DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

TABLES TO ACCOMPANY MAP MF-526

AVAILABILITY OF DATA ON SURFACE-WATER QUANTITY AND QUALITY FOR THE SAN FRANCISCO BAY REGION, CALIFORNIA

WITH A SUMMARY OF BENEFICIAL USES AND IMPLICATIONS FOR LAND USE

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TABLE 1.--*Surface-water and water-quality data available for gaging stations in the San Francisco Bay region, 1971*

[Information from U.S. Geological Survey (1970a, p. 554-591; 1970b, p. 256-273; and 1971) and from unpublished data maintained by that agency, Porterfield (1972, p. 14-19), and Van Winkle and Eaton (1910, p. 58)]

Gaging station or sampling site, agency code number: Numbers are those used by the agency publishing the data, and refer to stations shown on the map.
Gaging station or sampling site, name or description: Names or descriptions are those used by the agency publishing the data, and refer to stations shown on the map.
Abbreviations used: abv., above; blw., below; Br., Branch; Cr., Creek; nr., near; NW, northwest; R., River; Res., Reservoir; S, south; S.F., San Francisco; SW, southwest; trib., tributary; W, west; biol., Biological water quality
Types of data collected: Sediment concentration and(or) particle size; P, periodic sampling during latest period of record; D, daily sampling during latest period of record.
Water-quality--Temperature; x, indicates frequency of reading at least once daily (where not marked, temperature taken at all stations listed at each visit).
--All other physical, chemical, and biologic parameters; x, indicates samples usually taken at each visit.
Agency publishing data: DWR, California Department of Water Resources; GS, U.S. Geological Survey; WQCB, California Water Quality Control Board.

Gaging station or sampling site			Types of data collected																												
			Surface water			Sediment		Water quality																							
									Physical				Chemical																Biol.		
Agency code number	Name or description	County or tidal water-quality zone (as shown on the map)	Period of record	Daily discharge	Peak stage or discharge	Period of record	Concentration and (or) particle size	Period of record	Temperature	Specific conductance	Turbidity	pH	Alkalinity	Dissolved solids	Chloride	Nitrogen	Phosphorous	Major ions	Hardness	Radionuclides	Dissolved oxygen	Pesticides	Detergents (MBAS)	Biochemical oxygen demand	Chemical oxygen demand	Carbon (total, dissolved, etc.)	Oil and grease	Heavy metals	Coliform bacteria	Other micro-organisms	Agency publishing data
Tidal-water stations																															
SB-4	S.F. Bay 200 yds. NW of center Dumbarton Bridge	2						1967-				x		x		x					x								x		WQCB
SB-5	S.F. Bay 3,000 yds NW from Calaveras Point	1						1967-				x				x					x								x		WQCB
SB-6	S.F. Bay 1,150 yds S from Calaveras Point	1						1967-				x		x		x					x								x		WQCB
SB-7	Coyote Cr. 100 yds W of towers	1						1967-				x				x					x								x		WQCB
SB-8	Coyote Cr. nr. mouth of Mud Slough	1						1967-				x				x					x								x		WQCB
SB-9	Coyote Cr. 200 ft. W from railroad bridge	1						1967-				x		x		x					x								x		WQCB
EOEG8533	S.F. Bay at San Mateo Bridge	3						1964-		x	x	x		x	x	x	x				x									x	DWR
EOEH7527	S.F. Bay at Coyote Point	3						1966-69														x									DWR
EOB74812224	S.F. Bay W of Yerba Buena Island	4						1969-		x	x	x		x	x	x	x				x	x									DWR
EOGH5955	S.F. Bay at Treasure Island	4						1968-69		x	x	x		x	x	x	x	x			x	x							x		DWR
EOGJ4772	S.F. Bay at Fort Point	4						1964-69		x	x	x		x		x	x	x			x	x							x		DWR
EOB75772262	San Pablo Bay Strait W of the Brothers	5						1969-		x	x	x		x	x	x	x				x	x									DWR
EOHJ7401	San Pablo Bay at Point San Pablo	5						1964-69		x	x	x		x	x	x	x	x			x	x							x		DWR

