

Notes:

- a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.
- b. Source: National Shellfish Sanitation Program.
- c. Based on a five-tube decimal dilution test or 300 MPN/100 ml when a three-tube decimal dilution test is used.
- d. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.
- e. Source: DOHS recommendation.
- f. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21(f), revised June 10, 1992, are acceptable.

TABLE 3-2 U.S. EPA BACTERIOLOGICAL CRITERIA FOR WATER CONTACT RECREATION^{1,2} (IN COLONIES PER 100 ML)

	FRESH WATER		SALT WATER ENTEROCOCCI
	ENTEROCOCCI	E. COLI	
Steady State (all areas)	33	126	35
Maximum at:			
- designated beach	61	235	104
- moderately used area	89	298	124
- lightly used area	108	406	276
- infrequently used area	151	576	500

NOTES:

1. The criteria were published in the Federal Register, Vol. 51, No. 45 / Friday, March 7, 1986 / 8012 - 8016. The Criteria are based on:
 - (a) Cabelli, V.J. 1983. Health Effects Criteria for Marine Recreational Waters. U.S. EPA, EPA 600/1-80-031, Cincinnati, Ohio, and
 - (b) Dufour, A.P. 1984. Health Effects Criteria for Fresh Recreational Waters. U.S. EPA, EPA 600/1-84-004, Cincinnati, Ohio.
2. The U.S. EPA criteria apply to water contact recreation only. The criteria provide for a level of protection based on the frequency of usage of a given water contact recreation area. The criteria may be employed in special studies within this region to differentiate between pollution sources or to supplement the current coliform objectives for water contact recreation.

TABLE 3-3 MARINE ^a WATER QUALITY OBJECTIVES FOR TOXIC POLLUTANTS FOR SURFACE WATERS (ALL VALUES IN UG/L)

COMPOUND	4-DAY AVERAGE	1-HR AVERAGE	24-HR AVERAGE
Arsenic ^{b, c, d}	36	69	
Cadmium ^{b, c, d}	9.3	42	
Chromium VI ^{b, c, d, e}	50	1100	
Copper ^{c, d, f}			
Cyanide ^g			
Lead ^{b, c, d}	8.1	220 210	
Mercury ^h	0.025	2.1	
Nickel ^{b, c, d}	8.2	74	
Selenium ⁱ			
Silver ^{b, c, d}		1.9	
Tributyltin ^j			
Zinc ^{b, c, d}	81	90	
PAHs ^k			15

NOTES:

- a. Marine waters are those in which the salinity is equal to or greater than 10 parts per thousand 95% of the time, as set forth in Chapter 4 of the Basin Plan. Unless a site-specific objective has been adopted, these objectives shall apply to all marine waters except for the South Bay south of Dumbarton Bridge, where the California Toxics Rule (CTR) applies. For waters in which the salinity is between 1 and 10 parts per thousand, the applicable objectives are the more stringent of the freshwater (Table 3-4) or marine objectives.
- b. Source: 40 CFR Part 131.38 (California Toxics Rule or CTR), May 18, 2000.
- c. These objectives for metals are expressed in terms of the dissolved fraction of the metal in the water column.
- d. According to the CTR, these objectives are expressed as a function of the water-effect ratio (WER), which is a measure of the toxicity of a pollutant in site water divided by the same measure of the toxicity of the same pollutant in laboratory dilution water. The 1-hr. and 4-day objectives = table value X WER. The table values assume a WER equal to one.
- e. This objective may be met as total chromium.
- f. Water quality objectives for copper were promulgated by the CTR and may be updated by U.S. EPA without amending the Basin Plan. Note: at the time of writing, the values are 3.1 ug/l (4-day average) and 4.8 ug/l (1-hr. average). The most recent version of the CTR should be consulted before applying these values.
- g. Cyanide criteria were promulgated in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta. Note: at the time of writing, the values are 1.0 ug/l (4-day average) and 1.0 ug/l (1-hr. average).

- h. Source: U.S. EPA Ambient Water Quality Criteria for Mercury (1984). ~~The CTR human health criteria for mercury are also legally applicable to all waters of the San Francisco Bay Region.~~
- i. Selenium criteria were promulgated for all San Francisco Bay/Delta waters in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta. Note: at the time of writing, the values are 5.0 ug/l (4-day average) and 20 ug/l (1-hr. average).
- j. Tributyltin is a compound used as an antifouling ingredient in marine paints and toxic to aquatic life in low concentrations. U.S. EPA has published draft criteria for protection of aquatic life (Federal Register: December 27, 2002, Vol. 67, No. 249, Page 79090-79091). These criteria are cited for advisory purposes. The draft criteria may be revised.
- k. The 24-hour average aquatic life protection objective for total PAHs is retained from the 1995 Basin Plan. Source: U.S. EPA 1980.

Table 3-3A: Water Quality Objectives for Copper and Nickel in Lower South San Francisco Bay

Compound	4-day Average (CCC) ¹	1-hr Average (CMC) ²	Extent of Applicability
Copper	6.9	10.8	Marine and Estuarine Waters Contiguous to SF Bay, South of Dumbarton Bridge
Nickel	11.9	62.4*	Marine and Estuarine Waters Contiguous to SF Bay, South of Dumbarton Bridge

* Handbook of WQS, 2nd ed. 1994 in Section 3.7.6 states that the CMC = Final AcuteValue/2; 62.4 is the Final Acute Value (resident species database)/2; so the site-specific CMC is lower than the California Toxics Rule value because we are using the resident species database instead of the National Species Database.

¹Criteria Continuous Concentration

²Criteria Maximum Concentration

TABLE 3-4. FRESHWATER^a WATER QUALITY OBJECTIVES FOR TOXIC POLLUTANTS FOR SURFACE WATERS (ALL VALUES IN UG/L)

C O M P O U N D	4-DAY AVERAGE	1-HR AVERAGE
Arsenic ^{b, c, d}	150	340
Cadmium ^{b, e, d}	e	e
Chromium III ^{e, f}		
Chromium VI ^{b, c, d, g}	11	16
Copper ^{b, c, d}	9.0 ^h	13 ^h
Cyanide ⁱ		
Lead ^{b, c, d}	2.5 ^j	65 ^j
Mercury ^k	0.025	2.4
Nickel ^{b, c, d}	52 ^l	470 ^l
Selenium ^m		
Silver ^{b, c, d}		3.4 ⁿ
Tributyltin ^o		
Zinc ^{b, c, d}	120 ^p	120 ^p

NOTES :

a. Freshwaters are those in which the salinity is equal to or less than 1 part per thousand 95% of the time, as set forth in Chapter 4 of the Basin Plan. These objectives shall apply to all freshwaters, unless a site-specific objective has been adopted. For waters in which the salinity is between 1 and 10 parts per thousand, the applicable objectives are the more stringent of the marine (Table 3-3) and freshwater objectives.

b. Source: 40 CFR Part 131.38 (California Toxics Rule or CTR), May 18, 2000.

c. These objectives for metals are expressed in terms of the dissolved fraction of the metal in the water column.

d. These objectives are expressed as a function of the water-effect ratio (WER), which is a measure of the toxicity of a pollutant in site

water divided by the same measure of the toxicity of the same pollutant in laboratory dilution water. The 1-hr. and 4-day objectives = table value X WER. The table values assume a WER equal to one.

e. The objectives for cadmium and other noted metals are expressed by formulas where $H = \ln$ (hardness) as CaCO_3 in mg/l: The four-day average objective for cadmium is $e^{(0.7852 H - 3.490)}$. This is 1.1 $\mu\text{g/l}$ at a hardness of 100 mg/l as CaCO_3 . The one-hour average objective for cadmium is $e^{(1.128 H - 3.828)}$. This is 3.9 $\mu\text{g/l}$ at a hardness of 100 mg/l as CaCO_3 .

f. Chromium III criteria were promulgated in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and

Sacramento-San Joaquin Delta.
 Note: at the time of writing, the values are 180 ug/l (4-day average) and 550 ug/l (1-hr. average). The objectives for chromium III are based on hardness. The values in this footnote assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = ln (hardness):
 The 4-day average objective for chromium III is $-0.860 X e^{(0.8190H+1.561)}$. The 1-hour average for chromium III is $0.316 X e^{(0.8190H+3.688)}$.

- g. This objective may be met as total chromium.
- h. The objectives for copper are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = ln (hardness):
 The 4-day average objective for copper is $0.960 X e^{(0.8545H-1.702)}$.
 The 1-hour average for copper is $0.960 X e^{(0.9422H-1.700)}$.
- i. Cyanide criteria were promulgated in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta.
 Note: at the time of writing, the values are 5.2 ug/l (4-day average) and 22 ug/l (1-hr. average).
- j. The objectives for lead are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where

H = ln (hardness): The 4-day average objective is $(1.46203 - 0.145712H) X e^{(1.273H-4.705)}$. The 1-hour average for lead is $(1.46203 - 0.145712H) X e^{(1.273H-1.460)}$.

- k. Source: U.S. EPA Quality Criteria for Water 1986 (EPA 440/5-86-001), which established a mercury criterion of 0.012 ug/l. The Basin Plan set the objective at 0.025 based on considerations of the level of detection attainable at that time. ~~The CTR human health criteria for mercury are also legally applicable to all waters of the San Francisco Bay Region.~~
- l. The objectives for nickel are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = ln (hardness):
 The 4-day average objective is $0.997 X e^{(0.8460H + 0.0584)}$. The 1-hour average objective is $0.998 X e^{(0.8460H + 2.255)}$.
- m. Selenium criteria were promulgated for all San Francisco Bay/Delta waters in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta.
 Note: at the time of writing, the values are 5.0 ug/l (4-day average) and 20 ug/l (1-hr. average).

