

## APPENDIX II

### Historical References for Native Stream

Fishes for the period 1854-1981,

San Francisco Estuary, California



Historical (pre-1981) distributional records for native stream fishes in Appendix 2 are organized taxonomically by family and species, and in phylogenetic order. Scientific nomenclature and phylogeny follow Moyle (2002). In some instances common names for species (e.g., "suckers", "steelhead", etc.) are used, especially when quoting directly from a historical source. Within an individual species account, records are further organized by watershed and county (ies), beginning with Marsh Creek, in eastern Contra Costa County and continuing clockwise around the Estuary to Suisun Creek, Solano County. Named watersheds and tributary streams are presented in Appendix 1. Within a particular watershed, historical records are further organized chronologically from earliest to most recent record. While the amount of available information varies widely between records, data is typically organized as follows:

Collection locality (individually bolded for convenience), date of collection or source, type of survey (e.g., visual, electrofishing, seine or gill netting, fish kill, fish stocking record, etc.) and record collector(s), (source of information and publication date, followed by page number, if applicable, and for museum collections, collection or file number, followed by the number and size range of specimens, when available). In some instances, complete or partial quotations are directly excerpted from the primary source in order to augment a record; in these cases "quotation marks" are used. Records from the published literature are presented by author followed by publication year and, page number, and the number and size range of

specimens, when available. Published sources are included in the Literature Cited section of this study.

Historical records housed in museums and universities and in agency files for Estuary streams and selected portions of San Francisco Bay were collected from the sources are listed alphabetically below. Acronyms contained in the various records precede each source.

**Note:** Appendix II may not include all historical records documented in the literature after 1981. These records are cited in the main body of the report and may be found within Section VII. Literature Cited.

<b>ANSP</b>	Academy of Natural Sciences, Philadelphia, PA;
<b>BNMH</b>	British National Museum of Natural History, London, Great Britain
<b>CAS</b>	California Academy of Sciences, San Francisco, CA;
<b>CDFG</b>	California Department of Fish and Game, Stream and Lake and Reservoir Files (Yountville, Menlo Park, and Monterey offices, CA);
<b>CNHM</b>	Chicago Field Museum of Natural History Museum, IL;
<b>CU</b>	Cornell University, NY;
<b>FLMNH</b>	Florida Museum of Natural History, FL;
<b>IU</b>	Indiana University, Natural History Survey, IND (housed at CAS);
<b>KU</b>	Kansas University Natural History Museum, KS;
<b>MNHN</b>	Museum of Natural History, Netherlands;
<b>NRM</b>	Swedish Museum of Natural History, Ichthyology Section;
<b>SFSU</b>	San Francisco State University, CA (records provided by Margaret Bradbury);
<b>SIO</b>	Scripts Institute of Oceanography, CA
<b>SJSU</b>	San Jose State University, CA (records provided by Jerry J. Smith);
<b>SNSU</b>	Sonoma State University, CA (records provided by John D. Hopkirk);
<b>SSU</b>	Sacramento State University, CA (records provided by Martin R. Brittan);
<b>SU</b>	Stanford University, CA (housed at CAS);
<b>UCB</b>	University of California, Berkeley (housed at CAS);
<b>UCDPM</b>	University of California, Davis (records provided by Peter B. Moyle);
<b>UH</b>	University of Hamburg, Ichthyology Collection, Germany;
<b>UMMZ</b>	University of Michigan, Museum of Zoology, Fish Division;
<b>USNM</b>	United States National Museum (Smithsonian Institution) of Natural History, Fish Collection, Washington, D.C.;
<b>YPM</b>	Peabody Museum of Natural History, Yale University, CT;
<b>ZMH</b>	University of Hamburg, Germany;

## PETROMYZONTIDAE (LAMPREYS)

**Unidentified *Lampetra* spp. (lampreys)**

**SAN FRANCISCO BAY: San Francisco Bay**, likely collected in 1912-1913, U.S.F.S. Albatross (ANSP 77388, 1);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck.**, 24/Nov/1946, memorandum on fish collection (CDFG, 2 p., SJSU, CD-4);

**GUADALUPE RIVER (Santa Clara): Guadalupe River**, 20/Nov/1973, summary of fish species present (CDFG, 2 p., as probably present);

**NAPA RIVER WATERSHED (NAPA): Bell Canyon (Howell) Ck., lower reach**, 19/May/1955, visual survey (CDFG, 1 p. map with notes, as "lampreys-2 dead"); **Bell Canyon Ck., from Bell Canyon Dam to mouth (2 mi.)**, 14, 16/Jul/1975, visual survey (CDFG, 5 p., as "2 observed (dead)": 5.0-12.0 in. TL); **Sulphur Ck., immediately above first rd. crossing upstream from confluence with the Napa R., off Pope St.**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 39: noted as "numerous" lamprey);

**GREEN VALLEY CREEK WATERSHED (Solano): Green Valley Ck., immediately downstream from Rockville Rd. bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 5: juveniles);

***Lampetra ayresii* (river lamprey)**

**SAN FRANCISCO (San Francisco): "San Francisco, Cal"**, [W. O.] Ayres 1854 (USNM 0977, 1); **"Cal., San Francisco"**, date likely mid-1800s, [W. O.] Ayres (USNM 0975); **"Cal, San Francisco, San Pablo Bay"** date likely late-1800s, C. H. Townsend (USNM 67264, 2); **"San Francisco market"**, likely collected in late 1800s, W. W. Lockington (ANSP 336, 2, listed as *L. japonica*); **"San Francisco northward**, doubtless ascends most of the coast streams in the spring," as *Ammocoetes plumbeus* (Jordan 1881: 30);

**SAN FRANCISCO BAY: "Bay of San Francisco"**, as *Petromyzon plumbeus*, 5/Feb/1855 (collected Nov/1854), W. O. Ayres (1855: 28, 1 specimen 4.75 in. TL); **"Cal, San Francisco, San Pablo Bay"**, no date, likely mid-1800s, C. H. Townsend (NMNH 67264); **San Francisco Bay, Contra Costa Co.**, 7/Feb/1954, W. I. Follett and B. Yacorzynski (CAS 25935); **San Francisco Bay, P.G.&E. pumping station**, 30/May/1942, [D.] Simpson (CAS 7525, 1: adult); **San Francisco Bay, P.G.&E. intake**, 24/Dec/1945, D. Simpson (CAS 18271, 1, feeding adult full of blood); **San Francisco Bay, Parr Terminal at Pt. Richmond**, 7/Feb/1954, W. I. Follett and B. Yacorzynski (CAS 25935, 1, publ. In J. Fish. Res. Brd. Can.

(date?) 47-77, figs. 1-6); **San Francisco Bay**, 2/Mar/1955, J. Reis (CAS 26261, 1); **San Francisco Bay, off Alameda**, 23/Mar/1955, W. W. Schneebeil (CAS 21921, 1: 210 mm); **San Francisco Bay, ca. 1 mi. WNW of Alcatraz Is.**, 6/1984, E. Jacobsen (CAS 55398, 1, found in stomach of 27-lb *Morone saxatilis*); **Carquinez Strait, 0.5-mile above Crockett toll bridge**, 18/Feb/1962, J. L. Thomas (CAS 210300, approx. 15 in.); **"Off net depot, Marin Co., CA"**, 15/Nov/1971, M. Moriguchi (CAS Acc. 1971-XI: 19, 2: young transformed); **ALAMEDA CREEK WATERSHED (Alameda): "...Alameda Creek, near Niles,..."** 22/Feb/66 (Hopkirk 1973: 20, also listed as **"Alameda Ck. at Niles"**, Hopkirk, Kuris, Lea, Nolfi, Butz, CAS Acc. 1966-VI: 20, 1: transformed young);

***Lampetra richardsoni* (western brook lamprey)**

**SAN FRANCISCO BAY: San Francisco Bay/Delta Region**, 29/Sept/1998, CDFG (SIO 99-92, 1);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., at San Jose (inside city)**, as *Lampetra planeri*, 1/Oct/1922, C. L. and L. C. Hubbs (UMMZ 61003, 112: 34-171 mm TL, ammocoetes; Hubbs(1924: 592); **Coyote Ck., at San Jose**, 23/May/1923, as *Lampetra planeri*, C. L. and L. C. Hubbs (UMMZ 61004, 2: 94-172 mm TL, ammocoetes);

***Lampetra tridentata* (coastal Pacific lamprey)**

**SAN FRANCISCO (San Francisco): "San Francisco market"**, date likely mid-1800s, W. W. Lockington (ANSP 336); **"Cal, San Francisco"**, as *Petromyzon ciliatus*, likely mid-1800s, [W. O.] Ayres (USNM 0975, 1);

**SAN FRANCISCO BAY: "Bay of San Francisco" and "Matshes of San Francisco Bay"**, as *Petromyzon ciliatus*, 16/Apr/1955 (collected on earlier date), W.O. Ayres (Ayres 1855: 44, 1 specimen 24 in. TL); **San Francisco Bay, San Rafael**, likely late-1800s or early-1900s, W. F. Allen (CAS 108475, 1, orig no. SU 8475); **San Pablo Bay**, as *Entosphenus tridentatus* (Evermann 1910: 132); **San Francisco Bay**, Shag Rk., N. 31 deg. W., San Bruno Lt., W., No. 2 Beacon, S. 30.5 deg. E., as *Entosphenus tridentatus*, 21/Jan/1913, U. S. Fisheries Commission, Steamer Albatross (CAS 12515, 1 and ANSP 77388, 1); **San Francisco Bay**, Shag Rk., N. 31 deg. W., San Bruno Lt., W., No. 2 Beacon, S. 30.5 deg. E., Hydrographic sta. 5311, 21/Jan/1913, U. S. Fisheries Commission, Steamer Albatross (CAS 12515, 1); **San Francisco Bay, P.G.&E. intake Sta. A**, 5/Jun/1945, D. A. Simpson (CAS 18795, 3); **San Francisco Bay, P.G.&E. intake Sta. A**, May/1946, D.A. Simpson (CAS 19151, 1, adult);