Stream-gaging stations

1735.5	Alameda Cr. trib. 2 nr. Warm Springs	Alameda	1959-73		x																								GS
1735.6	Alameda Cr. trib. 1 nr. Warm Springs	Alameda	1959-73		x																								GS
1760	Arroyo Mocho nr. Livermore	Alameda	1912-30; 1963-	x	x																								GS
1761.5	Arroyo Las Positas nr. Livermore	Alameda	1912-19; 1921-22; 1923-30	x	x																								GS
1762	Arroyo Mocho nr. Pleasanton	Alameda	1962-	x	x	1970-71	P																						GS
1764	Arroyo Valle abv.Lang Canyon nr.Livermore	Alameda	1963-	x	x																								GS
1765	Arroyo Valle nr. Livermore	Alameda	1912-30; 1957-	x	x	1962-67	D	1959-66	x	x	x	x		x		x	x	x	x				x						GS
1765.5	Arroyo Valle trib. nr. Livermore	Alameda	1959-73		x																								GS
1766	Arroyo Valle at Pleasanton	Alameda	1957-	x	x																								GS
1790	Alameda Cr. nr. Niles	Alameda	1891-	x	x	1957-	D	1906-69	x	x	x	x		x		x	x	x	x				x						GS
1790.05	Alameda Cr. trib. nr. Niles	Alameda	1959-73		x																								GS
1805	Dry Cr. at Union City	Alameda	1916-19; 1959-	x	x																								GS
1807	Patterson Cr. at Union City	Alameda	1958-73	x	x																								GS
1807.5	Alameda Cr. at Union City	Alameda	1958-73	x	x																								GS
1810	San Lorenzo Cr. at Hayward	Alameda	1939-40; 1946-	x	x																								GS
1810.08	Castro Valley Cr. at Hayward	Alameda	1971-73	x	x	1971-	P	1971-		x		x	x	x	x	x	x	x	x		x	x	x	x	x		x	x	x	GS
1810.4	San Lorenzo Cr. at San Lorenzo	Alameda	1967-	x	x																								GS
1813	Peralta Cr. at Oakland	Alameda	1972-73	x	x	1972-	P	1971-		x		x	x	x	x	x	x	x	x		x	x	x	x	x		x	x	x	GS
1814	Wildcat Cr. at Richmond	Alameda	1964-	x	x																								GS
1820.3	Rheem Cr. at San Pablo	Alameda	1960-	x	x																								GS
3129.25	Mountain House Cr. nr. Midway	Alameda	1959-		x																								GS
3129.5	Mountain House Cr. trib. nr. Altamont	Alameda	1959-		x																								GS
E46300	San Leandro Cr. at Chabot Dam	Alameda	1894-		x																								DWR
1821	Pinole Cr. at Pinole	Contra Costa	1938-	x	x																								GS
1823	Arroyo del Hambre nr. Martinez	Contra Costa	1959-73		x																								GS
1824	Arroyo del Hambre at Martinez	Contra Costa	1964-	x	x	1970-71	P																						GS
1825	San Ramon Cr. at San Ramon	Contra Costa	1952-	x	x																								GS
1830	San Ramon Cr. at Walnut Creek	Contra Costa	1952-	x	x																								GS
1835	Walnut Cr. at Walnut Creek	Contra Costa	1952-68	x	x	1957-62	P																						GS
1836	Walnut Cr. at Concord	Contra Costa	1968-	x	x	1970-71	P																						GS
1851.5	Horse Cr. nr. Clayton	Contra Costa	1959-73		x																								GS
3131	Kellog Cr. trib. nr. Byron	Contra Costa	1959-73		x																								GS
3375	Marsh Cr. nr. Byron	Contra Costa	1953-	x	x	1970-71	P																						GS
E44390	Lafayette Cr. at Briones Valley Dam	Contra Costa	1926-	x																									DWR
4595	Novato Cr. at Novato	Marin	1946-	x	x																								GS
4598	San Rafael Cr. at San Rafael	Marin	1971-	x	x																								GS
4598.1	Irwin Cr. trib. 1 at San Rafael	Marin	1971-		x																								GS
4598.2	Irwin Cr. trib. 2 at San Rafael	Marin	1971-		x																								GS
4598.3	Irwin Cr. at San Rafael	Marin	1971-	x																									GS
4600	Corte Madera Cr. at Ross	Marin	1951-	x	x																								GS
4601	Arroyo Corte Madera Del Presidio at Mill Valley	Marin	1965-73	x	x																								GS
4601.5	Redwood Cr. nr. Tamalpais Valley	Marin	1962-73		x																								GS
4601.6	Morses Cr. at Bolinas	Marin	1967-69	x	x	1967-69	P																						GS
4601.65	Audubon Cr. nr. Bolinas	Marin	1967-69		x	1967-69	P	1967-69	x																				GS
4601.7	Pine Cr. at Bolinas	Marin	1967-70	x	x	1967-70	D	1967-70	x																				GS
4604.4	Nicasio Cr. nr. Nicasio	Marin	1962-73		x																								GS
4608	Walker Cr. nr. Tomales	Marin	1959-	x	x	1970-	P																						GS

TABLE 1.--*Surface-water and water-quality data available for gaging stations in the San Francisco Bay region, 1972*--Continued