- n. The objective for silver is based on hardness. The table value assumes a hardness of 100 mg/l CaCO₃. At other hardnesses, the objective must be calculated using the following formula where H = ln (hardness): The 1-hour average objective for silver is $0.85 X e^{(1.72H - 6.52)}$. U.S. EPA has not developed a 4-day criterion.
- o. Tributyltin is a compound used as an antifouling ingredient in marine paints and toxic to aquatic life in low concentrations. U.S. EPA has published draft criteria for protection of aquatic life (Federal

Register: December 27, 2002, Vol. 67, No. 249, Page 79090-79091). These criteria are cited for advisory purposes. The draft criteria may be revised.

- p. The objectives for zinc are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = ln (hardness): The 4-day average objective for zinc is $0.986 X e^{(0.8473 H + 0.884)}$. The 1-hour average for zinc is $0.978 X e^{(0.8473 H + 0.884)}$.

Table 3-5

Water Quality Objectives for Municipal Supply

PARAMETER	OBJECTIVE (IN MG/L)	PARAMETER	OBJECTIVE (IN MG/L)
Physical:		Synthetic Organic Chemicals:	
Color (units) ^a	15.0	Alachlor ^a	0.002
Odor (number) ^a	3.0	Atrazine ^a	0.001
Turbidity (NTU) ^a	5.0	Bentazon ^a	0.018
pH ^b	6.5-8.0	Benzo(a)pyrene ^a	0.0002
TDS ^c	500.0	Carbofuran ^a	0.018
EC (mmhos/cm) ^d	900	Chlordane ^a	0.0001
Corrosivity	non-corrosive	Dalapon ^a	0.2
Inorganic Parameters:		DI (2-ethylhexyl) adipate ^a	0.4
Aluminum ^d	1.0 ^e /0.2 ^f	DI(2-ethylhexyl) phthalate ^a	0.004
Antimony ^d	0.006	Dinoseb ^a	0.007
Arsenic ^d	0.05	Diquat ^a	0.02
Asbestos ^d	7MFL ^g	Endothal ^a	0.1
Barium ^d	1.0	Ethylene dibromide ^a	0.00005
Beryllium ^d	0.004	Glyphosate ^a	0.7
Chloride ^d	250.0	Heptachlor ^a	0.00001
Cadmium ^d	0.005	Heptachlor epoxide ^a	0.00001
Chromium ^d	0.05	Hexachlorobenzene ^a	0.001
Copper ^d	1.0	Hexachlorocyclopentadiene ^a	0.05
Cyanide ^d	0.15	Molinate ^a	0.02
Fluoride ^d	0.6-1.7	Oxamyl ^a	0.05
Iron ^d	0.3	Pentachloropheno ^a	0.001
Lead ^d	0.05	Picloram ^a	0.5
Manganese ^d	0.05	Polychlorinated Biphenyls ^a	0.0005
Mercury ^d	0.002	Simazine ^a	0.004
Nickel ^d	0.1	Thiobencarb ^{h,i}	0.07/0.001
Nitrate (as NO ₃) ^d	45.0	Volatile Organic Chemicals:	
Nitrate + Nitrite (asN) ^d	10.0	Benzene ^a	0.001
Nitrate (as N) ^d	1.0	Carbon Tetrachloride ^a	0.005
Selenium ^d	0.05	1,2-Dibromo-3-chloropropane ^a	0.0002
Silver ^d	0.1	1,2-Dichlorobenzene ^a	0.6
Sulfate ^d	250	1,4-Dichlorobenzene ^a	0.005
Thallium ^d	0.002	1,1-Dichloroethane ^a	0.005
Zinc ^d	5.0	1,2-Dichloroethane ^a	0.0005
Organic Parameters:		cis-1,2-Dichloroethylene ^a	0.006
MBAS (Foaming agents) ^a	0.5	trans-1,2-Dichloroethylene ^a	0.01
Oil and grease ^b	none	1,1-Dichloroethylene ^a	0.006
Phenols ^d	0.001	Dichloromethane ^a	0.005
Trihalomethanes ^c	0.1	1,2-Dichloropropane ^a	0.005
Chlorinated Hydrocarbons:		1,3-Dichloropropene ^a	0.0005
Endrin ^a	0.002	Ethylbenzene ^a	0.3
Lindane ^a	0.0002	Methyl-tert-butyl ether ^{h,i}	0.13/0.005
Methoxychlor ^a	0.03	Monochlorobenzene ^a	0.07
Toxaphene ^a	0.003	Styrene ^a	0.1
2,3,7,8-TCDD (Dioxin) ^a	3 x 10 ⁻⁸	1,1,2,2-Tetrachloroethane ^a	0.001
2,4-D ^a	0.07	Tetrachloroethylene ^a	0.005
2,4,4-TP Silvex ^a	0.05	1,2,4-Trichlorobenzene ^a	0.005
		1,1,1-Trichloroethane ^a	0.200
		1,1,2-Trichloroethane ^a	0.005
		Trichloroethylene ^a	0.005
		Trichlorofluoromethane ^a	0.15

PARAMETER	OBJECTIVE (IN MG/L)
Volatile Organic Chemicals (cont'd):	
1,1,2-Trichloro-1,2,2-trifluoromethane ^a	1.2
Toluene ^a	0.15
Vinyl Chloride ^a	0.0005
Xylenes (single or sum of isomers) ^h	1.750

PARAMETER	OBJECTIVE (IN pCi/L)
Radioactivity:	
Combined Radium-226 and Radium-228 ⁱ	5
Gross Alpha Particle Activity ^j	15i
Tritium ^j	20,000
Strontium-90 ^j	8
Gross Beta Particle Activity ^j	50
Uranium ^j	20

- Notes:**
- Secondary Maximum Contaminant Levels as specified in Table 64449-A of Section 64449, Title 22 of the California Code of Regulations, as of **June 3, 2005**.
 - Table III-2, 1986 Basin Plan.
 - Secondary Maximum Contaminant Levels as specified in Table 64449-B of Section 64449, Title 22 of the California Code of Regulations, as of **June 3, 2005**. (Levels indicated are "recommended" levels. Table 64449-B contains a complete list of upper and short-term ranges.)
 - Maximum Contaminant Levels as specified in Table 64431-A (Inorganic Chemicals) of Section 64431, Title 22 of the California Code of Regulations, as of **June 3, 2005**.
 - MFL = million fibers per liter, MCL for fibers exceeding 10 μ m in length.
 - Fluoride objectives depend on temperature.
 - A complete list of optimum and limiting concentrations is specified in Table 64433.2-A of Section 64433.2, Title 22 of the California Code of Regulations, as of **June 3, 2005**.
 - Maximum Contaminant Levels as specified in Table 64444-A (Organic Chemicals) of Section 64444, Title 22 of the California Code of Regulations, as of **June 3, 2005**.
 - Maximum Contaminant Levels as specified in Table 4 (Radioactivity) of Section 64443, Title 22 of the California Code of Regulations, as of **June 3, 2005**.
 - Included Radium-226 but excludes Radon and Uranium.

MG/L Milligrams per liter
pCi/L pico Curries per liter

Table 3-6: Water Quality Objectives for Agricultural Supply^a (in mg/l)

Parameter	Threshold	Limit	Limit for Livestock Watering
Physical:			
Iron	5.0	20.0	
Lead	5.0	10.0	0.1
Lithium		2.5 ^b	
Manganese	0.2	10.0	
Molybdenum	0.01	0.05	0.5
Nickel	0.2	2.0	
NO ₃ +NO ₂ (as N)	5.0	30 ^c	100.0
Selenium		0.02	0.05
Sodium adsorption ratio (adjusted) ^d	3.0	9.0	
Vanadium	0.1	1.0	0.1
Zinc	2.0	10.0	25

Notes:

- a. For an extensive discussion of water quality for agricultural purposes, see "A Compilation of Water Quality Goals," Central Valley Regional Water Quality Control Board, May 1993.
- b. For citrus irrigation, maximum 0.075 mg/l.
- c. For sensitive crops. Values are actually for NO₃-N + NH₄-N.
- d. Adjusted SAR = { Na /[(Ca + Mg)+2]^{0.5} }{1 + [8.4 - pHc]}, where pHc is a calculated value based on total cations, Ca + Mg, and CO₃ + HCO₃, in me/l. Exact calculations of pHc can be found in "Guidelines for Interpretation of Water Quality for Agriculture" prepared by the Univ. of California Cooperative Extension.

TABLE 3-7 WATER QUALITY OBJECTIVES FOR THE ALAMEDA CREEK WATERSHED ABOVE NILES

SURFACE WATER QUALITY OBJECTIVES (ALAMEDA CREEK AND TRIBUTARIES)

TDS:	250 mg/l (90 day-arithmetic mean)
	360 mg/l (90 day-90th percentile)
	500 mg/l (daily maximum)
Chlorides:	60 mg/l (90 day-arithmetic mean)
	100 mg/l (90 day-90th percentile)
	250 mg/l (daily maximum)

GROUNDWATER QUALITY OBJECTIVES

(Concentration not to be exceeded more than 10 percent of the time during one year.)