**San Francisco Bay, P.G.&E. intake Sta. A**, 25/Jan/1949, D. A. Simpson (CAS 214024, 1); **San Francisco Bay, P.G.&E. intake Sta. B**, 27/May/1947, D. A. Simpson (CAS 214026, 1); **San Francisco Bay, off Alameda**, 26/Feb/1952 (CAS 21510, 1: young transformed); **San Francisco Bay, Honker Bay, Stake Point**, 11/May/1964, J. Conners (CAS 45474, 1: young transformed); **San Francisco Bay?**, on or before 28/Apr/1964 (CAS 214028, 4);

**ALAMEDA CREEK WATERSHED (Alameda): Alameda Ck.**, 1860, A. Agassiz (MCZ 8889, 2, as *Ichthyomyzon trideus* and 8890, 2, as *Lampetra tridentata*); **Alameda Ck., Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26155: 1, transforming); **Alameda Ck., ca. 100 yds below SPRR bridge, Niles**, 31/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26160, 31, 5 ammocoetes, TL 99-126 mm); **Alameda Creek, ca. 200 yds below SPRR bridge at Niles**, 11/May/1956, G. M. Peckham (CAS 79646, Acc. 1956-V: 24: 1, TL 449 mm, female); **Alameda Ck., Niles, opposite Calif. Nursery Co. pool**, turbid water, 25/Mar/1957, W. I. Follett and G. M. Peckham (CAS 26255: 1, TL 135 mm); **Alameda Ck.** (lat. 37°, 34', long. 121°, 59', elevation 12 m), 20/Jun/1973 (Aceituno et al. 1976: 199, 1: 605 mm TL); **Alameda Ck., diversion dam to Calaveras Reservoir**, winter 1980-1981, visual record (EBRPD, patrol ranger, personal communication, observed many adults migrating over face of diversion dam);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck.**, 30/Jun/1898, J.O. Snyder (CAS); **Coyote Ck., near mouth**, as *Entosphenus tridentatus*, 3/1905, A. C. Herre (Snyder 1905: 331); **Coyote Ck., San Jose (inside city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 61002: 91, 21-50 mm, 141 mm, ammocoetes, refer also to Hubbs 1924: 592-597); **Coyote Ck., San Jose**, 23/May/1923 (Hubbs 1924: 592, 158: 9-21 mm; UMMZ 61001, 159: 9-75 mm TL, ammocoetes, also contain a few *Lampetra planeri*, refer also to Hubbs 1924: 592-597); **Coyote Ck., bridge opposite Milpitas**, 16/Oct/1932, W. I. Follett and party (CAS, 1); **Coyote Ck., below highway bridge opposite Milpitas**, 31/Oct/1941, W. I. Follett (CAS, 1); **Coyote Ck., near Milpitas**, 10/1947, Brittan and Savage (CAS 15492, 1: juvenile, transformed); **Coyote Ck., Hwy 237**, 1972-1977 (Scoppettone and Smith 1978: 62-63); **Coyote Ck. Trimble Rd. and mouth of Upper Penitencia Ck.**, 1978 (J. Smith, San Jose State University, personal communication, 1981); **Upper Penitencia Ck. at mouth**, Jun/1978, Sept/1979, Apr/1980 and Jul/1980,

electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at stream gage**, Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73);

**SAN MATEO CREEK WATERSHED (San Mateo): San Mateo [Ck.]**, 6/Jan/1860, 14/Feb/1860, T. G. Cary (MCZ 25124); **San Mateo Ck.**, 6/Jan/1860, listed as *Ichthyomyzon tridentatus*, T. G. Cary (MCZ 25124, 1);

**CORTE MADERA CREEK WATERSHED (Marin): "San Rafael California"**, no date, but likely circa 1945, W.F. Allen (SU 8475, 1: transformed young);

**NAPA RIVER WATERSHED (Napa): Napa R., Calistoga**, 1897 (Snyder 1908a: 158); **Napa R., 2 mi. below Calistoga**, 1/Aug/1942, G. Murphy (CAS 140781, 1: young transformed); **Chiles Ck.**, 9/Aug/1945, B. Curtis (CAS 20939: 40 ammocoetes); **Chiles Ck., about one mile above junction with Sage Ck., just above stone winery**, 9/Aug/1945, as *Entosphenus tridentatus ciliatus* (Curtis 1945b, 5, 45 specimens: larvae, see CAS 20939, above); **Conn Ck., pool one mile above junction with Sage Ck. Near old ranch house**, 10/Aug/1945, B. Curtis, *Entosphenus tridentatus ciliatus* (CAS 20949: 9, juveniles, transformed, see also Curtis 1945b, 5, 13 specimens: larvae); **Conn Ck.**, 10/Aug/1945, B. Curtis (CAS 20940, 9); **Conn Valley Reservoir and its tributaries**, stated as..."Pacific lamprey may have established a land-locked population in the lake." (Murphy 1949, 4-5); **Conn Reservoir**, 10/Jun/1949, "Fishermen" (CAS 23058, 1: 153 mm TL); **Napa River, from Deer Park Rd. to about one-third mi. below the Pope St. bridge**, 16-17/Oct/1979, fish kill (CDFG, 1 p., 35: 5.0-30.0 in. TL);

**SUISUN CREEK WATERSHED (Solano/Napa): Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater**, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys (CDFG, 4 p., notes "...reported by residents", author's note: not a positive identification to species);

#### ACIPENSERIDAE (STURGEONS)

##### *Acipenser* sp. (unidentified sturgeon sp.)

**SAN FRANCISCO (San Francisco): San Francisco**, 1857, T. G. Cary (MCZ 8908, 1); **San Francisco [likely collected from Sacramento River]**, Sept/1872, F. Steindachner, Hassler Expedition (MCZ 8942, 1; 23258, 1; 23264, 1: 330 mm HL);

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra**



**Costa Co.**, A.D. 1000-1500, archeological site, probably *A. medirostris* or *A. transmontanus* (Gobalet 1992: 75-77);

**WALNUT CREEK WATERSHED (Contra Costa): "Tice [Creek] Valley, Rossmore, Walnut Creek, Contra Costa Co."**, A.D. 1400-1500, archaeological site, probably *A. medirostris* or *A. transmontanus* (Gobalet 1992: 75-77);

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck.**, B.C. 1000-A.D. 500, archaeological sites CCO-132, -268, -269, -270, -271, probably *A. medirostris* or *A. transmontanus* (Gobalet 1990a: 237-241); **San Pablo Ck.**, A.D. 500- A.D. 1100, archaeological sites CCO-600, -601, probably *A. medirostris* or *A. transmontanus* (Gobalet 1994: 125-126);

**WILDCAT CREEK WATERSHED (Contra Costa/Alameda): Wildcat Ck.**, 1000 B.C.- 500 A.D., archaeological site CCO-275, probably *A. medirostris* or *A. transmontanus* (Gobalet 1990a: 237-241);

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Alameda Ck., just north of the confluence of Dry Ck., Union City**, 1 A.D. – 600 A.D., archaeological site ALA-453, probably *A. medirostris* or *A. transmontanus* (Schulz 1986: 2, 5);

**NAPA RIVER WATERSHED (Napa): Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 1 individual); **Napa River, near the confluence of Tulucay Ck.**, archaeological site CA-NAP-39, no date, either *A. medirostris* or *A. transmontanus* (J. Quinn 2002, unpublished data, minimum number of individuals: 1);

#### ***Acipenser medirostris* (green sturgeon)**

**SAN FRANCISCO: "This vicinity" [San Francisco]**, as *A. acutirostris*, 27/Nov/1854 (Ayres 1854-1862: 14); **"Our waters" [San Francisco Bay]**, as *A. medirostris* (Ayres 1854-1862: 15); **San Francisco**, 1857, T. G. Cary (MCZ 24031, 1: 670 mm TL); **"San Francisco, Cal."**, mid-1800s, Lt. Williamson (USNM 1005, 1); **[San Francisco]**, 1854, T. G. Cary (MCZ 24036, 1: 760 mm TL, as *A. ayresii*, holotype); **San Francisco**, as *A. acutirostris*, Dr. Newberry (Girard 1857: 34); **San Francisco**, as *A. medirostris*, Dr. Newberry (Girard 1857: 34); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 24022, 1: 495 mm TL, as *A. agassizii*); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 24029, 1:355 mm TL, as *A. alexandri*, holotype); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 24038, 1: 365 mm TL, as *A. oligopeltis*, holotype); **San**

**Francisco**, 1859 or 1860, A. Agassiz (MCZ 24023, 1 500 mm SL, as *A. putnami*, holotype); **"San Francisco, Cal."**, 1880, D. S. Jordan (USNM 27223, 1); **"Abundant in the [San Francisco] Bay and rivers flowing into it, not on the market as fisherman regard it as poisonous"** (Lockington 1879: 51); **"Market, in abundance"**, as *A. brachyrhynchus* (Lockington 1879: 51); **"San Francisco, Cal."**, likely collected in mid-1800s, Lt. Williamson (USNM 1004, 1); **"San Francisco, Cal."**, likely collected in mid-1800s, Dr. [W. O.] Ayres (USNM 1006, 1); **[San Francisco] markets**, as *A. medirostris* (Eigenmann 1890: 55); **San Francisco**, mid-to-late-1800s?, W. Stimpson (USNM 8480, 1); **"San Francisco markets"** (Eigenmann 1890: 55); **"Pacific Coast, ascending the rivers from San Francisco northward"** (Jordan and Evermann 1900); **San Francisco Bay, SW side of Bay Farm Is.**, 30/Apr/1941, A. J. Bertero (CAS 136547, 1); **San Francisco Bay, Berkeley Fishing Pier, 1.5 mile offshore**, 29/Jan/1953, A. Larson (CAS 25737, 1, female); **San Pablo Bay**, 16/Apr/1964 (CDFG, 5 p., noted as "common in San Pablo Bay.");

#### ***Acipenser transmontanus* (white sturgeon)**

**SAN FRANCISCO (San Francisco): San Francisco [likely collected from Sacramento River during Sept/1872 by F. Steindachner, Hassler Expedition]**(MCZ 8940, 1: 800 mm TL; 23259, 1: 580 mm SL; 23260, 1: 800 mm TL; 23261, 1: 850 mm TL; 23262, 1: 670 mm TL; 23263, 1: 620-650 mm TL; 23265, 1: 330 mm HL); **San Francisco**, likely mid-to-late 1800s (CAS 18200, 2, prev. no. IU 1522, 1549);