Gaging station or sampling site			Types of data collected																												
			Surface water			Sediment		Water quality																							
									Physical			Chemical																	Biol.		
Agency code number	Name or description	County or tidal water-quality zone (as shown on the map)	Period of record	Daily discharge	Peak stage or discharge	Period of record	Concentration and(or) particle size	Period of record	Temperature	Specific conductance	Turbidity	pH	Alkalinity	Dissolved solids	Chloride	Nitrogen	Phosphorous	Major ions	Hardness	Radionuclides	Dissolved oxygen	Pesticides	Detergents (MBAS)	Biochemical oxygen demand	Chemical oxygen demand	Carbon (total, dissolved, etc.)	Oil and grease	Heavy metals	Coliform bacteria	Other micro-organisms	Agency publishing data
	Stream-gaging stations--Continued																														
4535.7	Adams Cr. nr. Knoxville	Napa	1969-	x	x	1970-	P	1970-		x	x	x	x	x	x	x	x	x	x		x							x			GS
4535.8	Nevada Cr. nr. Knoxville	Napa	1969-	x	x	1970-	P	1970-		x	x	x	x	x	x	x	x	x	x		x							x			GS
4536	Pope Cr. nr. Pope Valley	Napa	1960-	x	x																										GS
4537	Capell Cr. trib. nr. Wooden Valley	Napa	1958-61; 1966-73		x																										GS
4538	Wragg Cr. nr. Winters	Napa	1965-		x																										GS
4559.5	Sulphur Cr. nr. St. Helena	Napa	1958-66; 1968-73		x																										GS
4560	Napa R. nr. St. Helena	Napa	1929-32; 1939-	x	x	1956-62	D	1952-66	x	x	x	x			x						x										GS
4564	Lake Hennessey trib. nr. Rutherford	Napa	1959-73		x																										GS
4580	Napa R. nr. Napa	Napa	1929-32; 1959-	x	x	1970-71	P																								GS
4581	Milliken Cr. nr. Napa	Napa	1970-	x	x																										GS
4581.2	Milliken Cr. trib. nr. Napa	Napa	1970-		x																										GS
4581.4	Milliken Cr. at Napa	Napa	1970-		x																										GS
4582	Redwood Cr. nr. Napa	Napa	1958-	x	x	1970-71	P																								GS
1624.7	Pescadero Cr. trib. nr. La Honda	San Mateo	1961-73		x																										GS
1625	Pescadero Cr. nr. Pescadero	San Mateo	1951-	x	x	1970-	P	1965-	x																						GS
1625.4	Butano Cr. nr. Pescadero	San Mateo	1959-62		x	1970-	P																								GS
1626	Purisima Cr. nr. Half Moon Bay	San Mateo	1958-69	x	x																										GS
1626.3	Pilarcitos Cr. at Half Moon Bay	San Mateo	1966-	x	x																										GS
1627.2	Colma Cr. at South San Francisco	San Mateo	1963-	x	x	1965-	D	1965-	x																						GS
1627.22	Spruce Br. at South San Francisco	San Mateo	1965-69	x	x	1965-69	D	1965-69	x																						GS
1628	Redwood Cr. at Redwood City	San Mateo	1959-	x	x	1970-	P																								GS
1629	Sharon Cr. nr. Menlo Park	San Mateo	1958-69	x	x			1960-65		x		x				x	x	x	x									x			GS
1629.4	San Francisquito Cr. blw. Ladera damsite nr. Stanford University	San Mateo	1961-70	x	x																										GS
																															GS
1629.5	San Francisquito Cr. trib. nr. Stanford University	San Mateo	1958-64	x	x			1958-64		x		x				x	x	x	x									x			GS
1529	Cedar Cr. nr. Bell Station	Santa Clara	1961-	x	x																										GS
1530	Pacheco Cr. nr. Dunneville	Santa Clara	1939	x	x																										GS
1530.5	Pacheco Cr. trib. nr. Dunneville	Santa Clara	1961-73		x																										GS
1535	Llagas Cr. nr. Morgan Hill	Santa Clara	1951-71	x	x																										GS
1534.7	Llagas Cr. abv. Chesbro Res. nr. Morgan Hill	Santa Clara	1971-	x	x	1971-	D	1971-	x																						GS

1537	Pajaro R. nr. Gilroy	Santa Clara	1959-	x	x																								GS
1538	Alec Canyon nr. Morgan Hill	Santa Clara	1961-69		x																								GS
1539	Uvas Cr. abv. Uvas Res. nr. Morgan Hill	Santa Clara	1961-	x	x	1965-	D	1965-	x																				GS
1541	Bodfish Cr. nr. Gilroy	Santa Clara	1959-	x	x																								GS
1542	Uvas Cr. nr. Gilroy	Santa Clara	1959-	x	x																								GS
1632	Los Trancos Cr. trib. nr. Stanford University	Santa Clara	1958-66	x	x			1959-65		x		x				x	x	x	x								x		GS
1645	San Francisquito Cr. at Stanford University	Santa Clara	1930-41; 1950-	x	x	1957-62	P																						CS
1660	Matadero Cr. at Palo Alto	Santa Clara	1952-	x	x	1970-71	P																						GS
1667	Arroyo Calero trib. nr. New Almaden	Santa Clara	1961-73		x																								GS
1669	Alamitos Cr. nr. New Almaden	Santa Clara	1958-72	x	x																								GS
1676.6	Ross Cr. at San Jose	Santa Clara	1961-70	x	x																								GS
1677	Ross Cr. blw. Jarvis Rd. at San Jose	Santa Clara	1972-73	x	x	1972	P	1971-		x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	GS
1680	Los Gatos Cr. at Los Gatos	Santa Clara	1929-44; 1953-71	x	x			1952-66		x	x	x		x		x	x	x	x				x						GS
1690	Guadalupe R. at San Jose	Santa Clara	1929-	x	x	1957-62	P																						GS
1695	Saratoga Cr. at Saratoga	Santa Clara	1933-	x	x																								GS
1698	Coyote Cr. nr. Gilroy	Santa Clara	1960-	x	x	1964-	D	1964-	x																				GS
1700	Coyote Cr. nr. Madrone	Santa Clara	1902-12; 1916-	x	x			1953-66		x	x	x		x		x	x	x	x				x						GS
1721	Upper Penitencia Cr. at San Jose	Santa Clara	1961-	x	x																								GS
1732	Arroyo Hondo nr. San Jose	Santa Clara	1968-	x	x																								GS
1540	Uvas Cr. nr. Morgan Hill	Santa Clara	1930-57	x	x			1952-66	x	x		x			x			x	x		x								GS
4540	Putah Cr. nr. Winters	Solano	1930-	x	x			1951-	x	x	x	x		x		x	x	x	x				x						GS
4541	Pleasants Cr. nr. Winters	Solano	1959-68	x	x																								GS
A09115	South Fork Putah Cr. nr. Davis	Solano	1957-	x	x																								DWR
A09145	Putah Cr. abv. Davis	Solano	1952-	x	x																								DWR
A09160	Putah Cr. blw. Winters	Solano	1957-	x	x																								DWR
B91110	Sacramento R. at Collinsville	Solano	1929-		x			1924-70		x		x		x	x			x											DWR
4584	Sonoma Cr. nr. Kenwood	Sonoma	1958-73		x																								GS
4585	Sonoma Cr. at Agua Caliente	Sonoma	1955-	x	x	1957-62	P																						GS
4609	Roscoe Cr. at Bodega Bay	Sonoma	1962-73		x																								GS
4609.2	Salmon Cr. at Bodega	Sonoma	1962-	x	x	1970-	P																						GS
4632	Big Sulphur Cr. nr. Cloverdale	Sonoma	1957-72	x	x	1963-66	P	1963	x		x																		GS
4639	Maacama Cr. nr. Kellogg	Sonoma	1960-	x	x	1963-67	P																						GS
4639.4	Franz Cr. nr. Kellogg	Sonoma	1963-68	x	x																								GS
4640	Russian R. nr. Healdsburg	Sonoma	1939-	x	x			1953-66	x	x	x			x		x		x		x									DWR
4645	Dry Cr. nr. Cloverdale	Sonoma	1941-	x	x			1965-	x																				GS
4650.5	Dutcher Cr. nr. Asti	Sonoma	1959-73		x																								GS
4652	Dry Cr. nr. Geyserville	Sonoma	1959-	x	x	1964-	D	1964-	x		x	x																	GS
4658	Santa Rosa Cr. nr. Santa Rosa	Sonoma	1959-70	x	x																								GS
4665	Laguna de Santa Rosa nr. Graton	Sonoma	1940-49; 1949-64		x																								GS
4670	Russian R. nr. Guerneville	Sonoma	1939-	x	x	1965-67; 1967-	P D	1953-69	x	x	x	x			x				x		x								GS
4670.4	Ward Cr. trib. nr. Cazadero	Sonoma	1962-73		x																								GS
4672	Austin Cr. nr. Cazadero	Sonoma	1959-66	x	x																								GS
4673	Wheatfield Fork Gualala R. trib. nr. Annapolis	Sonoma	1962-73		x																								GS
4675	South Fork Gualala R. nr. Annapolis	Sonoma	1950-	x	x			1959-66		x	x	x		x		x	x	x	x				x						GS
F91500	Russian R. nr. Healdsburg	Sonoma	1939-	x	x			1953-66		x	x	x			x				x		x								DWR
1603	Zayante Cr. at Zayante[1]	Santa Cruz	1957-	x	x	1970-	D	1970-	x																				GS
4535	Putah Cr. nr. Guenoc[1]	Lake	1904-06; 1930-73	x	x	1962-	P																						GS
4535.5	Hunting Cr. nr. Knoxville[1]	Lake	1969-	x	x	1970-	D	1970-	x																				GS
4630	Russian R. nr Cloverdale[1]	Mendocino	1951-	x	x	1963-64; 1964-68	P D	1963-	x																				GS