Central Basin

TDS:	Ambient or 500 mg/l, whichever is lower
Nitrate (NO ₃):	45 mg/l

Fringe Subbasins

TDS:	Ambient or 1000 mg/l, whichever is lower
Nitrate (NO ₃):	45 mg/l

Upland and Highland Areas

California domestic water quality standards set forth in California Code of Regulations, Title 22, and current county standards.

Ambient water quality conditions at a proposed project area will be determined by Zone 7 of the Alameda County Flood Control and Water Conservation District at the time the project is proposed, with the cost borne by the project proponents. Ambient conditions apply to the water-bearing zone with the highest quality water.

Waters designated for use as domestic or municipal water supply shall not contain concentrations of chemicals in excess of natural concentrations or the limits specified in California Code of Regulations, Title 22, Chapter 15, particularly Tables 64431-A and 64431-B of Section 64431, Table 64444-A of Section 64444, and Table 4 of Section 64443.

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TABLE 4-1 DISCHARGE PROHIBITIONS

IT SHALL BE PROHIBITED TO DISCHARGE:

1. Any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof.

2. Any wastewater which has particular characteristics of concern to beneficial uses to San Francisco Bay south of the Dumbarton Bridge.

3. Any wastewater which has particular characteristics of concern to beneficial uses to Suisun Marsh during the dry weather period of the year. Local irrigation return water is excepted in quantities and qualities consistent with good irrigation practices.

4. Any wastewater which has particular characteristics of concern to beneficial uses to Alameda Creek when no natural flow occurs.

5. Any wastewater which has particular characteristics of concern to beneficial uses to Tomales Bay, Drakes Estero, Limantour Estero, Bolinas Lagoon, or Richardson Bay (between Sausalito Point and Peninsula Point).

6. All conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Regional Board, to waters of the Basin.

7. Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

8. Floating oil or other floating materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity or discoloration in surface waters.

DISCUSSION

Waste discharges will contain some levels of pollutants regardless of treatment. This prohibition will require that these pollutants, when of concern to beneficial uses, be discharged away from areas such as nontidal waters and dead-end sloughs. This prohibition will (a) provide an added degree of protection from the continuous effects of waste discharge, (b) provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions, (c) minimize public contact with undiluted wastes, and (d) reduce the visual (aesthetic) impact of waste discharges.

This prohibition is consistent with the 1974 Bays & Estuaries Policy. This area is one that has experienced chronic water quality problems.

The threat of high concentrations of toxicants, biostimulants, and oxygen-demanding substances in Suisun Marsh, an area of low assimilative capacity, great ecological sensitivity and value, and poor dispersion by tidal or freshwater flushing, necessitates such protection for the Marsh for the critical portion of the year when freshwater flows are nonexistent.

The threat of dissolved solids, stable organics, and other pollutant accumulation in the groundwater of the basins recharged with waters of Alameda Creek is critical in the dry weather period when wastewater could account for much of the water percolating to the basin.

Tomales Bay, Drakes Estero, and Limantour Estero are nearly pristine bodies of water and of great value for wildlife habitat and as recreational and scientific study areas. Bolinas Lagoon and Richardson Bay both have poor dispersion capability and low assimilative capacity. They have experienced high coliform, nutrient, and algal concentrations. This prohibition will provide protection for the intensive recreational beneficial uses of these water bodies

The intent of the prohibition is to minimize the discharge of persistent toxicants into waters, thus protecting aquatic life and public water supplies. The prohibition recognizes that these substances can be most economically reduced at their source.

The prohibition is intended primarily to protect recreational uses, including boating and navigation. Floating rubbish can also impair suitability of waters for industrial cooling and other diversions by endangering pumps. This prohibition is in conformance with the Bays and Estuaries Policy.

The prohibition is intended to protect birds and other wildlife from the possible toxic effects of floating oil or oil deposits. Waterfowl and shorebirds in particular can be affected through coating of feathers and loss of thermal insulation. This prohibition is also intended to prevent visual nuisance that would be caused by floating oil or by its deposition on shore or on structures and to protect recreational uses which would be impaired by oil deposited on boats, other equipment, or persons.

TABLE 4-1 DISCHARGE PROHIBITIONS (CONTINUED)

IT SHALL BE PROHIBITED TO DISCHARGE:

DISCUSSION

9. Silt, sand, clay, or other earthen materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity or discoloration in surface waters or to unreasonably affect or threaten to affect beneficial uses.

This is in conformance with the Bays and Estuaries Policy. The intent of this prohibition is to prevent damage to the aquatic biota by bottom deposits which can smother non-motile life forms, destroy spawning areas, and, if putrescible, can locally deplete dissolved oxygen and cause odors. The prohibition would also prevent discoloration and/or turbidity that can be caused by silt and earth. As one measure of compliance with this prohibition, design and maintenance of erosion and sediment control structures should comply with accepted engineering practices as identified in ABAG's *Manual of Standards for Erosion and Sediment Control Measures*. Turbidity or discoloration caused by dredging is covered by the Regional Board's policy on dredging (see section under nonpoint source control).

10. Sludges of municipal or industrial waste origin and sludge digester supernatant, centrate, or filtrate directly to surface waters or to a waste stream that discharges to surface waters without adequate treatment in conformance with waste discharge requirements.

The intent of this prohibition is to preclude a major potential source of bottom deposits, which could smother aquatic biota and cause localized dissolved oxygen depletion. Some sludges contain floatable material which would cause visual nuisance. Some industrial sludges contain persistent toxic matter. If discharged without adequate treatment, digester supernatant, centrate, and filtrate are generally septic and would cause odors, discoloration, and dissolved oxygen depletion.

11. Biocides of a persistent or cumulative form which have particular characteristics of concern to beneficial uses when applied where direct or indirect discharge to water is threatened except where net environmental benefit can be demonstrated to the satisfaction of the Regional Board. A management plan for the use and control of biocides in these cases must be approved by the Regional Board.

It is the intent of this prohibition to prevent, as much as practicable, the entrance into the aquatic environment of persistent and/or cumulative biocides (pesticides, herbicides, copper, etc.). This is necessary to minimize the toxic effects of these substances on the aquatic biota.

12. Radiological, chemical, or biological warfare agents or high level radioactive waste.

The intent of the prohibition is to protect human and aquatic life from the adverse effects of these materials.

13. Oil or any residuary product of petroleum to the waters of the state, except in accordance with waste discharge requirements or other provisions of Division 7, California Water Code.

Discharge of oil or residuary products of petroleum is also prohibited under the Fish and Game Code.

14. Sewage-bearing wastewater to individual leaching or percolation systems in the Stinson Beach area of Marin County, the Glen Ellen area of Sonoma County, and the Emerald Lake Hills and Oak Knoll Manor areas of San Mateo County, as specified in Regional Board Resolutions (Chapter 5) and sections in this chapter on groundwater protection and on-site wastewater systems.

The intent of this prohibition is to prevent degradation of groundwater from septic systems in these areas.

15. Raw sewage or any waste failing to meet waste discharge requirements to any waters of the Basin.

The intent of this prohibition is to protect the public and the aquatic environment from the effects of raw or inadequately treated waste discharges.

16. Waste that is not a sufficient distance from areas designated as being of special biological significance to assure maintenance of natural water quality conditions in these areas.

The intent of this prohibition is to protect the relatively pristine nature of these special areas.

17. Waste so as to alter the total dissolved solids or salinity of waters of the state to adversely affect beneficial uses, particularly fish migration and estuarine habitat.

The intent of this prohibition is to prohibit the discharge of excessively salty water to streams and the Bay-Delta system.

18. Sewage, whether treated or untreated, from any vessel into that portion of Richardson Bay bounded by the shore and by a line bearing 257 degrees from Peninsula Point to the shore at Sausalito, in Marin County.

The intent of this prohibition is to prevent high bacteriological counts in Richardson Bay due to significant sewage discharges from vessels.

TABLE 4-2 EFFLUENT LIMITATIONS FOR CONVENTIONAL POLLUTANTS

(ALL UNITS IN MG/L, EXCEPT AS OTHERWISE NOTED)

PARAMETERS:	30-DAY AVERAGE	7-DAY AVERAGE	DAILY MAXIMUM	INSTANTANEOUS LIMIT	SEVEN-SAMPLE MEDIUM	FIVE-SAMPLE MEDIUM
Biochemical Oxygen Demand (BOD ₅) ^{a,b}	30	45				
Suspended Solids (SS) ^a	30	45				
85% removal of BOD ₅ and SS ^{a,c}						
Total Coliform Organisms ^{a,d} (in MPN/100ml)						
- Shallow Water Discharge ^e (in immediate vicinity of public contact or shellfish harvesting)			240		2.2	
- Deep Water Discharge			10,000			240
pH ^f (in pH units)						
- Shallow Water Discharge				6.5-8.5		
- Deep Water Discharge				6.0-9.0		
Residual Chlorine ^f (free chlorine plus chloramines)				0.0		
Settleable Matter ^{f, g} (in ml/hr)	0.1		0.2			
Oil & Grease ^f	10		20			

NOTES:

- a. These effluent limitations apply to all sewage treatment facilities that discharge to inland surface waters and enclosed bays and estuaries. The Board may also apply some of these limitations selectively to certain other non-sewage discharges, but they will not be used to preempt Effluent Guideline Limitations established pursuant to Sections 301, 302, 304, or 306 of the federal Water Pollution Control Act, as amended. (Such Effluent Guideline Limitations are included in NPDES permits for particular industries.)
- b. The federal regulation allows the parameter BOD to be substituted with Carbonaceous BOD at levels that shall not exceed 25 mg/l as a 30-day average, nor 40 mg/l as a 7-day average.
- c. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight, for effluent samples collected in any month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for simultaneous influent samples
- d. (1) The Regional Board may consider substituting total coliform organisms limitations with fecal coliform organisms limitations provided that it can be conclusively demonstrated through a program approved by the Regional Board that such substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving water.
(2) The Regional Board may consider establishing less stringent requirements for any discharges during wet weather.