**SAN FRANCISCO BAY: San Francisco Bay, San Pablo Bay, Suisun Bay**, as *Acipenser brachyrhynchus*, 27/Nov/1854, (Ayres 1854-1862: 16); **"Entering all large streams from the Sacramento to the Fraser River"** (Eigenmann 1890: 55); **San Francisco Bay, China Camp**, 2/Aug/1947, A. J. Calhoun (CAS 17849, 1); **San Pablo Bay**, 1955, B. Walker (UMMZ 212763, 1); **San Pablo Bay**, 16/Apr/1964 (CDFG, 5 p., noted as "common in San Pablo Bay."); **Carquinez Strait**, 18/Nov/1968 (CAS 214057, 1);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck. mouth at transition between slough and open water**, Dec/1981-Nov/1982, otter trawl (Stevenson et al. 1987, p. 357, 1: no size);

**NAPA RIVER WATERSHED (NAPA): Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1

specimen total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1 specimens total: no size);

CYPRINIDAE (MINNOWS)

***Siphatales bicolor* (tui chub)**

**SAN FRANCISCO BAY: "...caught [by fisherman] at all the various points in the [San Francisco] bay, at which salt water fishes only have previously been found"** (Ayres 1862: 163, presented at a meeting of California Academy of Natural Sciences, 3/Feb/1862);

***Gila crassicauda* (thicktail chub)**

**SAN FRANCISCO (San Francisco): San Francisco market**, as *Leuciscus gibbus* (Ayres 1854); **San Francisco: San Joaquin River and tributaries of San Joaquin River, California**, as *Lavinia crassicauda* (Girard 1854: 137, states that "Specimens were procured at San Francisco, in the Rio San Joaquin, and several tributaries of that basin."); **San Francisco**, 1854, T. G. Cary and A. Agassiz (MCZ 1977, 7: 220-270 mm SL); **San Francisco [market]**, likely collected in 1854, W. O. Ayres (ANSP 14733, 1, listed as *Leuciscus gibbosus* "the type (?)": 254 mm, see also Miller 1963); **San Francisco**, 1854, T. G. Cary and A. Agassiz (UMMZ 87276, 1: 210-250 mm SL, 9 spec. in original lot); **San Francisco**, 1857, T. G. Cary and A. Agassiz (UMMZ 87277, 2: 210-250 mm SL, 9 spec. in orig. lot); **San Francisco**, 1862, T. G. Cary (MCZ 18918, 2: 188-220 mm SL, see also Miller 1963: 28); **San Francisco**, 16/Aug/1862, probably T.G. Cary and A. Agassiz (BNHM 1862.8.16.9: 1 specimen, 1862.8.16.11: 1 specimen, 1862.8.16.13: 1 specimen, 1862.8.16.14: 1 specimen); **[San Francisco?]**, 1879, E. D. Cope (ANSP 19353, 1); **"Occasional, in markets"**, as *Siboma crassicauda* (Lockington 1879: 50);

**SAN FRANCISCO BAY: "B.[Bay of?], San Pablo"**, likely collected mid-to-late 1800s, Inconnu and M. Washington (MNHN 3246, 1);

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., near Gilroy Hot Springs**, likely collected in 1898, as *Leuciscus crassicauda*, J. O. Snyder (CAS 121031, 1, prev. no.

SU 21031, 2: 85mm, 102mm); **Coyote Ck., near mouth**, as *Leuciscus crassicauda* (Snyder 1905: 332); **Coyote Ck.** (Murphy 1948: 8, likely based on Snyder 1905);

**NAPA RIVER WATERSHED (Napa): Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 1 individual);

***Lavinia exilicauda* (hitch)**

**SAN FRANCISCO: San Francisco**, 16/Aug/1862, previously entered as "*Cyprinus* sp." (BNMH 1862.8.16.16: 1 specimen); **"Occasional, in markets"** (Lockington 1879: 50); **Lake Merced**, 27/Jul/1944, B. Curtis (CAS 74479, 1); **South Lake Merced (large lake)**, 12/Jun/1949, A. C. Calhoun (CAS 72843, 1: 165 mm SL); **North Lake Merced (small lake)**, 12/Jul/1949, CDFG/A. J. Calhoun (CAS 72858, 12: 72859, 12: 72878, 3);

**SAN FRANCISCO BAY: San Francisco Bay**, "...caught [by fisherman] at all the various points in the bay, at which salt water fishes only have previously been found". 3/Feb/1862, as *L. compressa* (Ayres 1862: 163);

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77); **"Six miles back of Clayton"**, 3/ Jul/1927 (SU 60216, 5); **Marsh Ck., 7.5 mi east of Mt. Diablo, tributary to San Joaquin River during floods or winter**, 19/Feb/1939, R. R. Miller and J. Davis (UMMZ 133178, 513: 27-77 mm SL, see also SSU, no. 277: 1, see also Miller 1945: 199); **Marsh Ck. 3 mi. E. of Livermore**, 2/Apr/1939, R. R. Miller and J. Davis (FLMNH 7862, 8, see also SSU, no. 279: 48: no size); **Marsh Ck., 0.5 mi. east of Marsh Creek Springs Park**, 5/Sept/1945, D. A. and H. Simpson (CAS 17931, 18: 28-40 mm SL, small juveniles); **Marsh Ck., 33°, 59', 121°, 42'**, 20/Aug/1973, electrofishing survey (Aceituno et al. 1973, 34: 39-77 mm FL); **Marsh Ck., 37°, 53', 121°, 46'**, 20/Aug/1973, electrofishing survey (Aceituno et al. 1973, 45: 25-47 mm FL); **Marsh Ck., 37°, 53', 121°, 50'**, 20/Aug/1973, electrofishing survey (Aceituno et al. 1973, 31: 27-39 mm FL); **Marsh Ck., at Deer Valley Rd. crossing**, 20/Aug/1973, Aceituno and Caywood (LACM 24679, 35: 21-37.5 mm FL); **Marsh Ck., 2.6 mi. below Morgan Territory Rd. on Marsh Ck. Rd.**, 20/Aug/1973, Aceituno and Caywood (LACM 24776, 24: 20.5-34 mm FL); **Marsh Ck., 100 yds. above Cypress Rd. bridge**, 20/Aug/1973, Aceituno and Caywood (LACM

24785, 19: no size); **Marsh Ck., pools below Deer Valley Rd. crossing**, 19/Aug/1975, visual and seine survey (CDFG, 3 p., noted as "Hitch...collected": no size); **Marsh Ck., Royal Oaks Golf Course and nearby resort area**, 19/Aug/1975, visual and seine survey (CDFG, 3 p., noted as "...hitch were found immediately upstream".); **Marsh Ck., immediately downstream from Hwy. 4 bridge at B.M. 63**, 11/May/1981, R.A. and G.R. Leidy, 1: 158 mm FL; **Marsh Ck., 0.45 km from junction with Orchard Lane**, R.A. and G.R. Leidy, 86-125 mm FL; **Marsh Ck., at Cypress Rd. crossing**, 22/May/1981, R.A. and G.R. Leidy, 3: 148-274 mm FL; **Marsh Ck., immediately downstream from Delta Rd. bridge**, 22/May/1981, R.A. and G.R. Leidy, 70-111 mm FL; **Marsh Ck., at Dainty Rd.**, 22/May/1981, R.A. and G.R. Leidy, 2: 20 mm FL; **Marsh Ck., 0.9 km S.E. of junction of Marsh Ck. and Deer Valley rds.**, 22/May/1981, R.A. and G.R. Leidy, est.5000, 50 at 20-75 mm FL; **Marsh Ck., 0.25 km W. of B.M. 485 on Marsh Ck. Rd.**, 22/May/1981, R.A. and G.R. Leidy, 8: 30-40 mm FL; **Marsh Ck., 0.15 km E. of B.M. 485 on Marsh Ck. Rd.**, 22/May/1981, R.A. and G.R. Leidy, 100: 20-75 mm FL;

**WALNUT CREEK WATERSHED (Contra Costa): Walnut Ck., pool immediately below drop structure downstream from Bancroft Rd. crossing**, 14/July/1978, seine sampling (CDFG, 1 p., 100: 1.0-6.0 in. TL); **Walnut Ck., immediately downstream from Hwy 4 crossing**, 5/Oct/1980, R.A. and G.R. Leidy, 18: 70-165 mm TL; **Walnut Ck., 50 m upstream from confluence with Pine Ck.**, 5/Oct/1980, R.A. and G.R. Leidy, 92: 64-225 mm TL; **Walnut Ck., 50 m upstream from S.P.R.R. bridge at Walnut Creek Civic Center**, 5/Oct/1980, R.A. and G.R. Leidy, 1: 114 mm TL; **San Ramon Ck., 0.3 km downstream from Alamo Cemetery off La Gouda Way**, 6/Oct/1980, R.A. and G.R. Leidy, 25: 57-133 mm TL; **San Ramon Ck., 50 m downstream from El Portal Rd. crossing opposite Alamo Cemetery**, 6/Oct/1980, R.A. and G.R. Leidy, 100: 76-127 mm TL; **Grayson Ck., 50 m upstream from Hwy 24 crossing**, 12/Oct/1980, R.A. and G.R. Leidy, 17: 83-159 mm TL; **Walnut Ck., at confluence with Grayson Ck.**, 12/Oct/1980, R.A. and G.R. Leidy, 4: 51-127 mm TL; **Pine Ck., at end of Robin Ln. near apartments and trailer park**, 21/Sept/1981, R. Leidy and P. Fiedler, 25: 21-124 mm FL;

**RODEO CREEK WATERSHED (Contra Costa): Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., 6: 3.0-7.0 in. TL); **Rodeo Ck., immediately**

**downstream from Hwy. 80 bridge**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., 4: no size); **Rodeo Ck., about 0.5 mi. upstream from Hwy. 80 at bridge leading to Colliery**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., estimated at 100-200 fish); **Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure**, 20/Mar/1974, electrofishing survey (CDFG, 4 p., 8: 3.8-6.3 in. FL); **Rodeo Ck., immediately upstream from 2<sup>nd</sup> St. bridge**, 18/Jun/1981, R. Leidy and P. Fiedler, 50: 94-312 mm FL; **Rodeo Ck., 0.5 km upstream from Interstate 80, pool below 1<sup>st</sup> flow dissipater**, 18/Jun/1981, R. Leidy and P. Fiedler, 1000+: 50 at 50-119 mm FL; **Rodeo Ck., pool immediately below flow dissipater downstream from S.F.R.R. crossing**, 18/Jun/1981, R. Leidy and P. Fiedler, 60: 45-140 mm FL; **Rodeo Ck., pool immediately downstream from S.F.R.R. crossing**, 18/Jun/1981, R. Leidy and P. Fiedler, 3: 37-47 mm FL; **Rodeo Ck., 75 m upstream from S.F.R.R. crossing**, 18/Jun/1981, R. Leidy and P. Fiedler, 50: 40-80 mm FL; **Rodeo Ck., 50 m upstream from S.F.R.R. crossing**, 20/Jun/1981, R. Leidy and P. Fiedler, 10: 25-40 mm FL;

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck.**, 1000 B.C. – 500 A. D., archaeological site CCO-271, questionable identification (Gobalet 1990a: 237-241).