[1] Site not within study area boundaries, but data collected pertains to the study area.

TABLE 2.--*Beneficial uses of surface water in the San Francisco Bay region, 1972*

[Information from California Regional Water Quality Control Board, San Francisco Bay Region (1971a, table II-1, p. II-2 through p. II-4, and p. II-6 through p. II-7), Kaiser Engineers (1969, table XIX-1, p. XIX-8, and p. XIX-27), and from unpublished data furnished by officials in the nine bay region counties]

Water body or drainage basin code: Refers to water bodies or drainage basins shown on the map

Water body or drainage basin name: Names of water bodies and drainage basins are those used by the California Regional Water Quality Control Board, Kaiser Engineers, or county officials

Beneficial use: Dom, municipal and domestic use
Ind_1, industrial processes
Ind_2, industrial cooling water
Agr_1, irrigation
Agr_2, livestock
Gwr, ground-water recharge
Rec_1, whole-body water-contact recreation such as swimming, wading, skin diving, water skiing, or surfing
Rec_2, nonbody-contact recreation with water such as picnicking, sunbathing, beachcombing, camping, pleasure boating, or hiking
Fish, sport fishing
Hunt, sport hunting
Es, esthetic enjoyment involving presence of water
Fresh, fresh water habitat for propagation and sustenance of fish, waterfowl, and wildlife
Mar, saline water habitat for propagation and sustenance of fish, crab, shrimp, shellfish, waterfowl, and plants; mammal rookeries and hauling grounds
Migr, migration of fish and marine mammals
Com, commercial fishing
Shell, commercial shell fishing
Sci, scientific study, research, and training
Nav, deep-water navigation
x, a beneficial use identified by the California Regional Water Quality Control Board, or other agencies in the San Francisco Bay region

Map code	Name	Water supply						Recreation					Fish and wildlife habitat			Other			
		Dom	Ind_1	Ind_2	Agr_1	Agr_2	Gwr	Rec_1	Rec_2	Fish	Hunt	Es	Fresh	Mar	Migr	Com	Shell	Sci	Nav
	Salt-water bays and coastal streams																		
1	San Francisco Bay, south of Dumbarton Bridge		x	x				x[1]	x	x	x	x		x		x	x		x
2	San Francisco Bay, between San Mateo Bridge and Dumbarton Bridge		x	x				x[1]	x	x	x	x		x		x	x		x
3	San Francisco Bay, between San Francisco-Oakland Bay Bridge and San Mateo Bridge		x	x				x[1]	x	x	x	x		x		x	x		x