- e. Exceptions to these requirements may be granted by the Regional Board where it is demonstrated that beneficial uses will not be compromised by such an exception. Discharges receiving such exceptions shall not exceed a five-sample median of 23 MPN/100 ml nor a maximum of 240 MPN/100 ml during dry weather.
- f. These effluent limitations apply to all treatment facilities.
- g. Discharges from sedimentation and similar cases should generally not contain more than 1.0 ml/hr of settleable matter. Design and maintenance of erosion and sediment control structures shall comply with accepted engineering practices as identified in the Association of Bay Area Government's (ABAG's) *Manual of Standards for Erosion and Sediment Control Measures*.

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Table 4-3 Acute Toxicity Effluent Limits

TABLE 4-4 ACUTE TOXICITY EFFLUENT LIMITS

Discharge/Monitoring Type	At Least 90% Survival	At Least 70% Survival
Continuous discharge/ weekly or monthly tests	11-sample ^a median	11-sample 90th percentile ^b
Continuous discharge/ quarterly or annual tests	3-sample ^c median	Single-sample maximum
Intermittent discharge	—	Single-sample maximum

NOTES:

- a. 11-sample median is defined as follows: If five or more of the past ten or fewer samples show less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.
- b. 90th percentile is defined as follows: If one or more of the past ten or fewer samples show less than 70 percent survival, then survival of less than 70 percent on the next sample represents a violation of the effluent limitation.

- c. 3-sample median is defined as follows: If one of the past two or fewer samples shows less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.

Table 4-4 Critical Life Stage Toxicity Test Species and Protocols

TABLE 4-5 CRITICAL LIFE STAGE TOXICITY TEST SPECIES AND PROTOCOLS ^a

SPECIES	BIOLOGICAL EFFECTS EVALUATED	CALIFORNIA RESIDENT	LAB VS. WILD STOCK
FRESHWATER			
Ceriodaphnia sp. (Crustacean)	survival, reproduction	N	Lab
Pimephales promelas (Fathead minnow)	survival, growth	Y	Lab
Selenastrum capricornutum (unicellular algae)	cell division rate	N	Lab
MARINE			
Mysidopsis bahia (Crustacean)	survival, growth, fecundity	N	Lab
Molluscs			
Mytilus edulis (mussel)	embryo development, survival	Y	Wild or Field-cultured
Crassostrea gigas (oyster)			
Halotis rufescens (abalone)			
Echinoderms			
Strongylocentrotus purpuratus, S. franciscanus (urchins)	fertilization success	Y	Wild
Dendraster excentricus (sand dollar)			
Diatom Plants			
Skeletonema costatum	cell division rate	Y	Lab
Thalassiosira pseudonana			
Macrocystis pyrifera (giant kelp)	percent germination, germ tube length	Y	Wild
Champia parvula (red algae)	number of cystocarps	N	Lab
MARINE/ BRACKISH			
Menidia beryllina	survival, larval growth	Y	Lab

NOTES:

a. All technical references and discussion are contained in "Modified Guidelines: Effluent Toxicity Characterization Program," September, 1991, San Francisco Bay Regional Water Quality Control Board.

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**Table 4-5 Conditions that Require Monthly
Monitoring of Toxicity Levels**

**TABLE 4-6 CONDITIONS THAT REQUIRE MONTHLY
MONITORING OF TOXICITY LEVELS**

DISCHARGER MONITORING FREQUENCY	SHALLOW WATER DISCHARGERS	DEEP WATER DISCHARGERS
Quarterly		
Three-sample median ^a	> 1 TU _C	> 10 TU _C
Single-sample maximum	> 2 TU _C	> 20 TU _C
Semi-annually or annually		
Single-sample maximum	> 1 TU _C	> 10 TU _C

NOTES:

a. Exceedance of the three-sample median is defined as follows: If one of the past two or fewer samples shows greater than the toxicity threshold listed above, then a chronic toxicity value greater than the threshold on the next sample represents an exceedance.

Table 4-6 Controlling Wet-weather Overflows

TABLE 4.8 CONTROLLING WET-WEATHER OVERFLOWS

Levels of Water Quality Protection	Appropriate Level of Treatment
<p>A</p> <p>Complete protection for areas where the aquatic environment should be free of any identifiable risk from the discharge of untreated waste (i.e., shellfish beds for year-round harvesting).</p>	<p>Secondary treatment up to 20-year recurrence interval; above 20-year overflows allowed.</p>
<p>B</p> <p>Areas that do not need complete year-round protection, such as shellfish beds for dry-weather harvesting, public beaches, and other water contact areas.</p>	<p>Secondary treatment for all flows up to two-year recurrence interval; primary treatment up to 20-year recurrence interval; above 20-year overflows allowed.</p>
<p>C</p> <p>Areas where water quality or aquatic productivity may be limited due to the pollution effects of a dense human population or other urban activities that are largely uncontrollable. Such areas may include some shipyards and harbors.</p>	<p>Secondary treatment to half-year recurrence interval; primary treatment to five-year recurrence interval; above five-year overflows allowed.</p>

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Table 4-9~~7~~

Publicly Owned Treatment Works (POTWs)

POTW FACILITY NAME	OUTFALL LOCATION ^a	FLOW ^b (MGD)	TREATMENT LEVEL	DISCHARGE POINT LATITUDE	DISCHARGE POINT LONGITUDE	COMMENT
City of American Canyon	1 1	2.5 2.5	Advanced	38 11 11	122 16 27	
City of Benicia	4 2	2-20 4.5	Secondary	38 02 30	122 09 03	
City of Burlingame	2 3	2-30 5.5	Secondary	37 39 55	122 21 41	Discharge through North Bayside outfall
City of Calistoga	2 4	0-60 0.84	Advanced	38 33 34	122 33 28	W/dry weather reclamation
Central Contra Costa S.D.	4 5	25-20 53.8	Secondary	38 02 44	122 05 55	
Central Marin Sanitation A.G.	6 6	8-50 10	Secondary	37 56 54	122 27 23	
Contra Costa Co. S.D. No. 5	6 7	0-04 0.025	Secondary	38 02 55	122 10 56	
Delta Diablo S. D.	7 8	0-64 16.5	Secondary	38 01 40	121 50 14	
EBDA, East Bay Dischargers Authority	8 9	60-00 77.1	Secondary	37 41 40	122 17 42	Common outfall for EBDA & LAVWMA
- City of Hayward			Secondary			EBDA member (40-0 16.5 mgd)
- Oro Loma S.D.			Secondary			EBDA member (44-0 20 mgd)
- City of San Leandro			Secondary			EBDA member (4-44 7.6 mgd)
- Union S. D.			Secondary			EBDA member (24-2 33 mgd)
East Bay MUD	9 10	74-50 120	Secondary	37 49 02	122 20 55	
Fairfield Suisun Sewer Dist.	40 11	42-80 17.5	Secondary	38 12 33	122 03 24	W/dry weather reclamation
City of Hercules	44	0-37	Secondary	28-03-06	422-15-55	Share outfall w/Pinole, Rodeo
Las Gallinas Valley S.D.	12	4-70 2.92	Secondary	38 01 32	122 30 58	
LAVWMA, Livermore-Amador Valley WMA	8 9	41-00 20	Secondary			Discharge to EBDA outfall
- Dublin/San Ramon S.D.			Secondary			LAVWMA member (7-7 11.5 mgd)
- City of Livermore			Secondary			LAVWMA member (2-9 6.25 mgd)
Marin Co. S.D. #6	13	0-70 0.98	Secondary	37 52 12	112 27 05	
City of Millbrae	2 3	2-00 3.0	Secondary	37 39 55	122 21 41	Discharge thru North Bayside outfall
Mountain View S.D.	14	4-47 2.4	Secondary	38 01 12	122 05 47	
Napa S.D.	15	44-20 15.4	Advanced	38 14 09	122 17 10	W/dry weather reclamation
N. San Mateo Co. S.D.	16	2-40 8.0	Secondary	37 42 48	122 30 50	
Novato S.D.	17	4-80 6.55	Secondary	39 04 00	122 29 00	
City of Pacifica	18	4-40 3.3	Advanced	37 37 55	122 30 30	37 36 53 122 29 16
City of Palo Alto	19	40-00 39	Advanced	37 27 11	122 06 36	
City of Petaluma	20	4-20 5.2	Secondary	38 12 33	122 34 22	W/dry weather reclamation
Cities of Pinole & Hercules	44 21	2-00 4.06	Secondary	38 03 06	122 15 55	Share outfall w/Hercules-Rodeo
Rodeo S.D.	44 21	0-70 1.14	Secondary	38 03 06	122 15 55	Share outfall w/Hercules, Pinole/Hercules
City & Co. of S.F., Southeast	24 22	67-00 85.4	Secondary	37 44 58	122 22 22	
City & Co. of S.F., Oceanside	22 23	22-00 43	Secondary	37 42 18	122 34 39	
City & Co. of S.F., Int. Airport	2 3	0-00 2.2	Secondary	37 39 55	122 21 41	Discharge through North Bayside outfall
San Jose/Santa Clara WQCP	23 24	420-00 167	Advanced	37 26 06	121 57 08	
City of San Mateo	24 25	40-20 13.6	Advanced	37 34 50	122 14 45	
Sausalito-Marin City S.D.	26 26	4-26 1.8	Secondary	37 50 37	122 28 03	
Sewer Authority Mid-Coastside	26 27	4-50 4.0	Secondary	37 28 23	122 27 00	
Sewerage Agency of So. Marin	27 13	2-63 3.6	Secondary	37 52 12	112 27 05	
Sonoma Valley County S.D.	28	2-80 3.0	Secondary	38 14 14	122 25 51	W/dry weather reclamation
So. Bayside System Authority	29	45-00 29	Secondary	37 33 48	122 12 55	
So. S.F./San Bruno WQCP	30 3	2-70 13	Secondary	37 39 55	122 21 41	
City of St. Helena	34 30	0-34 0.5	Secondary	30 30 10	122 26 15	W/dry weather reclamation
City of Sunnyvale	22 31	47-40 29.5	Advanced	37 26 00	122 02 00	
U.S. Navy Treasure Island	32	2.0	Secondary	37 49 50	122 21 25	As part of base closure will be transferred to City & Co. of S.F.
Vallejo Sanitation & Flood Control	33	42-50 15.5	Secondary	38 03 53	122 13 42	W/dry weather reclamation
West County Agency WCA	34	43-40 28.5	Secondary	37 54 47	122 25 06	Share outfall w/West Co. W.D. WCA common outfall (replaces above)
- City of Richmond			Secondary			WCA member (16mgd)
- West County Wastewater Dist.	24	6-70	Secondary	27-54-47	422-25-06	Share outfall w/West Co. Agency WCA member (12.5 mgd)(replaces above)
Town of Yountville	35	0-28 0.55	Advanced	38 24 30	122 20 25	W/dry weather reclamation