**WILDCAT CREEK WATERSHED (Contra Costa/Alameda): Lake Anza, Tilden Regional Park, Berkeley Hills**, 25/Nov/1952, W. C. Freihofer and S. H. Weitzman (CAS 28771; CAS 72853, 9: 74-200 mm SL); **Lake Anza, Tilden Regional Park, Berkeley Hills**, 25/Nov/1952, chemical treatment to eradicate *L. exilicauda* (P. Needham, U.C. Berkeley, Zoology 138, notes for field trip dated 14/Mar/1956, fish recorded in 1952: 7,197 fish: over 193 lbs.); **Berkeley, Lake Anza**, 26/Nov/1952, P. Needham (CU 23430, 6); **Lake Anza**, 29/June/1956, S. Weitzman and W. Freihofer (29/June/1956, 1); **Lake Anza, Tilden Regional Park**, 22/Aug/1961 (CAS 28769, 23; 39638, 2); **Lake Anza**, [no date], considered introduced by Hopkirk (1973: 52)("CAS: many specimens collected by P.R. Needham and students"); **Lake Anza** (Mathews 1962, p. 6, present: no other data); **Lake Anza** (Hopkirk 1974, 52);

**TEMESCAL CREEK WATERSHED (Alameda): Lake Temescal**, 4/Jan/1951, chemical treatment (P. Needham, U.C. Berkeley, Zoology 116 class notes in preparation of field trip, 2 p., 2 specimens: no size); **Lake Temescal**, Mar/1954, seine sampling (P. Needham, U. C. Berkeley, Zoology 116 class field notes, 11: 64-93 mm SL); **Lake**

- Temescal**, 22/Nov/1955, seine sampling (P. Needham, U. C. Berkeley, Zoology 116 class field notes, 1: 125 mm SL); **Lake Temescal**, 3/Dec/1957, seine sampling (P. Needham, U. C. Berkeley, Zoology 116 class field notes, 60: 105-171 mm SL); **Lake Temescal**, 2/Dec/1958, seine sampling (P. Needham, U. C. Berkeley, Zoology 116 class field notes, 104: 90-161 mm SL); **Lake Temescal, Oakland**, 27/Nov/1962, R.J. Behnke and W. Francis (SOSU, 162-181, 20: 113-183 mm SL, skeletonized);
- SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa): Moraga Ck., 25 m upstream from 1<sup>st</sup> bridge at Valle Vista along Canyon Rd.**, 5/Aug/1981, R. Leidy and P. Fiedler, 250+: 10 at 40-61 mm FL; **Moraga Ck., at crossing of old Moraga Way**, 5/Aug/1981, R. Leidy and P. Fiedler, 3: 64-92 mm FL; **Moraga Ck., approximately 0.2 km upstream from Canyon Rd. crossing near Moraga School**, 7/Aug/1981, R. Leidy and P. Fiedler, 15: 47-75 mm FL;
- ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Alameda Ck.**, (Snyder 1905, 331); **Alameda Ck.**, 9/Sept/1934, A. Seale and San Francisco Aquarium Society (CAS 7446, 1); **Alameda Ck.** (Murphy 1948: 8); **Alameda Ck., Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26157, 34: large young); **Alameda Ck., gravel pit near Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (Follett 1974, 2: as "several *Lavinia*"); **Alameda Ck., 0.2 mile above WPRR bridge below Niles, in pool**, 31/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26162, 4: 38-159 SL, listed in Follett 1974, 2, as 5: young to small adult); **Arroyo de la Laguna (12' wide), tributary to Alameda Creek, 3 mi N. of Sunol, at Verona and Foothill roads**, 22/Feb/1966, J. D. Hopkirk, Kuris, and party (CAS 72857, 21: 38-65 mm SL); **Alameda Ck., Niles Canyon Road and Highway 84**, 22/Feb/1966, J. Hopkirk and party (CAS 17865, 63: 31-79 mm SL); **Alameda Ck., Stanley Bridge, Old Canyon Rd., Niles**, 21/Apr/1967, U.C. Berkeley Zoology 166 class, G. Barlow, juveniles abundant, few adults); **Alameda Ck., at Niles**, 25/Jun/1967, C. Swift (LACM 37726.001, 1: 164 mm; 37726.005, 1; 37726.006, 1: 127 mm; 37726.007, 1: 130 mm; 37726.008, 1: 184 mm); **Alameda Ck., Stanley Bridge**, 21/Oct/1967 (CAS 59173, 7: 60-80 mm); **Alameda Ck., railroad bridge at Union City (limit on Niles Canyon Rd.)**, 21/Oct/1967, U.C. Berkeley ichthyology class, G. Barlow, 7: 60-80 mm; **Alameda Ck., at Niles (xing Hwys 9 and 21)**, 25/Jun/1967, C. and D. Swift (FMNH 15196, 51, many juv. and adults, y-o-y, common); **Alameda Ck., railroad bridge, 1 mi. E. of Niles**, 12/Oct/1968, U.C. Berkeley Zool. 166 class, G. Barlow: as "fair numbers, small"; **Alameda Ck., bridge at Niles**, 12/Oct/1968, U.C. Berkeley Zoology 166 class, G. Barlow: as "hitches...in lesser numbers"; **Alameda Ck., railroad bridge 1.2 mi. from intersection of Niles Canyon and Old Niles rds.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "several large, many small individuals"; **Alameda Ck., Stanley Bridge, on Old Niles Rd., at intersection of Niles Canyon Rd.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "few, mostly small"; **Alameda Ck., approx. 3.4 mi. upstream from bridge "1948" on Niles Canyon Rd.**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 1); **Alameda Ck., Niles Canyon area**, 17/Jul/1973, creel census (CDFG, 2 p., 1: 5 in. TL); **Alameda Ck.** (lat. 37°, 34', long. 121°, 59', elevation 12 m), 20/Jun/1973 (Aceituno et al. 1976: 199, 8: 120-235 mm FL); **Alameda Ck.** (lat. 37°, 35', long. 121°, 55', elevation 55 m), 20/Jun/1973 (Aceituno et al. 1976: 199, 1: 104 mm FL); **Lake Del Valle** (California Department of Water Resources 1974: 25); **Alameda Ck., from the Alameda County Water District seasonal water percolation dam at Mission Blvd., upstream to the USGS gauging station 0.5 mi. W. of Sunol**, 3/Jun/1975, creel census (CDFG, 2 p., 2 caught: no size); **Arroyo de la Laguna, bridge at Castlewood Golf Course bridge downstream 50 ft.**, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., numerous: to 6.0 in. TL); **Alameda Ck., Niles Canyon near Kaiser Quarry (T4S, R1W, S12)**, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., adults and y-o-y: no abundance or size); **Arroyo de la Laguna, from closed bridge (first bridge downstream from Castlewood Golf Course bridge) downstream 100 yds.**, 13/Nov/1975, USFWS electrofishing survey (CDFG, 1 p., collected: 2.0-3.0 in. TL); **Arroyo de la Laguna Ck., large pool at confluence with Alameda Ck., to 50 yds. downstream on Alameda Ck.**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., 1: 68 mm FL); **Arroyo de la Laguna Ck., 150 yd. reach from under Interstate 680 bridge downstream**, 9/Apr/1976, electrofishing survey (CDFG, 2 p., 8: 3.25-6.25 in. FL); **Alameda Ck., 200 yd. reach adjacent to and downstream from the USGS Niles gauging station**, 8/May/1976, electrofishing survey (Chabot College Ecology 40-84 class and J. Smith, CDFG, 2 p., 33: 43-171 mm FL); **Shinn Pond, Niles District of Fremont**, 31/Aug/1976, gill and net sampling (CDFG, 14



p., 31: 1.5-9.2 in. FL); **Kaiser B Pond, Niles District of Fremont**, 2/Sep/1976, gill and net sampling (CDFG, 14 p., 21: 1.0-8.8 in. FL); **Ford-Bunting Pond, Niles District of Fremont**, 2/Sep/1976, gill net and seine sampling (CDFG, 14 p., 28: 3.6-11.5 in. FL); **Arroyo Valle, two ponds south of Shadow Cliffs Reservoir**, 7/1978, electrofishing survey (CDFG, 1 p., present: no size); **Altamont Ck., at SPRR bridge, T2S, R3E, S29**, 25/Jul/1981, R. A. and G.R. Leidy, 1: 85 mm FL; **Altamont Ck., at 2<sup>nd</sup> upstream crossing of Blue Bell Drive, T2S, R2E, S34**, 26/Jul/1981, R.A. and G.R. Leidy, 14: 46-82 mm FL; **Arroyo las Positas, 200 m downstream from confluence with Cayetano Ck., T3S, R2E, S6**, 26/Jul/1981, R.A. and G.R. Leidy, 4: 47-137 mm FL; **Arroyo las Positas, 100 m upstream (above Hwy. 580) from confluence with Cayetano Ck.**, 26/Jul/1981, R.A. and G.R. Leidy, 15: 76-157 mm FL; **Arroyo Mocho Ck., downstream from Wente Rd. crossing**, 27/Jul/1981, R.A. and G.R. Leidy, 24: 18-101 mm FL; **Arroyo Mocho Ck., at Hopyard Rd. crossing**, 30/Jul/1981, R.A. and G.R. Leidy, 20: 15-104 mm FL; **South San Ramon Ck., downstream from crossing of Alcosta Blvd.**, 30/Jul/1981, R. Leidy and P. Fiedler, 5: 36-82 mm FL; **Arroyo Mocho Ck., 100 m upstream from Hwy. 84 crossing**, 1/Aug/1981, R.A. and G.R. Leidy, 5: 70-113 mm FL; **Arroyo Valle Ck., upstream from Hwy. 84 crossing**, 1/Aug/1981, R.A. and G.R. Leidy, 6: 105-172 mm FL; **Alameda Ck., at 1<sup>st</sup> railroad crossing upstream from Niles, T4S, R1W, S15**, 1/Oct/1981, R. Leidy and P. Fiedler, 4: 25-60 mm FL;