4	Central San Francisco Bay, between Golden Gate Bridge, San Francisco-Oakland Bay Bridge, and Richmond-San Rafael Bridge		x	x				x[1]	x	x	x	x		x	x	x	x		x
5	San Pablo Bay, between Richmond-San Rafael Bridge and Carquinez Bridge		x	x				x	x	x	x	x		x	x	x	x		x
6	Carquinez Strait, between Carquinez Bridge and Benicia-Martinez Bridge		x	x				x[1]	x	x		x		x	x	x	x		x
7	Suisun Bay, between Benicia-Martinez Bridge and Chipps Is.		x	x	x			x[1]	x	x	x	x		x	x	x	x		x
8	Western Sacramento River delta	x[2]	x	x	x	x		x	x	x	x	x	x[2]	x	x				x
9	Sacramento River delta area	x[2]	x	x	x	x		x	x	x	x	x	x[2]	x	x				x
10	Pacific Ocean, between Point Piedras Blancas to mouth of Gualala River		x	x[1]				x	x	x	x	x		x	x	x	x	x	x
10A	Bodega Bay		x					x	x	x	x	x		x	x	x		x	
10B	Bolinas Lagoon							x	x	x	x	x		x	x	x		x	
10C	Coastal streams							x		x	x	x		x	x				
10D	Drakes Estero								x	x	x	x		x	x	x		x	
10E	Estero de Limantour							x	x	x	x	x		x	x			x	
10F	Tomales Bay							x	x	x	x	x		x	x	x		x	
10G	Area peripheral to San Francisco Bay, Richardson Bay, San Pablo Bay, or Suisun Bay[3]																		
	Alameda County																		
							Stream basins, lakes, or reservoirs												
1A	Alameda Creek	x[4]					x	x	x			x	x						
1B	San Leandro Creek	x						x				x							
1C	San Lorenzo Creek						x	x					x						
1D	Temescal Creek							x	x	x		x	x						
1E	Berkeley Aquatic Park								x	x		x		x					
1F	Bethany Reservoir[5]								x[1]	x[1]			x[1]						
1G	Calaveras Reservoir	x																	
1H	Lake Chabot	x							x	x		x	x						
1J	Canyon Lake						x	x	x	x		x	x						
1K	Del Valle Reservoir	x					x	x	x	x		x	x						
1L	Don Castro Lake						x		x	x		x	x						
1M	Lake Elizabeth								x	x		x	x						
1N	Lake Merritt[6]								x	x		x		x	x				
1P	Niles percolation ponds	x[4]						x											
1Q	San Antonio Reservoir	x											x						
1R	San Leandro Reservoir	x																	
1S	Lake Temescal							x	x	x		x	x						

TABLE 2.--*Beneficial uses of surface water in the San Francisco Bay region, 1972*--Continued

Map code	Name	Beneficial use: Water supply						Recreation					Fish and wildlife habitat			Other			
		Dom	Ind_1	Ind_2	Agr_1	Agr_2	Gwr	Rec_1	Rec_2	Fish	Hunt	Es	Fresh	Mar	Migr	Com	Shell	Sci	Nav
	Stream basins, lakes, or reservoirs--Continued																		
	Contra Costa County																		
2A	Cerrito Creek								x			x							
2B	Kellog Creek								x			x							
2C	Marsh Creek							x	x	x		x	x						
2D	San Pablo Creek	x						x	x	x		x	x						
2E	Walnut and San Ramon Creeks								x			x	x						
2F	Wildcat Creek							x	x			x							
2G	Lake Anza							x	x	x		x	x						
2H	Briones Reservoir	x						x[1]	x[1]	x[1]		x[1]	x[1]						
2J	Lake Cascade				x														
2K	Contra Loma Reservoir							x	x	x		x	x						
2L	Jewel Lake								x				x						
2M	Lafayette Reservoir	x							x	x		x	x						
2N	Lake La Salle[3]																		
2P	Marsh Creek Reservoir							x	x	x		x	x						
2Q	San Pablo Reservoir	x						x[1]	x[1]	x[1]		x[1]	x[1]						
	Marin County																		
3A	Corte Madera Creek[3]																		
3B	Inverness Creek	x						x	x	x		x	x						
3C	Lagunitas Creek	x						x	x	x		x	x						
3D	Alpine Lake	x							x	x			x						
3E	Bon Tempe Lake	x							x	x			x						
3F	Kent Lake	x							x	x			x						
3G	Lake Lagunitas	x							x	x			x						
3H	Nicasio Reservoir	x							x	x			x						
3J	Ocean Lake							x	x	x			x						
3K	Phoenix Lake								x	x			x						
3L	Rodeo Lagoon								x	x		x	x						
3M	Stafford Lake	x							x	x			x						
3N	Wildcat Lake							x	x	x			x						

	Napa County																		
4A	Bale Slough								x			x		x					
4B	Bell Canyon Creek								x			x		x					
4C	Carneros Creek								x			x		x					
4D	Conn Creek[7]	x				x	x	x	x		x	x		x					
4E	Dry Creek								x			x		x					
4F	Eticuera Creek								x			x		x					
4G	Huichica Creek								x			x		x					
4H	Milliken Creek								x			x		x					
4J	Napa River	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x		
4K	Pope Creek						x	x	x			x		x					
4L	Redwood Creek								x			x		x					
4M	Ritchie Creek								x			x		x					
4N	Soda Creek								x			x		x					
4P	Suisun Creek	x		x	x		x	x	x	x	x	x	x	x					
4Q	Sulphur Creek								x			x							
4R	Suscol Creek								x			x		x					
4S	Tulucay Creek								x			x		x					
4T	Bell Canyon Reservoir	x										x		x		x			
4U	Lake Berryessa	x		x	x		x	x	x		x	x		x		x			
4V	Lake Curry	x																	
4W	Deer Lake							x			x	x							
4X	Granite Lake	x																	
4Y	Lake Hennessey	x				x	x	x	x		x	x		x					
4Z	Kimball Canyon Dam	x										x		x					
4AA	Lower Reservoir	x																	
4BB	Milliken Reservoir	x										x		x					
4CC	Moskowite Reservoir	x										x		x					
4DD	Lake Newton	x		x															
4EE	Lake Orville			x				x			x	x							
4FF	Rector Reservoir	x										x		x					
4GG	Red Lake	x		x															
4HH	Upper Reservoir	x				x					x								
4JJ	Lake Whitehead	x		x															
	San Francisco County																		
5A	Lobos Creek	x																	
5B	Lake Merced	x[8]							x	x		x	x						
5C	Pine Lake								x	x		x	x						