Notes:

a. Figure 4-1 shows corresponding outfall locations.

b. Dry weather flow as identified in current permits. MGD is million gallons per day.

Table 4-8 Major Industrial Discharge Outfalls

Industrial Dischargers	Outfall Location	Industrial Category	Treatment	Discharger Latitude	Point Longitude
C & H Sugar Co.	1	Sugar refining	Activated sludge	30 03 30	122 13 28
Chevron Chemical	2	Chemical manufacturing	Pond	37 58 15	122 25 45
Chevron U.S.A.	2	Petroleum refining	Activated sludge/wetland	38 58 15	123 25 45
ConocoPhillips	3	Petroleum refining	Activated sludge/pond/carbon	38 03 22	122 15 36
Dow Chemical Co.	4	Chemical manufacturing	Neutralization/activated carbon	38 01 48	121 51 07
General Chemical Corp. Bay Point Works	5	Chemical manufacturing	Neutralization/pond	38 02 48	121 59 10
Pittsburg Power Plants	6	Steam electric power	Filtration	38 02 30	121 53 20
Rhodia, Inc.	7	Sulfuric acid regeneration	Neutralization/pond	38 02 18	122 07 01
San Francisco Int'l Airport	8	Various	Physical/chemical		
Shell Oil Company	9	Petroleum refining	Activated sludge/carbon	38 01 56	122 07 44
Tesoro Refining	10	Petroleum refining	Pond/RBC/carbon	38 02 54	122 05 22
USS-Posco Industries	11	Steel finishing	Physical/chemical	38 01 48	121 51 32
Valero Refining Co.	12	Petroleum refining	Activated sludge/carbon	38 03 18	122 07 07

Table 4-9 Status of Urban Runoff Control Programs

TABLE 4.11 STATUS OF URBAN RUNOFF CONTROL PROGRAMS

MUNICIPALITIES CONDUCTING BASELINE CONTROL PROGRAMS

CITIES		COUNTIES
Belvedere	Petaluma	Marin
Benecia	Ross	Napa
Calistoga	San Anselmo	Solano
Corte Madera	San Rafael	Sonoma
Fairfax	Sausalito	
Larkspur	Sonoma	
Mill Valley	St. Helena	
Napa	Tiburon	
Novato	Yountville	

ENTITIES CONDUCTING COMPREHENSIVE CONTROL PROGRAMS

LOCALE	PERMITTED ENTITY	COMPLETED CHARACTERIZATION OF STORMWATER QUALITY AND RUNOFF POLLUTANT LOADING?	DATE PERMITTED
Santa Clara County	Santa Clara Valley Nonpoint Source Pollution Control Program	Yes	1990
Alameda County	Alameda County Urban Runoff Clean Water Program	Yes	1991
San Mateo County	San Mateo County Stormwater Pollution Prevention Program	Yes	1993
Contra Costa County	Contra Costa Clean Water Program	Yes	1993
Vallejo	City of Vallejo	No	Applied in 1994
Suisun City	City of Suisun City	No	Applied in 1994
Fairfield	City of Fairfield	No	Applied in 1994

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Table 4-10 Potential Consequences and Impacts of Dredging and Dredged Material Disposal

TABLE 4-12 POTENTIAL CONSEQUENCES AND IMPACTS OF DREDGING AND DREDGED MATERIAL DISPOSAL

Consequences	Impacts
Bottom disturbance	Mastication of sediment-inhabiting organisms; smothering of organisms living in or on the bottom; habitat disruption
Suspended solids loading	Abrasion and clogging of gills (fish and clams); impaired respiration, feeding, and excretory functions; reduced water pumping rates (clams); retarded egg development and reduced growth and survival of larvae
Dissolved oxygen reduction	Reduced efficiency of oxygen uptake by aquatic organisms; increased stress on organisms resulting in reduced ability to meet environmental and biological demands
Mobilization of toxicants adsorbed to sediments	Uptake and accumulation by aquatic organisms
Release of biostimulatory substances (nitrogen, phosphorus, ammonia)	Stimulation of algal growth; ammonia toxicity

Table 4-11 Goals of LTMS

TABLE 4-13 GOALS OF LTMS

- 1) Maintain those channels in the SF Bay Estuary which are necessary for navigation, in an environmentally and economically sound manner and eliminate unnecessary dredging activities in the region
- 2) Conduct dredged material disposal activities in the most environmentally sound manner
- 3) Maximize the use of dredged material as a resource
- 4) Establish a cooperative permitting framework for dredging permit applications

Table 4-12 LTMS Participants

TABLE 4 14 LTMS PARTICIPANTS

EXECUTIVE COMMITTEE

- Corps of Engineers, South Pacific Division, Commander
- U.S. EPA, Region IX, Regional Administrator
- State Dredging Coordinator
- San Francisco Bay Conservation and Development Commission, Chairperson
- San Francisco Bay Regional Water Quality Control Board, Chairperson

MANAGEMENT COMMITTEE

- Corps of Engineers, San Francisco District, District Engineer
- Corps of Engineers, South Pacific Division, LTMS Program Manager
- U.S. EPA, Region IX, Regional Administrator
- San Francisco Bay Conservation and Development Commission, Executive Director
- San Francisco Bay Regional Water Quality Control Board, Executive Officer
- State Water Resources Control Board, Executive Director

POLICY REVIEW COMMITTEE

- Other state and federal agencies with an interest in San Francisco Bay Area dredging (e.g., U.S. Navy, California State Department of Boating and Waterways, State Lands Commission)
- Bay Area ports and marinas
- Environmental and fishing organizations
- Development interests and other interested parties

WORK GROUPS

- Staff of RWQCB Chair of In-bay studies
- Staff of BCDC Chair of Upland/Non-aquatic and Reuse studies
- Staff of U.S. EPA Chair of Ocean studies
- Varying levels of participation by the organizations listed above

IMPLEMENTATION COMMITTEE

Ad-hoc leadership and varying levels of participation by the organizations listed above

TECHNICAL/SCIENCE ADVISORY PANEL

Semi-annual meetings of panel by five experts in the areas of:

- Physical processes,
- Chemistry,
- Benthic community analysis,
- Sediment toxicology, and
- A representative of the Corps of Engineers' national laboratory.

Table 4-13 Dredged Material Volume Targets

TABLE 4-15 DREDGED MATERIAL VOLUME TARGETS

ANNUAL

The following volume targets shall be utilized each calendar year (i.e., January to December) at each aquatic disposal site:

Alcatraz Island (SF-11)	4.0 million cubic yards
San Pablo Bay (SF-10)	0.5 million cubic yards
Carquinez Straits (SF-9)	2.0 million cubic yards (Normal Water Year) ^a 3.0 million cubic yards (Wet Water Year)

MONTHLY

The following volume targets shall be utilized on a monthly basis at each aquatic disposal site:

Alcatraz Island (SF-11)	October - April	1.0 million cubic yards
	May - September	0.3 million cubic yards
San Pablo Bay (SF-10)	Any month	0.5 million cubic yards
Carquinez Straits (SF-9)	Any month	1.0 million cubic yards

NOTES:

a. Water year classifications are designated by the California Department of Water Resources (DWR). The DWR water year begins on October 1 and is based on unimpaired flows as defined in the State Board's Water Rights Decision 1485.