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., San Jose**, likely collected in 1898, C. H. Gilbert (CAS 102562, 1); **Coyote Ck.**, likely collected in 1898, C. H. Gilbert (CAS 104219, 1, also listed as SU 4219, 19 specimens); **Coyote Ck., near mouth and San Jose** (Snyder 1905, 332, 338); **Coyote Ck.** (Murphy 1948: 8); **Coyote Ck.**, 5/Nov/1964, memorandum on fish collection (CDFG, 2 p., SJSU, CD-30); **Santa Teresa Park pond**, 1-8/Nov/1967, beach seine (SJSU, Zoology 151 class, 2 p., 6: no size); **Santa Teresa Park pond**, 23-25/Oct/1968, beach seine (SJSU, Zoology 151 class, 4 p., 213: 125-769 mm TL); **Santa Teresa Park pond**, 23, 24, 28/Oct/1969, beach seine (SJSU, Zoology 151 class, 4 p., 11: 9.0-11.5 in. TL); **Anderson Reservoir**, 6-7/May/1970, electrofishing survey (CDFG, 2 p., 18: no size); **Anderson Reservoir**, 7/May/1970, W. E. Strohschein (CAS 72869, 2); **Coyote Ck.**, 7/Mar/1972, field notes (R. L. Hassur, SJSU); **Santa Teresa Park pond**, 12-13/Oct/1972, beach seine (SJSU, Zoology 150 class, 4 p., 39: 11.0-15.5 in. TL); **Coyote**

**Ck.** (lat. 37°, 13', long. 121°, 45', elevation 58 m), 21/ Jun/1973 (Aceituno et al. 1976: 203, 5: 67-181 mm FL); **Coyote Ck.** (lat. 37°, 19', long. 121°, 51', elevation 30 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 3: 67-83 mm FL); **Coyote Ck.** (lat. 37°, 10', long. 121°, 38', elevation 116 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 2: 124-142 mm FL); **Coyote River at Coyote River Park**, T9S, R3E, elevation 380 ft., 21/Jun/1973, M.L. Caywood (SSU, no. 226, 1: no size); **Cottonwood Lake**, 8/Apr/1974, electrofishing survey (CDFG, 3 p., 1: 10.6 in. FL); **Coyote Ck., 1) Hwy 237, 2) near mouth of Penitencia Ck., 3) Singleton Rd., 4) above and below Hellyer Park, 5) Tennant Rd., 6) upstream from Metcalf Rd., 7) Riverside Golf Course Rd., 8) above percolation ponds, 2 km below Anderson Reservoir, 9) below Anderson Reservoir, 10) below Coyote Reservoir**, 1972-1977 (Scoppettone and Smith 1978: 63); **Santa Teresa Park Pond**, 8/Apr/1974, electrofishing survey (CDFG, 6 p., 5: 11.9-13.7 in. FL); **Berryessa Ck., several miles upstream from mouth**, 11/Jun/1975, visual survey (CDFG, 4 p., notes that "...in stagnant pool several 3-inch hitch were found."); **Lower Silver Ck., from middle stream reach to mouth**, 16/ Jul/1975, visual survey (CDFG, 4 p., 2: no size); **Penitencia Ck., downstream from Hwy. 680**, 12, 13, 17/Jun/1975, visual survey (CDFG, 12 p., juveniles observed: no numbers or size); **Coyote Ck., Hwy. 101 bridge at Hellyer County Park**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 11: 2.0-3.5 in. FL); **Coyote Ck., Hwy. northern portion of Hellyer County Park downstream from Sylvandale Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 3: 2.0-2.5 in. FL); **Coyote Ck., Hwy. Singleton Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 12: 2.0-2.5 in. FL); **Coyote Ck., Hwy. 100 yds. downstream from Berryessa Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 33: 1.0-6.0 in. FL); **Coyote Ck., San Jose Municipal Golf Course, 100 yds. upstream from Oakland Rd. bridge**, 23/ Sep/1975, electrofishing survey (CDFG, 3 p., 15: 1.0-3.0 in. FL); **Coyote Ck., 75 yds. upstream and downstream from Hwy. 237 bridge**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 4: 1.0-4.0 in. FL); **Anderson Reservoir**, 28/ Apr/1976, electrofishing survey summary dated 20/May/1976 (CDFG, 5 p., 1: 10.5 in. FL); **Coyote Reservoir**, 29/Apr/1976, electrofishing survey (CDFG, 8 p., 17: 4.6-12.0 in. FL); **Cottonwood Lake**, 21/Jul/1976, electrofishing survey (CDFG, 3 p., 6: 2.0-4.1 in. FL); **Coyote Ck., downstream from confluence of Upper Penitencia**, 19/May/1977,

visual survey (CDFG, 3 p., numerous: no size); **Coyote Ck., near William St. Park**, Nov/1977, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Santa Clara St.**, Nov/1977, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Story Rd.**, Nov/1977 and Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Derbe Ln.**, Jun/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tripp Ave.**, Jun/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., below Anderson Dam outlet**, electrofishing and seining survey Oct/1977, Jun/1978 and Sept/1979 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Hellyer Ave.**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Metcalf Rd.**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tully Rd.**, Dec/1977 and Jun/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Anderson Reservoir**, 10/ Jun/1978, electrofishing survey (CDFG, 3 p., 23: 2.1-12.9 in. FL); **Coyote Ck., near Trimble Rd. crossing**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote downstream from Coyote Canal input**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote Rd. gage**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Bayshore**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Capitol Expressway**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Oakland Rd. crossing**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Bernal Rd. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tennant Ave. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Riverside Rd. at golf course and Coyote Canal diversion**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Silver Ck., at mouth**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sycamore Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sylvandale Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at mouth**, Jun/1978, Sept/1979, Apr/1980 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at Viceroy Way**, Jun/1978, Sept/1979 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Silver Ck., at Cunningham St.**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Senter Rd.**, Jun and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Cottonwood Lake**, 17, 19/Apr/1979, beach seine (SJSU, Zoology 150 class, 10 p., 49: 97-225 mm TL); **Coyote Ck., near Burnett Ave.**, Jun and Sept/1979 (Pit and Bozeman 1982, p. 73); **Cottonwood Lake**, 17, 18/ Oct/1979, beach seine (SJSU, Zoology 116 class, 1 p., 2: 5.5-8.0 in. TL); **Anderson Reservoir**, 7-8/Jul/1980, electrofishing survey (CDFG, 5 p., 1: 7.1 in. FL); **Coyote Reservoir**, 9-10/ Jul1980, electrofishing survey (CDFG, 4 p., 30: 7.4-10.0 in. FL); **Coyote Ck., Gilroy Hot Springs, 8.3 km upstream from Coyote Reservoir Dam**, Jul/1980 (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at stream gage**, Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck., at uppermost crossing of Mabury Rd.**, 11/Aug/1981, R. Leidy and P. Fiedler, 5: 42-70 mm FL; **Upper Penitencia Ck., approx. 0.6 km upstream from Capitol Ave. crossing**, 11/Aug/1981, R. Leidy and P. Fiedler, 2: 55-68 mm FL; **Coyote Ck., at Trimble Rd. crossing**, 31/Aug/1981, R. Leidy and P. Fiedler, 2: 67-78 mm FL; **Coyote Ck., a El Parques de la Raza de Paz, at canal input above pool**, 1/Sept/1981, R. Leidy and P. Fiedler, 26: 42-95 mm FL; **Coyote Ck., 0.75 km upstream from town of Coyote on wildlife reserve (large pool)**, 3/Sept/1981, R. Leidy and P. Fiedler, 22: 56-115 mm FL; **Fisher Ck., immediately upstream from Bailey Rd. crossing**, 5/Sept/1981, R. Leidy and P. Fiedler, 3: 82-92 mm FL;

**GUADALUPE RIVER WATERSHED (Santa Clara): "San Jose, 0.3 km. from Guadalupe River, Santa Clara Co."**, A.D. 700-1300, archaeological site SCL-690 (Gobalet 1992: 76-77);

**STEVENS CREEK WATERSHED (Santa Clara): Stevens Ck., 150 yds. S. (downstream) of Hwy. 101**, 8/May/1978, visual survey (CDFG, 8 p., observed: no numbers or size);

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/ San Mateo): Searsville Lake** (Aris 1980);

**NAPA RIVER WATERSHED (Napa):** **Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 1 individual); **Napa River, near the confluence of Tulucay Ck.**, archaeological site CA-NAP-39, no date, (J. Quinn 2002, unpublished data, minimum number of individuals: 11); **Napa River, Calistoga** (Snyder 1908a: 158, likely recorded circa 1897, Evermann and Clark 1931: 37, cite location in Snyder 1908a as "**Napa River, Rutherford?**"); **Napa River** (Murphy 1948: 8);

**SARATOGA CREEK WATERSHED (Santa Clara):** **Saratoga Ck., below junction of Saratoga and San Tomas Aquinas cks., at Mission College Blvd**, 21/Aug/1981, R. Leidy and P. Fiedler, 200+ : 23-111 mm FL; **San Tomas Aquinas Ck., on Quito Rd. at junction of Old Adobe Rd.**, 25/Aug/1981, R. Leidy and P. Fiedler, 250+: 22-101 mm FL; **Vasona Ck., at Alendale Ave.**, 25/Aug/1981, R. Leidy and P. Fiedler, 250+: 21-107 mm FL;

**SUISUN CREEK WATERSHED (Solano):** **Suisun Ck., near Lake Curry, 4 mi NW of Manka**, overflow pool along stream, 3/Mar/1940, T. Rodgers (UMMZ 131516, 8: 65-175 mm SL, see also Miller 1945: 199); **Suisun Ck., off Gordon Valley Rd. just below Lake Curry**, 10/Aug/1972, P. B. Moyle (UCDPM 72-12, 15); **Suisun Ck., at Suisun Valley Rd. crossing immediately before Twin Sisters Gun Club turnoff**, 2/Oct/1981, R.A. and G.R. Leidy, 2: 65-85 mm FL;

***Lavinia symmetricus* (California roach)**

**SAN FRANCISCO (San Francisco):** **San Francisco**, 1854, A. Agassiz and T. G. Cary (MCZ 1980, 39); **San Francisco (vicinity)**, 1854, 1857, 1860, A. Agassiz and T. G. Cary (UMMZ 87089, 6: 51-92 mm SL); **Lake Merced, San Francisco**, as *H. s. venustus*, 23/Jul/1942, B. Curtis (CAS 20912, 10); **Lake Merced**, 25/Jul/1944, B. Curtis (74479, 1);

**SAN FRANCISCO BAY:** **Mare Island Lighthouse**, N. 32 deg. W., Oleum Whf., S. 32 deg. W., Carquinez Lt., N. 56.5 deg. E, 23/Apr/1912, Hydrographic sta. 5087, U. S. Fisheries Commission, Steamer Albatross (CAS 13049, 1).