TABLE 2.--*Beneficial uses of surface water in the San Francisco Bay region, 1972*--Continued

Map code	Name	Beneficial use: Water supply						Recreation					Fish and wildlife habitat			Other			
		Dom	Ind_1	Ind_2	Agr_1	Agr_2	Gwr	Rec_1	Rec_2	Fish	Hunt	Es	Fresh	Mar	Migr	Com	Shell	Sci	Nav
								Stream basins, lakes, or reservoirs--Continued											
	San Mateo County																		
6A	Alpine Creek	x																	
6B	Butano Creek	x			x														
6C	Denniston Creek				x			x	x	x		x	x		x				
6D	Gazos Creek	x	x		x			x	x	x		x			x				
6E	Hoffman Creek	x			x														
6F	La Honda Creek	x			x	x				x									
6G	Mindego Creek	x																	
6H	Montara Creek	x							x			x							
6J	Pescadero Creek	x			x	x		x	x	x		x	x	x					
6K	Peterson Creek	x										x							
6L	Pilarcitos Creek	x			x	x		x	x	x		x	x		x				
6M	Pomponio Creek				x	x			x	x		x							
6N	Purisima Creek	x			x	x													
6P	San Francisquito Creek				x	x			x	x		x	x						
6Q	San Gregorio Creek				x	x		x	x	x		x	x		x				
6R	San Pedro Creek				x			x	x	x		x	x		x				
6S	Tunitas Creek				x	x													
6T	Bear Gulch Reservoir	x																	
6U	Belmont Creek Reservoir								x	x		x							
6V	Lower Crystal Springs Reservoir	x																	
6W	Lower Emerald Lake							x	x			x							
6X	Lake Lucerne					x													
6Y	Pilarcitos Lake	x	x	x															
6Z	San Andreas Lake	x	x	x															
6AA	Searsville Lake				x			x	x	x		x	x						
6BB	Stone Dam Reservoir	x																	
6CC	Upper Crystal Springs Reservoir	x	x	x															
6DD	Upper Emerald Lake							x	x				x						

	Santa Clara County													
7A	Coyote Creek			x	x	x		x	x	x	x	x		
7B	Guadalupe River	x		x		x	x	x	x		x	x		
7C	Los Trancos Creek	x				x		x				x		
7D	Penitencia Creek			x		x		x			x	x		
7E	Saratoga Creek	x				x		x			x	x		
7F	Stevens Creek			x		x		x			x	x		
7G	Alamitos percolation ponds	x[4]				x		x	x		x	x		
7H	Almaden Reservoir[9]	x[4]		x		x		x				x		
7J	Anderson Reservoir	x[4]		x	x	x	x	x			x	x		
7K	Calero Reservoir[9]			x	x	x	x	x			x			
7L	Campbell percolation ponds	x[4]				x		x	x		x	x		x
7M	Cherry Flat Reservoir	x		x							x			
7N	Chesbro Reservoir	x[4]				x	x	x	x			x		
7P	Cottonwood Lake					x		x	x		x	x		
7Q	Coyote Reservoir	x4		x	x	x	x	x	x		x	x		
7R	Coyote percolation ponds	x4				x		x	x			x		
7S	Lake Elsman	x												
7T	Guadalupe Reservoir[9]	x4		x		x		x	x		x	x		
7U	Lexington Reservoir	x4		x		x		x	x		x	x		
7V	Penitencia percolation ponds	x[4]				x		x			x	x		
7W	Sandy Wall Lake							x	x		x	x		
7X	San Felipe Creek Reservoir					x			x					
7Y	Spring Valley Pond							x	x		x	x		
7Z	Stevens Creek Reservoir	x[4]		x		x	x	x	x		x	x		
7AA	Uvas Reservoir	x[4]				x	x	x	x			x		
7BB	Vasona Reservoir	x[4]		x				x	x		x	x		
7CC	Williams Reservoir	x												
7DD	Llagas Creek	x[4]		x	x	x		x			x			
7EE	Pacheco Creek			x	x	x		x			x			
7FF	Uvas Creek	x[4]		x	x	x		x			x			
7GG	Pacheco Lake			x		x		x	x			x		
	Solano County													
8A	Cache Slough[10]	x[2]		x	x		x	x	x	x	x	x[2]		
8B	Putah Creek	x	x	x	x	x	x	x	x	x	x	x		x
8C	Suisun Slough[10]							x	x	x	x		x	
8D	Ulatis Creek			x	x									
8E	Lake Chabot	x		x				x	x		x	x		
8F	Lake Frey	x												
8G	Lake Herman	x												
8H	Lake Madigan	x												
8J	Paddy Lake	x												
8K	Lake Solano	x	x	x	x			x	x		x	x		

TABLE 2.--*Beneficial uses of surface water in the San Francisco Bay region, 1972*--Continued