Table 4-14 Inactive Mine Sites

Number	Mine Name	Associated Material	Number	Mine	Associated Material
1	Snowflake	magnesite	25	Hillsdale	mercury
2	Palisade	mercury	26	Silver Creek	mercury
3	Silverado	mercury	27	Winegar	manganese
4	La Joya	mercury	28	Fable Manganese	manganese
5	Hastings	mercury	29	Western	magnesite
6	St. John's	mercury	30,31	Maltby	magnesite
7	Borges	mercury	32	Keller	magnesite
8	H. Corda	mercury	33	Queenbee No. 1	manganese
9	Cycle	mercury	34	Blackhorse	manganese
10	Franciscan	mercury	35	Black Eagle	manganese
11	Chileno Valley	mercury	36	Jones Group	manganese
12	Gambonini	mercury	37	Mexican Deposits	manganese
13	Union Gulch	copper	38	Pine Ridge	manganese
14	Leona Heights	pyrite	39	April	mercury
15	Alma	pyrite	40	Cristobal	mercury
16	Black Diamond	coal	41	San Francisco	mercury
17	Buckhorn	manganese	42	San Pedro Pit	mercury
18	Man Ridge	manganese	43	Enriquita	mercury
19	Section 14	coal	44	San Mateo	mercury
20	Newman	chromite	45	Senator	mercury
21	Livermore Coal	coal	46	Guadalupe Mines	mercury
22	Pendarin	coal	47	Hooker Creek	copper
23	Camp 9	manganese	48	Marine Magnes Div.	magnesium salts
24	Challenge	mercury			

Delete Table 4-18 in 2005 Basin Plan General Update

TABLE 4-18 SUMMARY OF LOCAL AGENCY UNDERGROUND STORAGE TANKS (UST) PROGRAMS (AS OF APRIL 1992)⁹

JURISDICTION/AGENCY	PROGRAM START DATE	STAFF	CASES	COMMENTS
ALAMEDA COUNTY County Health Department Alameda County Water District (Fremont, Union City, Newark)	10/91 5/88	7.5 2.5	392 286	d,e a,c,e
CONTRA COSTA COUNTY County Health Services Department	1988	7	>270	c,e
MARIN COUNTY City of San Rafael	2/90	1	98	c,f
NAPA COUNTY Department of Environmental Management	5/89	2.3	152	a,e
SAN FRANCISCO COUNTY County Public Health Department	6/91	3	90	c
SAN MATEO COUNTY County Department of Health Services	1988	5	600	b
SANTA CLARA COUNTY Santa Clara Valley Water District	3/87	13	1134	a,b,d,e
SOLANO COUNTY County Health Department	1/92	1	30	c
SONOMA COUNTY County Health Department	4/88	8.75	360	a,e,d

NOTES:

- a. Guidance Document is available, contact agency.
- b. Agency may close soil-only pollution cases without review by RWQCB.
- c. Program is self-funded; agency does not have LOP contract with State Board.
- d. Program is both self-funded and funded through a LOP contract.
- e. Agency oversees other related activities, including one or more of the following: tank and pipe line inspections, well permitting and inspection, Hazardous Materials Management Plan review, and groundwater protection program oversight.

- f. The City of San Rafael contracts out some of its inspection and oversight work to private consulting firms. Responsible parties are billed for oversight costs.
- g. For more up-to-date or detailed information, please contact the local agency directly.

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TABLE 4-19 OPTIONS FOR FUTURE MANAGEMENT STRATEGIES AT GROUNDWATER CLEANUP SITES

CONTINUE EXISTING APPROACH:

Develop site specific cleanup levels utilizing Resolution Nos. 68-16 and 92-49, MCLs, and risk assessment.

ADOPT MORE STRINGENT APPROACH:

Require clean-up levels based exclusively on background or a stringent risk-management requirement (e.g., 10^{-6} excess cancer, etc.).

STREAMLINE EXISTING PROGRAM:

Adopt Basin Plan amendments or a general Regional Board Order with a standardized process for dischargers to identify investigation, remediation, and clean-up level requirements.

Develop a decision process whereby individual site and pollution information could be used to determine specific clean-up levels.

Develop clean-up levels and policies for individual groundwater basins or sub-basins based on designated beneficial uses.

Establish procedures to change clean-up standards, including long-term monitoring and hydraulic controls, when the Regional Board concurs that existing clean-up technology is no longer operating efficiently or will not meet clean-up standards.

Improve access to geographical information system-based data bases to assist in identifying critical groundwater resources.

DEVELOP AND IMPLEMENT REGIONAL OR SUB-REGIONAL MITIGATION PROGRAMS:

Identify conditions under which measures to mitigate the effect of pollution above prescribed clean-up levels should be considered by dischargers.

Identify potential mitigation alternatives such as regional groundwater programs in individual basins that will have a net benefit of protecting groundwaters.

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Table 6-1 Parameters Analyzed for in the Regional Monitoring Program

Conventional Water Quality Parameters
Conductivity
Dissolved Ammonia
Dissolved Nitrate
Dissolved Nitrite
Dissolved Organic Carbon
Particulate Organic Carbon
Dissolved Oxygen
Dissolved Phosphates
Dissolved Silicates
Hardness (when salinity is < 5 parts per thousand)
pH
Phaeophytin
Salinity
Temperature
Total Chlorophyll-a
Total Suspended Solids
Sediment Quality Parameters
% clay (< 4 µm)
% silt (4 µm–62 µm)
% sand (2 mm > 62 µm)
% gravel (> 2 mm)
% solids
Depth
Hydrogen Sulfide (<i>QAQC measurements</i>)
pH (porewater, interstitial sediment)
Total Ammonia (<i>QAQC measurements</i>)
Total Organic Carbon
Total Sulfide (<i>QAQC measurements</i>)
Total Nitrogen
Bivalve Tissue Parameters
% Lipid
% Moisture
Bivalve Percent Survival
Growth - Change in Internal Shell Volume (mean, std. dev)
Dry Flesh Weight (mean and std error)
Toxicity Tests—Water and Sediment
Episodic Aquatic Toxicity – (<i>Ceriodaphnia, Menidia, Mysid</i>) % Survival
Sediment Toxicity – (Amphipod) % Survival
Sediment Toxicity – (Bivalve) % Normal Development

Table 6-1 Parameters Analyzed for in the Regional Monitoring Program continued

Trace elements analyzed in water, sediment, and tissue samples:		
Target Method Detection Limits (MDLs) are in parentheses following the reporting units.		
Lab(s)	Water	Sediment
	(Dissolved and Total)	(dry weight)
	BRL/UCSCDET	BRL/CCSF/UCSCDET
Aluminum (Al)*	-	mg/kg (200)
Arsenic (As)	µg/L (0.1)	mg/kg (0.2)
Cadmium (Cd)*	µg/L(0.001)	mg/kg (0.001)
Cobalt (Co)*	µg/L(0.001)	
Copper (Cu)*	µg/L (0.01)	mg/kg (2)
Iron (Fe)*	µg/L(10)	mg/kg (200)
Lead (Pb)*	µg/L (0.001)	mg/kg (0.5)
Manganese (Mn)*	µg/L (0.01)	mg/kg (20)
Mercury (Hg)	µg/L (.0001)	mg/kg (0.00001)
Methylmercury (MeHg)	ng/L (0.005)	µg/kg (0.005)
Nickel (Ni)*	µg/L (0.01)	mg/kg (5)
Selenium (Se)	µg/L (0.02)	mg/kg (0.01)
Silver (Ag)*	µg/L (0.0001)	mg/kg (0.001)
Zinc (Zn)*	µg/L (0.005)	mg/kg (5)

- Parameter is not sampled for the matrix.

* Near-total instead of total concentrations are reported for water. Near-total metals are extracted with a weak acid (pH < 2) for a minimum of one month, resulting in measurements that approximate bioavailability of these metals to Estuary organisms.