**MARSH CREEK WATERSHED (Contra Costa):** **Marsh Ck., 0.15 km E. of B.M. 485 on Marsh Ck. Rd.**, 22/May/1981, R.A. and G.R. Leidy, 25: 30-60 mm FL;

**MT. DIABLO CREEK WATERSHED (Contra Costa):** **Mt. Diablo Ck., immediately upstream from Port Chicago Hwy.** Bridge, 21/Sept/1981, R. Leidy and P. Fiedler, 2: 45-81 mm FL; **Mt. Diablo Ck., pool, at base of Kirker Pass**

**Rd. bridge**, 21/Sept/1981, R. Leidy and P. Fiedler, 7: 71-138 mm FL;

**WALNUT CREEK WATERSHED (Contra Costa):** **Walnut Ck., 1 mi N. of Walnut Creek, San Francisco Bay tributary**, 2/Apr/1939, R. R. Miller and J. Davis (UMMZ 133183, 111: 31-93 mm SL, see also Murphy 1948: 8, 37); **Walnut Ck., at Alamo**, 19/Dec/1942, G. Murphy and Dalques, (CAS 140801, 29, see also CAS, Acc. 1964-XI: 13, 2: 47.5-53 mm SL); **San Ramon Ck., 1.8 mi. above Walnut Ck. (town)**, 3/Aug/1945, W. I. Follett (CAS 19980, 136); **Las Trampas Ck., approximately 0.25 mi. E. of Lafayette**, Apr/1946, M. H. Gluck (CAS 19102, 4, adults, 95-118 SL); **Tice Ck., below culvert to the lower culvert at Lilac Dr.**, 12/Jul/1976, visual survey (CDFG, 3 p., abundant: no size); **Walnut Ck., from confluence of San Ramon Ck. downstream to mouth**, 20-21/Jul/1977, visual survey (CDFG, 5 p., noted as "...abundant throughout the stream length.": no size); **San Ramon Ck., near Danville**, 26/Jul/1977, visual survey (CDFG, 3 p., noted as "schools... found..."); **Pine Ck. (lower), from mouth upstream 7.0 mi.**, 28/Jul/1977, visual survey (CDFG, 4 p., common: no size); **Walnut Ck., 50 m upstream from confluence with Pine Ck.**, 5/Oct/1980, R.A. and G.R. Leidy, 2: 64 mm TL; **Walnut Ck., 50 m upstream from S.P.R.R. bridge at Walnut Creek Civic Center**, 5/Oct/1980, R.A. and G.R. Leidy, 46: 38-107 mm TL; **Walnut Ck., immediately downstream from Creekside Dr. bridge at USGS gauging station**, 5/Oct/1980, R.A. and G.R. Leidy, 25: 51-89 mm TL; **San Ramon Ck., below bedrock falls approx. 150 m downstream from Chaney Rd. crossing**, 5/Oct/1980, R.A. and G.R. Leidy, 1: 152 mm TL; **San Ramon Ck., at Sycamore Valley Rd. crossing**, 6/Oct/1980, R.A. and G.R. Leidy, 100: 25-44 mm TL; **Green Valley Ck., immediately downstream from Blemer Rd.**, 6/Oct/1980, R.A. and G.R. Leidy, 12: 51-127 mm TL; **Green Valley Ck., immediately downstream from junction with Diablo Rd.**, 6/Oct/1980, R.A. and G.R. Leidy, 50: 51-104 mm TL; **Tice Ck., at Coventry Rd. crossing**, 6/Oct/1980, R.A. and G.R. Leidy, 25: 51-102 mm TL; **Las Trampas Ck., 50 m upstream from Pleasant Hill Road bridge**, 12/Oct/1980, R.A. and G.R. Leidy, 100: 53-79 mm TL;

**ARROYO HAMBRE CREEK WATERSHED (Contra Costa):** **Arroyo Hambre at Estudillo Park, upstream from Susana St. bridge opposite junior high school**, 24/Aug/1981, R. Leidy and P. Fiedler, 10: 40-62 mm FL;

**RODEO CREEK WATERSHED (Contra Costa):** **Rodeo Ck.,**

**0.3 km downstream from Interstate 80**, 18/Jun/1981, R. Leidy and P. Fiedler, 3: 50-72 mm FL;

**PINOLE CREEK WATERSHED (Contra Costa): Pinole Ck., 1.5 mi. reach from Hwy. 80 downstream**, 23/Apr/1975, fish kill (CDFG, 3 p., 28: average 3.0 in. FL); **Pinole Ck., downstream from natural barrier located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.**, 5-6/May/1976, visual survey (CDFG, 4 p., noted as "...numerous threespine roach observed..."); **Pinole Ck., immediately downstream from bedrock falls located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.**, 4/Jun/1976, electrofishing survey (CDFG, 5 p., numerous, 13 at 2.1-4.5 in. FL); **Pinole Ck., 50 m reach immediately downstream from bedrock falls located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.**, 9/Nov/1978, electrofishing survey (CDFG, 3 p., common: 1.5-2.5 in. FL); **Pinole Ck., 300 m reach immediately downstream from intersection of Pinole valley and Castro rds.**, 9/Nov/1978, electrofishing survey (CDFG, 3 p., present: no size); **Pinole Ck., 25 m reach immediately downstream from Simas Ave. crossing, Pinole**, 9/Nov/1978, electrofishing survey (CDFG, 3 p., found: no size); **Pinole Ck., 175 yd. reach downstream from junction of Castro Ranch and Pinole Valley rds.**, 6/Nov/1979, electrofishing survey (CDFG, 2 p., 12: 1.3-2.8 in. FL); **Pinole Ck., 175 yd. reach downstream from junction of Castro Ranch and Pinole Valley rds.**, 20/Nov/1979, electrofishing survey (CDFG, 4 p., 12: 1.3-2.8 in. FL); **Pinole Ck., 70 yd. reach upstream from the Pinole Valley Rd. crossing, N. of the Ellorhorst intersection**, 20/Nov/1979, electrofishing survey (CDFG, 4 p., common, 30 at 1.9-3.3 in. FL); **Pinole Ck., 30 m upstream from A.T.S.F. railroad bridge**, 23/Jun/1981, R. Leidy and P. Fiedler, 15: 50-76 mm FL; **Pinole Ck., 100 m upstream from culvert under San Pablo Ave.**, 23/Jun/1981, R. Leidy and P. Fiedler, 6: 52-72 mm FL; **Pinole Ck., 200 m downstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 25: 40-75 mm FL; **Pinole Ck., 200 m upstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 25: 32-65 mm FL; **Pinole Ck., Pinole Valley Rd. bridge opposite high school**, 23/Jun/1981, R. Leidy and P. Fiedler, 3: 35-52 mm FL; **Pinole Ck., Pinole Valley Rd. bridge, immediately upstream from Elhorst School**, 23/Jun/1981, R. Leidy and P. Fiedler, 30: 15-70 mm FL;

**Pinole Ck., immediately downstream from junction of Pinole Valley and Castro Ranch rds.**, 4/Aug/1981, R. Leidy and P. Fiedler, 100: 22-57 mm FL;

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Creek at Orinda**, 19/Nov/1942, G. Murphy (CAS 140800, 47, see also Murphy 1948: 8); **San Pablo Creek at Orinda**, 19/Dec/1942, G. Murphy (CAS, Acc. 1964-XI: 13, 1 50.5 mm SL, same as previous record?); **San Pablo Ck., immediately upstream from the Orinda Filtration Plant**, 4/Jun/1976, electrofishing survey (CDFG, 3 p., 1: 2.7 in. FL);