Map code	Name	Beneficial use: Water supply						Recreation					Fish and wildlife habitat			Other			
		Dom	Ind_1	Ind_2	Agr_1	Agr_2	Gwr	Rec_1	Rec_2	Fish	Hunt	Es	Fresh	Mar	Migr	Com	Shell	Sci	Nav
		Stream basins, lakes, or reservoirs--Continued																	
	Sonoma County																		
9A	Austin Creek	x					x	x	x	x	x	x	x						
9B	Dry Creek	x			x	x	x	x	x	x	x	x	x						
9C	Dutch Bill Creek	x					x	x	x	x	x	x	x						
9D	Gualala River	x	x	x	x			x	x	x	x	x	x		x			x	
9E	Maacama Creek	x					x	x	x	x	x	x	x						
9F	Petaluma River	x	x		x	x		x	x	x	x	x	x	x	x	x	x		
9G	Russian River[11]	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	
9H	Salmon Creek	x	x		x	x		x	x	x		x	x	x	x				
9J	Scotty Creek	x			x	x		x	x	x		x	x	x	x				
9K	Sonoma Creek	x	x		x	x		x	x	x	x	x	x	x	x		x		
9L	Sulphur Creek	x					x	x	x	x	x	x	x						
9M	Fern Lake	x																	
9N	Matanzas Lake								x	x		x	x						
9P	Lake Raphine	x							x	x		x	x						
9Q	Santa Rosa Reservoir								x	x		x	x						
9R	Lake Suttonfield	x							x	x		x	x						

1. Use proposed by the California Regional Water Quality Control Board, San Francisco Bay Region, and county officials.
2. Seasonal use during periods of high flow in the Sacramento River.
3. Use not yet classified.
4. Domestic water supply through ground-water recharge.
5. Principal source of water is the California Aqueduct, small contributions from drainage-basin runoff.
6. Principal source of water is San Francisco Bay. Significant contributions from local runoff during storms.
7. Beneficial uses from those given for Lake Hennessey.
8. Emergency water supply for domestic use.
9. Posted for mercury content of fish (Santa Clara County Department of Fish and Game, oral commun., 1971).
10. Subject to tidal influence.
11. Source of hydroelectric power.

TABLE 3.--*Major pollutants, their sources and effects on beneficial use of water*

Beneficial use codes:

- Dom, municipal and domestic use
- Ind_1, industrial processes
- Ind_2, industrial cooling water
- Agr_1, irrigation
- Agr_2, livestock watering
- Gwr, ground-water recharge
- Rec_1, whole-body water-contact recreation such as swimming, wading, skin diving, water skiing, or surfing
- Rec_2, nonbody-contact recreation near water such as picnicking, sunbathing, beachcombing, camping, pleasure boating, or hiking
- Fish, sport fishing
- Hunt, sport hunting
- Es, esthetic enjoyment involving presence of water
- Fresh, fresh water habitat for propagation and sustenance of fish, waterfowl, and wildlife
- Mar, saline water habitat for propagation and sustenance of fish, crab, shrimp, shellfish, waterfowl, plants, and mammals
- Migr, migration of fish and marine mammals
- Com, commercial fishing
- Shell, commercial shell fishing
- Sci, scientific study, research, and training
- Nav, deep-water navigation
- Pow, hydroelectric power generation
- Min, mineral extraction
- x, indicates a beneficial use potentially harmed

Major pollutant	Beneficial uses potentially harmed by excessive quantities of pollutants																				Common sources or causes of pollutants	Some effects of pollutants
	Water supply						Recreation					Fish, wildlife, plant habitat			Miscellaneous							
	Dom	Ind_1	Ind_2	Agr_1	Agr_2	Gwr	Rec_1	Rec_2	Fish	Hunt	Es	Fresh	Mar	Migr	Com	Shell	Sci	Nav	Pow	Min		
Organic material (oxygen-consuming substances)		x	x	x			x	x	x	x		x	x	x	x	x					Lumber-, pulp-, paper-, and food-processing-waste discharges, animal and agricultural wastes; and runoff from waste-disposal sites	Produce foaming in industrial-process waters; consume oxygen in water by decomposition
Dissolved salts and minerals (chloride, carbonate, sulfate salts, and other chemical compounds)	x	x	x	x	x	x			x			x		x	x	x			x		Natural and man-induced soil erosion, sewage treatment-plant and industrial-waste discharges; storm sewer runoff; agricultural-drainage water; sea water intrusion; and runoff from waste-disposal sites	Cause disagreeable odor and taste; affect vital organs of humans, livestock, and fish; cause corrosion scaling, and foaming in industrial processes; toxic to many plants
Floating debris (paper, cans, bottles, plastic, lumber, and other materials)	x	x	x	x			x	x			x							x	x		Storm sewer runoff, runoff from waste-disposal sites; ships, pleasure boats, picnickers, and campers	Interferes with the esthetic and recreational enjoyment of water; clogs ship channels, water-supply intakes, and storm-sewer intakes.

TABLE 3.--*Major pollutants, their sources and effects on beneficial use of water*--Continued

Major pollutant	Beneficial uses potentially harmed by excessive quantities of pollutants																				Common sources or causes of pollutants	Some effects of pollutants
	Water supply						Recreation					Fish, wildlife, plant habitat			Miscellaneous							
	Dom	Ind_1	Ind_2	Agr_1	Agr_2	Gwr	Rec_1	Rec_2	Fish	Hunt	Es	Fresh	Mar	Migr	Com	Shell	Sci	Nav	Pow	Min		
Heat	x	x	x	x	x		x		x			x	x	x	x	x					Sewage-treatment-plant and industrial-waste discharges, industrial-cooling-water discharges	Makes drinking water less palatable; reduces oxygen needed for fish; makes water less desirable for industrial processes; increases evaporation which tends to concentrate other pollutants
Nutrient materials (compounds of nitrogen and phosphorus)	x				x	x	x	x		x		x	x	x	x	x					Sewage-treatment-plant and industrial-waste discharges, runoff from waste-disposal sites, agricultural-drainage water; decomposition of organic matter; and detergents	Interfere with human digestive processes, and can be toxic to vital organs; toxic to some livestock and some wildlife species; promote growth of algae and other secondary pollutants
Oils and greases (animal and vegetable oils, and petroleum products)	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	Storm-sewer runoff, ships and pleasure boats; animal and agricultural wastes, and industrial-waste discharges	Cause disagreeable odor and taste; clog water-supply intakes and water-distribution systems; interfere with the esthetic and recreational enjoyment of water; interfere with respiration in many forms of aquatic life; consume oxygen in water by decomposition
Pathogenic organisms (viruses, toxic bacteria, and parasites)	x	x^1		x	x^1	x	x		x^1	x^1		x	x		x^1	x^1					Human and animal wastes; seepage from septic tanks; and runoff from waste-disposal sites	Cause illnesses such as amoebiasis, hepatitis, poliomyelitis, and botulism in humans; toxic to many forms of life