Table 6-1 Parameters Analyzed for in the Regional Monitoring Program continued

Trace organic parameters (lab; reporting units) – in water (AXYS & CDFG; pg/L), sediment (EBMUD; µg/kg), and bivalve tissue (CDFG-WPCL; µg/kg) samples: Organochlorines analyzed by GC-ECD will be determined using two columns of differing polarity.		
Polynuclear Aromatic Hydrocarbons (PAHs) (Target MDLs: water – 200 pg/L, sediment and tissue – 5 µg/kg; water PAHs reported in ng/L)	SYNTHETIC BIOCIDES (Target MDLs: water – 2 pg/L, sediment and tissue – 1 µg/kg)	OTHER SYNTHETIC COMPOUNDS ¹ New analytes added in 2002. ² Not required by RMP but are expected to be analyzed in the 2002 RMP samples.
1-Methylnaphthalene	Cyclopentadienes	Polychlorinated Biphenyls (PCB Congeners (IUPAC numbers) (Target MDLs: water – 2 pg/L, sediment and tissue – 1 µg/kg) 8, 18, 28, 31, 33, 44, 49, 52, 56, 60, 66, 70, 74, 87, 95, 97, 99, 101, 105, 110, 118, 128, 132, 138, 141, 149, 151, 153, 156, 158, 170, 174, 177, 180, 183, 187, 194, 195, 201, 203
2,3,5-Trimethylnaphthalene	Aldrin	
2,6-Dimethylnaphthalene	Dieldrin	
2-Methylnaphthalene	Endrin	
Biphenyl		
Naphthalene	Chlordanes	
1-Methylphenanthrene	alpha-Chlordane	
Acenaphthene	cis-Nonachlor	
Acenaphthylene	gamma-Chlordane	
Anthracene	Heptachlor	
Fluorene	Heptachlor Epoxide	
Phenanthrene	Oxychlordane	
Benz(a)anthracene	trans-Nonachlor	
Chrysene		
Fluoranthene	Dichloro-diphenyl-trichloroethane (DDTs)	BDE 7 [2,4-DiBDE]
Pyrene	o,p'-DDD	BDE 8 [2,4'-DiBDE]
Benzo(a)pyrene	o,p'-DDE	BDE 10 [2,6-DiBDE]
Benzo(b)fluoranthene	o,p'-DDT	BDE 11 [3,3'-DiBDE]
Benzo(e)pyrene	p,p'-DDD	BDE 12 [3,4-DiBDE]
Benzo(k)fluoranthene	p,p'-DDE	BDE 13 [3,4'-DiBDE]
Dibenz(a,h)anthracene	p,p'-DDT	BDE 15 [4,4'-DiBDE]
Perylene		BDE 17 [2,2',4-triBDE]
Benzo(ghi)perylene	Hexachlorcyclohexane (HCH)	BDE 25 [2,3',4-triBDE]
Indeno(1,2,3-cd)pyrene	alpha-HCH	BDE 28 [2,4,4'-triBDE]
Dibenzothiophene	beta-HCH	BDE 30 [2,4,6-triBDE]
	delta-HCH	BDE 32 [2,4',6-triBDE]
	gamma-HCH	BDE 33 [2',3,4-triBDE]
Alkylated PAHs		BDE 35 [3,3',4-triBDE]
C1-Chrysenes	Other Synthetic Biocides	BDE 37 [3,4,4'-triBDE]
C2-Chrysenes	Chlorpyrifos (water only; CDFG-WPCL)	BDE 47 [2,2',4,4'-tetraBDE]
C3-Chrysenes	Dacthal (water only)	BDE 49 [2,2',4,5'-tetraBDE]
C4-Chrysenes	Diazinon (water only; CDFG-WPCL)	BDE 51 [2,2',4,6'-tetraBDE]
C1-Dibenzothiophenes	Endosulfan I (water only)	BDE 66 [2,3',4,4'-tetraBDE]
C2-Dibenzothiophenes	Endosulfan II (water only)	BDE 71 [2,3',4',6-tetraBDE]
C3-Dibenzothiophenes	Endosulfan Sulfate (water only)	BDE 75 [2,4,4',6-tetraBDE]
C1-Fluoranthene/Pyrenes	Hexachlorobenzene	BDE 77 [3,3',4,4',-tetraBDE]
C1-Fluorenes	Mirex	BDE 82 [2,2',3,3',4-pentaBDE]
C2-Fluorenes	Oxadiazon (water only)	BDE 85 [2,2',3,4,4'-pentaBDE]
C3-Fluorenes		BDE 88 [2,2',4,4',5-pentaBDE]
C1-Naphthalenes		BDE 100 [2,2',4,4',6-pentaBDE]
C2-Naphthalenes		BDE 105 [2,3,3',4,4',-pentaBDE]
C3-Naphthalenes		BDE 116 [2,3,4,5,6-pentaBDE]
C4-Naphthalenes		BDE 119 [2,3',4,4',6-pentaBDE]
C1-Phenanthrene/Anthracenes		BDE 120 [2,3',4,5,5'-PeBDE]
C2-Phenanthrene/Anthracenes		BDE 126 [3,3',4,4',5-PeBDE]
C3-Phenanthrene/Anthracenes		BDE 128 [2,2',3,3',4,4'-hexaBDE]
C4-Phenanthrene/Anthracenes		BDE 138 [2,2',3,4,4',5'-hexaBDE]

Trace organic parameters (lab; reporting units) – in water (AXYS & CDFG; pg/L), sediment (EBMUD; µg/kg), and bivalve tissue (CDFG-WPCL; µg/kg) samples: Organochlorines analyzed by GC-ECD will be determined using two columns of differing polarity.		
Polynuclear Aromatic Hydrocarbons (PAHs) (Target MDLs: water – 200 pg/L, sediment and tissue – 5 µg/kg; water PAHs reported in ng/L)	SYNTHETIC BIOCIDES (Target MDLs: water – 2 pg/L, sediment and tissue – 1 µg/kg)	OTHER SYNTHETIC COMPOUNDS ¹ New analytes added in 2002. ² Not required by RMP but are expected to be analyzed in the 2002 RMP samples.
		BDE 140 [2,2', 3,4,4',6'-hexaBDE]
		BDE 153 [2,2',4,4',5,5'-hexaBDE]
		BDE 154 [2,2',4,4',5,6'-hexaBDE]
		BDE 155 [2,2',4,4',6,6'-hexaBDE]
		BDE 166 [2,3,4,4',5,6'-hexaBDE]
		BDE 181 [2,2',3,4,4',5,6'-heptaBDE]
		BDE 183 [2,2',3,4,4',5',6-heptaBDE]
		BDE 190 [2,3,3',4,4',5,6-heptaBDE]
		BDE 203 [2,2',3,4,4',5,5',6]
		BDE 206 [2,2',3,3',4,4',5,5',6]
		BDE 209 [2,2',3,3',4,4',5,5',6,6'-decaBDE]

Table 6-2 Mussel Watch Program Monitoring Network

Station Number	Station Name	LATITUDE	LONGITUDE	SAMPLING HISTORY
203.0	Tomales Bay / Shell Beach	38 07 03	122 52 25	1979-1982, 1991-1992, 1997-2000
203.1	Tomales Bay / Vincent Landing	38 13 08	122 58 39	1997-2000
203.2	Tomales Bay / Walker Ck Mouth #5	38 12 34	122 56 08	1999-2000
203.3	Tomales Bay / Walker Ck Mouth #1	38 12 30	122 55 43	1997-2000
203.4	Tomales Bay / Walker Ck Mouth #4	38 12 29	122 55 41	1998-2000
203.5	Tomales Bay / Walker Ck Mouth #2	38 12 22	122 55 51	1997-2000
203.7	Tomales Bay / Walker Ck Mouth #3	38 12 15	122 55 39	1997, 1999-2000
203.8	Tomales Bay / Marshall	38 09 05	122 53 19	1998-2000
203.9	Tomales Bay / Nicks Cove	38 11 57	122 55 16	1997-1998
204.0	Estero De San Antonio	38 16 11	122 58 47	1993
204.1	Tomales Bay / HP	38 12 27	122 56 34	2000
204.2	Tomales Bay / Hog Island	38 11 51	122 56 12	2000
204.3	Tomales Bay / Hamlet	38 12 23	122 55 35	1999-2000
204.4	Tomales Bay / Audubon	38 09 52	122 54 02	1999-2000
204.5	Tomales Bay / McDonald	38 10 48	122 54 33	2000
207.0	Point Reyes	37 59 35	122 59 16	1978-1979, 1991
208.0	Bolinas	37 54 37	122 41 00	1980-1981
210.0	Salmon Creek / Marshall-Petaluma Rd Brid	38 09 52	122 46 32	1999
210.1	Walker Creek / Mine Creek	38 09 47	122 46 57	1997
210.3	Walker Creek / Mid Stream	38 10 08	122 47 35	1997
210.5	Walker Creek / USGS Stream Gauge	38 10 32	122 49 15	1998
210.7	Walker Creek / Hwy 1	38 13 25	122 54 23	1998-1999
211.1	Lagunitas Creek / Bridge #1	38 02 59	122 45 36	1997
211.3	Lagunitas Creek / Bridge #2	38 01 45	122 44 14	1997
220.0	Napa River / Tubbs Ln.	38 28 47	122 24 56	1998
220.1	Napa River / Larkmead Ln.	38 27 20	122 24 23	1998
220.3	Napa River / Pope St.	38 25 31	122 22 25	1998
220.5	Napa River / Yountville Cross Rd.	38 22 46	122 18 37	1998
224.0	Sonoma Creek / Agua Caliente Rd.	38 17 58	122 29 01	1998
224.1	Sonoma Creek / Petaluma Rd.	38 16 49	122 28 23	1998
224.3	Sonoma Creek / Watmaugh Rd.	38 15 48	122 27 53	1998
230.0	Petaluma River / Ely Rd	38 17 06	122 40 02	1999
298.3	Concord Naval Weapons Station / Pier 4	38 03 25	122 00 01	1988
298.4	Concord Naval Weapons Station / Seal Isl	38 03 21	122 02 50	1988
299.1	Selby Slag 4	38 03 25	122 14 52	1988, 1996
299.2	Selby Slag 5	38 03 29	122 14 48	1988
299.3	Selby Slag 6	38 03 31	122 14 19	1988
299.4	Selby Slag 7	38 03 28	122 13 54	1988
300.2	Mare Island	38 04 30	122 14 45	1985-1989
301.0	Davis Point	38 03 09	122 15 36	1980, 1983, 1988
301.4	Union Oil Outfall	38 02 44	122 15 43	1988-1989
302.0	Point Pinole	38 00 60	122 21 48	1980-1993, 1995
302.4	Castro Cove Bridge	37 57 10	122 23 09	1988-1990
302.6	Paradise Cove	37 53 58	122 27 52	1996
303.0	Richmond/San Rafael Bridge	37 55 55	122 26 08	1980-1993
303.1	Santa Fe Channel / Mouth	37 54 30	122 21 40	1986, 1991
303.2	Lauritzen Canal / Mouth	37 55 15	122 21 60	1985-1988
303.3	Lauritzen Canal / End	37 55 26	122 21 58	1986-1988, 1991
303.4	Santa Fe Channel / End	37 55 26	122 22 32	1985-1987, 1991
303.6	Richmond Inner Harbor Basin	37 54 45	122 20 60	1985-1989
304.0	Staufers	37 54 21	122 20 00	1982
304.4	Serl Intake	37 54 21	122 19 55	1991
304.6	Point Isabel	37 53 54	122 19 31	1988
305.0	San Francisco Bay / Angel Island	37 51 17	122 25 03	1980-1983
306.0	San Francisco Bay / Fort Baker	37 49 51	122 28 26	1981, 1983, 1991-1993, 1999-2000
306.1	Gashouse Cove / Laguna St	37 48 23	122 25 57	1996
306.2	Sansome St. / Pier 31	37 48 23	122 24 10	1996
306.3	Howard St. / Pier 14	37 47 35	122 23 26	1996
306.4	Central Basin / Outer	37 45 47	122 23 05	1996
306.5	Alcatraz Island	37 49 40	122 25 13	1989
307.0	San Francisco Bay / Treasure Island	37 48 42	122 21 33	1979-1993, 1997
307.1	San Leandro Bay / Damon Channel	37 45 03	122 12 49	1999
307.2	Alameda Yacht Harbor	37 46 45	122 15 15	1985-1989
307.3	Oakland Inner Harbor / West	37 47 59	122 19 53	1986-1987
307.4	Oakland Inner Harbor / Embarcadero Cove	37 46 50	122 14 40	1985-1989, 1991-1993
307.5	Lake Merritt	37 47 34	122 15 43	1992-1993
307.6	Oakland Back Harbor	37 45 30	122 13 25	1985-1988, 1999
307.7	San Leandro Bay/Elmhurst Ch	37 44 34	122 12 35	1999
307.8	San Francisco Outfall	37 44 55	122 22 30	1989