**SAN LORENZO CREEK WATERSHED (Alameda): San Lorenzo Ck., near Hayward High School**, 1/Sept/1952, M. Pitman (SU, 2); **Crow Ck.**, Jun-Jul/1954, G. Peckham (CAS Acc. 1954-IX: 16, 14); **Crow Ck., from mouth to headwaters (5.5 mi.)**, 16/Jun/1960, visual survey (CDFG, 4 p., found in lower section: 2.0-3.0 in. TL); **San Lorenzo Ck., from pool below Don Castro Dam downstream to concrete channel**, 4-5/Aug/1975, visual survey (CDFG, 5 p., noted as "adult and young-of-the-year...roach... observed in great numbers."); **Crow Ck., from Bolinas Ck. confluence to mouth**, 5-6/Aug/1975, visual survey (CDFG, 4 p., present); **Don Castro Reservoir**, 27/Aug/1975, fishery resource assessment (CDFG, 1 p., present: no abundance or size); **San Lorenzo Ck. at junction with 2<sup>nd</sup> St. across from Hayward City Hall**, 23/Jul/1981, R. Leidy and P. Fiedler, 150+: 51-101 mm FL; **San Lorenzo Ck., 250 m upstream from 2<sup>nd</sup> St. bridge, Hayward**, 23/Jul/1981, R. Leidy and P. Fiedler, 16: 61-76 mm FL; **San Lorenzo Ck., 300 m upstream from 2<sup>nd</sup> St. bridge, Hayward**, 23/Jul/1981, R. Leidy and P. Fiedler, 10: 57-70 mm FL; **San Lorenzo Ck., 30 m downstream from confluence of N. and Middle Forks, approx. 0.4 km downstream from Grove Way**, 24/Jul/1981, R. Leidy and P. Fiedler, 50+: 21-88 mm FL; **San Lorenzo Ck., at confluence of N. and Middle Forks, approx. 0.4 km downstream from Grove Way**, 24/Jul/1981, R. Leidy and P. Fiedler, 100+: 27-113 mm FL; **San Lorenzo Ck., N. branch immediately upstream of Grove Way**, 24/Jul/1981, R. Leidy and P. Fiedler, 27: 27-88 mm FL; **San Lorenzo Ck., 50 m downstream from confluence of Crow Ck.**, 24/Jul/1981, R. Leidy and P. Fiedler, 21: 23-82 mm FL; **San Lorenzo Ck., 30 m downstream from B St. bridge**, 25/Jul/1981, R.A. and G.R. Leidy, 23: 75-84 mm FL; **San Lorenzo Ck., 50 m upstream from B St. bridge**, 25/Jul/1981, R.A. and G.R. Leidy, 9: 66-95 mm FL; **San Lorenzo Ck., pool immediately below Cull Canyon Reservoir**



**spillway**, 25/Jul/1981, R.A. and G.R. Leidy, 7: 53-73 mm FL; **San Lorenzo Ck., 100 m upstream from Hwy 580 crossing**, 25/Jul/1981, R.A. and G.R. Leidy, 8: 57-83 mm FL; **Crow Ck., approx. 1 mi. upstream from junction of Cull Canyon and Crow Canyon rds., at second road crossing**, 25/Jul/1981, R.A. and G.R. Leidy, 38: 49-114 mm FL; **Crow Ck., 1.6 mi upstream above site on Crow Ck. Rd.**, 25/Jul/1981, R.A. and G.R. Leidy, 30: 28-105 mm FL;

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara):** **Alameda Ck., at Sunol**, 15/Jun/1898, J. O. Snyder (CAS 115974, 29, also cited in Murphy 1948: 37); **Santa Isabel Ck., Mt. Hamilton**, 30/Jul/1898, J. O. Snyder (CAS 137846, 153 and 166230, 4); **Alameda, Arroyo Honda, and Isabel creeks**, as *Rutilus symmetricus* (Snyder 1905: 332, likely based on previous collections in 1898, listed above); **Alameda Ck., Niles** (as listed in Hopkirk 1973: 47, CAS: 85); **Alameda Ck., Sunol** (as listed in Hopkirk 1973: 47, SU); **"Arroyo Crista Blanca, Livermore"**, 9/1912, F. S. Curtis (ANSP 38897, 1); **Alameda Ck., Niles Canyon**, 7/ May/1927, as *Hesperoleucus* sp. (CAS 159795, 3); **"Livermore"**, 8/Jul/1931 (CAS 72450, 1: 82 mm SL); **Alameda Ck.**, 9/Sept/1934, San Francisco Aquarium Society (Seale 1934: 152); **Alameda Ck.**, 19/May/1938, L. Shapovalov, CDFG (CAS Acc. 1952-X:30, 27); **Alameda Ck., 4.5 mi. by road above forks of Alameda and Calaveras cks. (Gimmer place)**, 19/May/1938, L. Shapovalov, field note (CDFG, 2 p., states that "Chubs were abundant in this pool [below Gimmer dam]...Several chubs 4 to 6 in. were also seen in the pool above the dam."); **Upper Isabel Ck., Santa Clara Co., Calif.**, 28/Jan/1939, Calhoun, Cope and Minnich (SNHM, as cited in Murphy 1948: 37, also as SU 15978, 69); **Alameda Ck., between Niles and bridge just E. of Sunol, tributary to San Francisco Bay**, 25/ Feb/1939, R. R. Miller and G. Murphy (UMMZ 133181, 108: 21-51 mm SL, also SSU, no.281: 41: no size); **Arroyo Mocho, a few (15) mi. S.E. of Livermore**, 20/May/1939, Calhoun and Helm (CAS 137848: 29); **San Antonio Ck., near headwaters, 10 mi. from Mt. Hamilton, Santa Clara Co., Calif.**, 20/May/1939, Helm and Calhoun (SU 15979, 26, also cited in Murphy 1948: 37); **Arroyo Mocho, about 10 mi. S.E. of Livermore**, 1/Oct/1939, W.A. Gosline (CAS 159822, 14, as *Hesperoleucus* ?, Hopkirk 1968: 293, notes specimens may be "hybrids with *Gila crassicauda*"); **Arroyo Mocho, 6.25 airline mi. S.E. of Livermore**, 19/Dec/1942, G. Murphy (CAS 140798: 50+, see also Murphy 1943: 187); **Arroyo Mocho, 5 airline mi. S.E. of Livermore**, 19/

Dec/1942, G. Murphy (CAS 140799: 50+, see also Murphy 1943: 187); **Smith Ck., Mt. Hamilton area**, 2/Jul/1953, field note (CDFG, 3 p., present); **Isabel Ck., 6 mi. accessible from Mt. Hamilton Springs resort**, 2/Jul/1953, field notes (CDFG, 4 p., present); **Alameda, Arroyo Honda, and Isabel cks. (Murphy 1948: 8)**; **San Antonio Ck.**, 30/ Sep/1954, W. Evans visual survey (CDFG, 1 p., states that "...stream bed was dry with only scattered pools...only venus roach were noted in abundance."); **Alameda Ck., Niles, opposite California Nursery Co. pool**, turbid water, 25/Mar/1957, W. I. Follett and G. M. Peckham (CAS 26260, 1: adult); **Alameda Ck., below Niles and Niles Canyon area**, 16/May/1957, visual survey (CDFG, 5 p., observed: no abundance or size); **Alameda Ck. [Arroyo Hondo], above Calaveras Reservoir**, 16/May/1957, visual survey (CDFG, 5 p., observed: no abundance or size); **Alameda Ck., 0.4 mi. above old Calif. Hwy. 17, 0.2 mile above bridge of new fwy near Niles**, 21/Jul/1957, W. I. Follett and G. M. Peckham (CAS 26287, 1: adult); **Alameda Ck., near hwy. bridge E. of Niles**, 18/Aug/1961, J. D. Hopkirk, S. Mathews and R. Behnke (CAS 22880, 85); **Arroyo de la Laguna Ck., 3 mi. N. of Sunol**, 22/Feb/1966, J.D. Hopkirk and party (CAS Acc. 1966-VI: 20, 2: 30-73 mm SL); **Alameda Ck., at Niles**, 22/Feb/1966, J.D. Hopkirk and party (CAS Acc. 1966-VI:20, 58: 31-78 mm SL); **Alameda Ck., Stanley Bridge, Old Canyon Rd., Niles**, 21/Apr/1967, U.C. Berkeley Zoology 166 class, G. Barlow, one juvenile); **Alameda Ck., at Niles (xing Hwys 9 and 21)**, 25/ Jun/1967, C. and D. Swift (FLMNH 15195, 1, few adults); **Alameda Ck., railroad bridge at Union City (limit on Niles Canyon Rd.)**, 21/Oct/1967, U.C. Berkeley ichthyology class, G. Barlow, approx. 50: juveniles and subadults; **Alameda Ck., railroad bridge, 1 mi. E. of Niles**, 12/ Oct/1968, U.C. Berkeley Zoology 166 class, G. Barlow: as "fair numbers, small"; **Alameda Ck., bridge at Niles**, 12/ Oct/1968, U.C. Berkeley Zoology 166 class, G. Barlow: as "roaches...in lesser numbers."; **Alameda Ck., railroad bridge 1.2 mi. from intersection of Niles Canyon and Old Niles rds.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "a few small individuals."; **Alameda Ck., Stanley Bridge, on Old Niles Rd., at intersection of Niles Canyon Rd.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "few, small."; **Arroyo de la Laguna, bridge at Castlewood Golf Course bridge downstream 50 ft.**, T4N, R1W, S12, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., present: no size); **Alameda Ck., Niles**