Pesticides (arsenicals, mercuricals, chlorinated hydrocarbons, organic phosphates, polychlorinated biophenyls)	x	x[1]		x[1]	x[1]	x	x		x[1]	x[1]		x	x		x[1]	x[1]					Storm-sewer runoff and agricultural-drainage water	Cause illness or death in humans who consume contaminated water or food (fish and shellfish are known to concentrate certain pesticides in their flesh); toxic to fish and wildlife
Radioactive materials (radium, uranium, plutonium, and other materials including any material that has become radioactive due to exposure to any other radioactive material)	x	x		x	x	x	x	x	x	x		x	x	x	x	x	x				Radioactive fallout from nuclear detonations; mining and refining uranium ores; manufacture of atomic weapons and atomic reactors; and cooling-water discharges from atomic reactors	Cause illnesses such as bone and skin cancers, leukemia, and impairment of vital organs in humans, animals, and fish. Cause genetic mutations in humans, plants, animals, and fish. Interfere with some industrial processes
Secondary pollutants (algae, barnacles, aquatic weeds, and other organic growths)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	Combined effect of nutrient materials present, warm temperatures, and sunshine	Cause disagreeable taste and odor; clog ship channels, and water-supply intakes; consume excessive quantities of water; reduce oxygen in water when organisms and plants die and decompose; cause flooding by clogging drainage facilities
Suspended sediment (clay, silt, sand, and other inorganic matter)	x	x	x	x	x	x	x		x		x	x	x	x	x	x			x		Natural and man-induced soil erosion	Cause objectionable color in water, clog ship channels, and water-supply intakes; cause flooding by clogging drainage facilities; interfere with penetration of light and decrease production of fish-food organisms
Toxic heavy metals (cadmium, lead, mercury, selenium, and others)	x	x[1]			x	x	x		x	x		x	x	x	x						Sewage-treatment plant and industrial-waste discharges; storm-sewer runoff; and mining and refining heavy metals	Highly toxic to many forms of life with serious sublethal effects (some are cumulative poisons)

TABLE 3.--*Major pollutants, their sources and effects on beneficial use of water*--Continued

Major pollutant	Beneficial uses potentially harmed by excessive quantities of pollutants																			Common sources or causes of pollutants	Some effects of pollutants
	Water supply						Recreation					Fish, wildlife, plant habitat			Miscellaneous						
	Dom	Ind_1	Ind_2	Agr_1	Agr_2	Gwr	Rec_1	Rec_2	Fish	Hunt	Es	Fresh	Mar	Migr	Com	Shell	Sci	Nav	Pow	Min	
Toxic[1] chemical materials (acids, caustics, fluorides, borates, sulfides, and others)	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x					Industrial- and sewage-treatment-plant waste discharges; and decomposition of organic material	Toxic to many forms of life; interfere with industrial processes; corrode or attack wood and metal surfaces (wharves and ship hulls)
Toxic organic materials (cyanides, alcohols, chloroform, organic acids, formaldehyde, and phenol)	x	x		x	x	x	x		x	x		x	x	x	x	x					Sewage-treatment-plant and industrial-waste discharges; runoff from waste-disposal sites; and citrus-crop wastes	Toxic to many forms of life; interfere with industrial processes, especially processing of food products

[1]Hazardous to humans chiefly through consumption of contaminated food products.

TABLE 4.--*Summary of the interim tidal and nontidal water-quality objectives for water having identified beneficial uses in the San Francisco Bay basin, 1971*

[From California Regional Water Quality Control Board, San Francisco Bay Region, 1971, Interim Water Quality Control Plan, San Francisco Bay basin (chap. VI, p. 35-38)]

Water-quality indicator	Water-quality objective
Dissolved oxygen	Annual median of 80 percent saturation but no less than 5.0 mg/l shall be maintained at all times in tidal waters Nontidal waters used for spawning salmon, steelhead, and trout shall maintain 90 percent saturation at all times
pH	May not change significantly from ambient pH nor shall the pH of the waste itself lie outside the range of 6.5 to 8.5
Salinity	May not exceed natural levels in tidal waters, except in the Sacramento River delta where certain protected uses (domestic and agricultural water supply) require lower levels by regulating fresh-water releases from water-storage reservoirs
Biostimulants	No nutrient materials in concentrations sufficient to cause abnormal biotic growths
Oil	None floating in visible quantities or suspended or deposited at any place
Toxic materials	None present in receiving waters in concentrations that will harm aquatic biota, wildlife, or which render any of these unfit for human consumption
Bacteria	
Receiving water to waste-water dilution ratio (R) at point of discharge:	
R greater than 100:1	1,000 coliform organisms per 100 milliliters (in general) at receiving water surface
R less than 100:1, but greater than 10:1	23 coliform organisms per 100 milliliters at receiving water surface
R less than 10:1	2.2 coliform organisms per 100 milliliters in the waste
Pesticides	None present in receiving waters in concentrations harmful to aquatic biota, wildlife, or which render any of these unfit for human consumption
Radioactivity, turbidity, bottom deposits, floating debris, color, or odor	None present other than of natural causes