Table 6-2 Mussel Watch Program Monitoring Network

307.9	San Francisco / Islais Channel	37 44 51	122 23 05	1987-1988 1981-1983, 1991-1993, 1995, 1997
308.0	San Francisco Bay / Hunter's Point	37 41 42	122 20 27	1988-1989
308.2	Hunter's Point Shipyard	37 42 25	122 23 10	1980-1987, 1991-1993, 1995, 1997
309.0	San Mateo Bridge / 8B	37 36 21	122 17 20	1982
310.0	San Mateo Bridge / 8A	37 35 21	122 16 08	1982
311.0	San Mateo Old Bridge	37 35 52	122 15 08	1996
311.4	North / South Bay	37 34 16	122 08 59	1982
312.0	Belmont Slough	37 32 60	122 14 47	1981-1985, 1991-1993, 1995, 1997
313.0	San Francisco Bay near Redwood Creek	37 33 09	122 11 45	1982
314.0	Redwood Creek / Channel Marker 10	37 31 49	122 11 38	1982-1983
315.0	Redwood Creek / Towers	37 30 55	122 12 22	1980, 1982-1983
316.0	Redwood Creek / Tradewinds	37 30 09	122 12 49	1983
317.0	Redwood City / STP Outfall	37 29 44	122 13 03	1983
318.0	Redwood Creek / Pete's Marina	37 30 00	122 13 24	1983
318.4	Redwood Creek / Bair Island	37 30 02	122 13 23	1987
319.0	Redwood Creek / Pulgas	37 30 30	122 14 37	1983
320.0	San Francisco Airport	37 30 55	122 14 50	1983
321.0	Dumbarton Bridge / Channel Marker 14	37 30 50	122 07 58	1980-1983, 1991-1992, 1995, 1997
323.3	Palo Alto Outfall	37 27 51	122 06 42	1989-1990
324.0	Newark Slough	37 29 36	122 05 11	1982
325.0	Channel Marker 17	37 28 41	122 04 32	1982
326.0	Palo Alto / Channel Marker 8	37 27 38	122 03 06	1982-1983, 1991-1993
327.0	Palo Alto / Yacht Club	37 27 09	122 02 10	1982
328.0	Alviso Slough	37 27 49	122 01 40	1982
329.0	Guadalupe Creek / Almaden Expressway	37 16 31	121 52 33	1997
329.1	Arroyo Caiero / Harry Rd.	37 12 42	121 49 41	1998
329.2	Guadalupe Creek / Hicks Road	37 13 22	121 54 16	1987-1988
329.3	Alamitos Creek / Bubbling Well Pl.	37 13 25	121 51 10	1998
329.4	Alamitos Creek / Almanden Road	37 10 44	121 48 57	1997-1998
329.5	Guadalupe River / Capitol Expressway	37 17 53	121 49 25	1998
330.0	Duxbury Reef	37 53 38	122 42 09	1980-1981
331.0	Muir Beach	37 51 28	122 34 50	1980
332.0	Point Bonita	37 49 11	122 31 53	1980
333.0	Farallon Islands	37 41 45	123 00 00	1978-1980
334.0	Cliff House	37 46 57	122 30 46	1980
335.0	Pacifica	37 40 09	122 29 41	1980
336.0	J. Fitzgerald	37 30 45	122 30 30	1978-1981, 1991, 1996-2000
399.2	Pescadero Creek	37 14 57	122 23 40	1988-1989

Table 6-3 Key to Figure 6-3: Toxic Substances Monitoring Network

Station Number	Station Name	LATITUDE	LONGITUDE
204.30.11	Alameda Creek / Niles Canyon Road	37 34 58	121 57 47
204.30.00	Alameda Creek / Shinn Pit	37 34 17	121 59 15
205.40.17	Alamitos Creek d/s Almaden Reservoir	37 10 27	121 49 23
205.40.18	Almaden Reservoir	37 9 45	121 49 48
205.30.30	Anderson Reservoir	37 9 58	121 37 30
205.50.08	Bear Gulch Reservoir	37 26 0	122 13 40
205.50.07	Calabazas Creek d/s Tasman Drive	37 24 10	121 59 10
205.40.16	Calero Reservoir	37 10 50	121 47 10
205.30.08	Coyote Creek / Brokaw Road	37 23 0	121 54 15
205.30.18	Coyote Creek / Percolation Pond	37 13 48	121 45 12
205.30.07	Coyote Creek u/s Montague Expressway	37 23 45	121 54 50
205.30.37	Coyote Reservoir	37 7 15	121 33 5
206.50.24	Dry Creek	38 24 22	122 26 22
204.20.00	Elmhurst Creek / Mouth	37 44 35	122 12 23
205.40.13	Guadalupe Creek d/s Guadalupe Reservoir	37 12 0	121 52 50
205.40.14	Guadalupe Reservoir	37 11 53	121 52 34
205.50.09	Guadalupe River / Howard Street	37 20 20	121 54 5
205.40.08	Guadalupe River / Percolation Pond	37 14 50	121 52 19
206.50.03	Lake Chabot / Solano County	38 8 11	122 14 5
207.21.03	Lake Herman	38 5 45	122 9 20
202.10.01	Lake Merced	37 43 38	122 29 15
205.40.02	Los Gatos Creek	37 14 17	121 58 18
206.50.14	Napa River / Napa	38 22 6	122 18 8
207.10.12	New York Slough	38 2 1	121 52 7
206.30.07	Petaluma River / Lakeville	38 11 59	122 33 0
204.20.01	San Leandro Creek / Highway 880 Bridge	37 43 31	122 10 56
206.60.01	San Pablo Creek	37 58 3	122 21 46
206.40.08	Sonoma Creek	38 16 3	122 28 2
205.50.94	Stevens Creek	37 18 15	122 14 24
205.50.10	Stevens Creek Reservoir	37 17 38	122 4 41
207.10.90	Suisun Bay	38 4 5	122 2 40
205.40.01	Vasona Lake	37 14 45	121 58 0
201.12.01	Walker Creek	38 14 0	122 54 47
207.32.06	Walnut Creek	37 54 3	122 3 33

Table 4-1a 7-1: Monitoring Stations for Copper and Nickel in Lower South San Francisco Bay

SBS Site ID	Reference Location	Longitude	Latitude	RMP Site ID
SB01	Channel Marker #14	37° 30.782'	122° 8.036'	BA30
SB02	Channel Marker #16	37° 29.595'	122° 5.243'	BA20
SB03	Channel Marker #20	37° 27.437'	122° 3.033'	BA10
SB04	Coyote Creek Railroad Bridge	37° 27.600'	121° 58.540'	C-3-0
SB05	Coyote Creek at Guadalupe River confluence	37° 27.875'	122° 1.406'	NA
SB06	Between Channel Markers #17 & #18	37° 28.390'	122° 4.180'	NA
SB07	Mouth of Mowry Slough	37° 29.499'	122° 3.110'	NA
SB08	Mouth of Newark Slough	37° 30.066'	122° 5.231'	NA
SB09	North of Cooley Landing	37° 28.959'	122° 7.068'	NA
SB10	Old Palo Alto Yacht Club Channel Mouth	37° 28.087'	122° 5.846'	NA
SB11	Standish Dam in Coyote Creek	37° 27.150'	121° 55.501'	BW10
SB12	Alviso Yacht Club Dock	37° 25.574'	121° 58.778'	BW15