- Canyon near Kaiser Quarry (T4S, R1W, S12)**, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., numerous: no size); **Alameda Ck., railroad trestle bridge, 1 mi. N. of Niles**, 19/Oct/1975, G.W. Barlow and class (U.C. Berkeley 37561, 76); **Arroyo Mocho Ck., Lawrence Laboratory pumping station (NE0.25 of S.8, T4S, R3E)**, 3/Feb/1976, electrofishing survey (CDFG, 2 p., 25: 40-80 mm FL); **Arroyo Mocho Ck., Cedar Brook Ranch (SW0.25 of S.14, T4S, R3E)**, 3/Feb/1976, electrofishing survey (CDFG, 2 p., noted as "numerous": no size); **Arroyo Mocho Ck., on Mines Rd. approximately 0.5 mi. upstream from crossing of Del Valle Rd. (NW0.25 of S6, T4S, R3E)**, 3/Feb/1976, electrofishing survey (CDFG, 2 p., numerous, 8 at 37-130 mm FL); **Arroyo de la Laguna Ck., 150 yds. upstream from confluence with Alameda Ck.**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., 2: 48-53 mm FL); **Arroyo de la Laguna Ck., large pool at confluence with Alameda Ck., to 50 yds. downstream on Alameda Ck.**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., numerous: 42-65 mm FL); **Isabel Ck., Kincaid Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Smith Ck., Mt. Hamilton Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Arroyo Hondo, Arroyo Hondo Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Alameda Ck., 1) mile post 5, Ohlone Camp Rd., 2) 0.5 km upstream from junction with Calaveras Ck., 3) Sunol Park headquarters**, 1972-1977 (Scoppettone and Smith 1979: 63-64); **Arroyo de la Laguna, near mouth**, 1972-1977 (Scoppettone and Smith 1978: 64); **Arroyo Mocho, 1) Lawrence Laboratory pumping station, 2) 1 km above Del Valle Rd.**, 1972-1977 (Scoppettone and Smith 1979: 64); **Arroyo Mocho Ck., approximately 2.7 km upstream from junction of Mendenhall and Mines rds.**, 26/Jul/1981, R.A. and G.R. Leidy, 250: 33-130 mm FL; **Arroyo Mocho Ck., approximately 0.4 km upstream from BM 2657, T5S, R4E, S27**, 26/Jul/1981, R.A. and G.R. Leidy, 500: 35-126 mm FL; **Arroyo Mocho Ck., approximately 0.7 km downstream from BM 2470, T5S, R4E, S16**, 26/Jul/1981, R.A. and G.R. Leidy, 75: 22-56 mm FL; **Arroyo Mocho Ck., at immediately downstream from Wente Rd. crossing**, 27/Jul/1981, R. Leidy and P. Fiedler, 5: 32-69 mm FL; **South San Ramon Ck., at Alcosta Blvd. crossing**, 30/Jul/1981, R. Leidy and P. Fiedler, 4: 40-55 mm FL; **Tassajara Ck., at Tassajara Regional Park footbridge**, 30/Jul/1981, R. Leidy and P. Fiedler, 200: 29-98 mm FL; **South San Ramon Ck., pool immediately upstream from Fwy. 580 crossing**, 31/Jul/1981, R.A. and G.R. Leidy, 25: 97-130 mm FL; **Arroyo Valle Ck., at Hwy. 84 crossing**, 1/Aug/1981, R.A. and G.R. Leidy, 18: 38-147 mm FL; **Arroyo Mocho Ck., 100 m upstream from Hwy. 84 crossing**, 1/Aug/1981, R.A. and G.R. Leidy, 99: 35-130 mm FL; **Arroyo Mocho Ck., immediately downstream from Wente Rd. crossing**, 1/Aug/1981, R.A. and G.R. Leidy, 53: 38-111 mm FL; **Alameda Ck., opposite Sunol Regional Wilderness headquarters**, 6/Aug/1981, R. Leidy and P. Fiedler, 500: 25-98 mm FL; **Arroyo Mocho Ck. at junction of Tesla and Mines rds.**, 13/Aug/1981, R. Leidy and P. Fiedler, 150: 23-110 mm FL; **Smith Ck., at junction with Mt. Hamilton Rd.**, 13/Aug/1981, R. Leidy and P. Fiedler, 52: 27-80 mm FL; **Isabel Ck., at junction with Kincaid Rd.**, 13/Aug/1981, R. Leidy and P. Fiedler, 100: 18-60 mm FL; **Arroyo Bayo Ck., 1.2 km E. of BM 1924 on San Antonio Rd.**, 13/Aug/1981, R. Leidy and P. Fiedler, 95: 40-89 mm FL; **Beauregard Ck., 0.2 km downstream from junction with Sulphur Springs Ck.**, 13/Aug/1981, R. Leidy and P. Fiedler, 2: 40-89 mm FL; **Alameda Ck., at 1<sup>st</sup> railroad crossing upstream from Niles, T4S, R1W, S15**, 1/Oct/1981, R. Leidy and P. Fiedler, 8: 28-124 mm FL; **Alameda Ck., opposite Kaiser aggregate quarry, T4S, R1W, S12**, 1/Oct/1981, R. Leidy and P. Fiedler, 6: 37-65 mm FL; **Alameda Ck., immediately below spillway at gaging station near Sunol, T4S, R1E, S7**, 1/Oct/1981, R. Leidy and P. Fiedler, 25: 40-110 mm FL;
- COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck.**, 30/Jun/1898, J.O. Snyder (SU 37845, 3); "Very common in streams of the Coast ranges from **San Francisco** to Salinas River, being in the brooks of the **Santa Clara Valley** the most abundant fish", as *Rutilus symmetricus* (Jordan and Evermann 1900); **Coyote Ck., near mouth and San Jose**, as *Rutilus symmetricus* (Snyder 1905, 332, 338); **Coyote Ck.**, 25 Jul/1909, J. O. Snyder and party (USNM 74476, 1, holotype); **Coyote Ck., near Gilroy Hot Springs**, [Jul]/1909 (USNM 75335, 75, paratype); **Coyote Ck. at Gilroy**, type, as *Hesperoleucus symmetricus* (Snyder 1913, 64); **Coyote Ck., San Jose (inside city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 63412, 102: 30-75 mm SL); **Coyote Creek, San Jose**, 1/Oct/1922, C. L. Hubbs (ANSP 85458, 3); **Coyote Ck., between Milpitas and Alviso**, 24/Oct/1922, C. L. Hubbs (UMMZ 63415, 106: 22-56 mm SL, also cited in Murphy 1948: 37); **[Coyote Ck.?], "Santa Clara County"**, 15/Oct/1922, C. L. Hubbs (ANSP 92337, 4); **Coyote Ck., 5 miles from Gilroy** [about 5 miles southwest of Gilroy Hot

Springs, see CAS 137009, *C. occidentalis*], listed as *Hesperoleucus vensutus*, 25/Apr/1925 (CAS 123773, 28); **Coyote Ck., about 5 mi. S. of Gilroy Hot Springs**, 25/Apr/1925 (SU 31853, 40); **Coyote Ck.**, listed as *H. s. venustus*, 25/May/1927, A. C. Taft (CAS 20803, 106); **Lower Coyote Ck. near mouth at Alviso**, many fish collected during 1926-1927, D. H. Fry (Fry 1936: 91-96); **Upper Coyote Ck., in canyon east of the town of Madrone**, many fish collected during 1926-1927, D. H. Fry (Fry 1936: 67); **Coyote Ck.**, 2/Aug/1927 (LACM 88, 9); **Coyote Ck., near Pluiso**, likely collected Aug/1927, (LACM 87, 1); **Coyote Ck., above Coyote Reservoir**, 30/May/1938, W.A. Dill (CAS, Acc. 1952-X: 30, 1); **Canada de los Osos, tributary to Coyote Ck.**, T10S, R5E, S19, 9/Nov/1938, L. Shapovalov (CAS 20889, 30); **Canada de los Osos, tributary to Coyote Ck.**, T10S, R5E, S29, 9/Nov/1938, L. Shapovalov (CAS 20890, 15); **Canada de los Osos, 20 yds. above rd. bridge near mouth, T10S, R4E, S12**, 17/Jul/1940, L. Shapovalov, visual survey (CDFG, 2 p., notes "Minnows (mostly *Hesperoleucus*) abundant."); **Coyote Ck., below bridge at Calif. Hwy. 17**, lat. 37°, 25', 20" N., long. 121°, 55', 30" W., 31/Oct/1941, W.I. Follett (CAS 40252, 1); **Coyote Ck.**, lat. 37°, 22', 33" N., long. 121°, 53', 45" W., 31/Oct/1941, W.I. Follett (CAS 40253, 1); **Coyote Ck., opposite Milpitas**, 31/Oct/1941, W. I. Follett (CAS 18604, 23); **Coyote Ck., opposite Milpitas, Calif. Hwy 9 bridge**, 2/Aug/1944, W. I. Follett (CAS 18602, 6); **Coyote River, 300 yds. below Coyote Dam at Coyote Lake**, [Sta.] No. 14, 23/Aug/1945, D. A. and H. Simpson (CAS 13266, 239: small young, subadults, and adults, 18-83 mm SL); **Coyote River, about 6 miles south of San Jose, near stone quarry**, [Sta.] No. 16, 24/Aug/1945, D. A. and H. Simpson (CAS 13271, 39: small young and half-grown, 20-52 mm SL); **Coyote River, Hwy. 101, 1.5 miles north of Coyote at concrete dam**, [Sta.] No. 17, 24/Aug/1945, D.A. and H. Simpson (CAS 13280, 58: all ages); **Coyote River, on Hwy. 101 at old service station at North Coyote**, [Sta.] No. 18, 24/Aug/1945, D. A. and H. Simpson (CAS 13282, 29: small young and subadults); **Coyote River, at North Coyote just south of junction of unnamed creek flowing from east side of Hwy. 101**, [Sta.] No. 19, 25/Aug/1945, D. A. and H. Simpson (CAS 13285, 127: young and subadults, 25-75 mm SL); **Coyote River**, 25/Aug/1945, D. A. Simpson (CAS 18726, 8: 46-73 mm SL); **Coyote Ck.** (Murphy 1948: 8); **Coyote Ck.**, mid-to-late 1940s, memorandum on fish collection (CDFG, 2 p., SJSU, CD-1); **Upper Penitencia Ck., below Cherry Flat Reservoir,**

**drainage E. of San Jose**, A. Calhoun (CAS, Acc. 1951-III: 20, 3); **Coyote Ck.**, 23/Apr/1953, memorandum on fish collection (CDFG, 2 p., SJSU, CD-20); **Coyote Ck., Gilroy Hot Springs Rd. crossing in T.10S., R5E., Sec. 6**, 23/Jul/1953, seine survey (CDFG, 1 p., notes "Two isolated pools. These contained *Hesperoleucus*. Several collected and preserved", also as CAS 20967, 5); **Coyote Ck., 1.8 mi. by rd. upstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R5E., Sec. 7**, 23/Jul/1953, seine survey (CDFG, 1 p., notes "*Hesperoleucus* present. Several collected", also as CAS 20975, 8); **Coyote Ck., 1.5 mi. by rd. upstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R5E., Secs. 6 and 7**, 23/Jul/1953, seine survey (CDFG, 1 p., notes "*Hesperoleucus* collected", also as CAS 20969, 9 and 20974, 5); **Coyote Ck., 1.2 mi. by rd. upstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R5E., Sec. 7**, 23/Jul/1953, seine survey (CDFG, 1 p., notes "Several *Hesperoleucus* were collected", also as CAS 20973, 5); **Coyote Ck., 0.4 mi. by rd. downstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R4E., Sec. 12**, 23/Jul/1953, seine survey (CDFG, 1 p., notes "several *Hesperoleucus*... collected."); **Coyote Ck., 1.4 mi. by rd. downstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R4E., Sec. 11**, 23/Jul/1953, seine survey (CDFG, 1 p., notes "several *Hesperoleucus*...collected", also as CAS 20973, 3); **Coyote Ck.**, various locations (see preceding records), 23/Jul/1953, T. J. Merkel (CAS 20967, 5; 20969, 9; 20971, 5; 20972, 3; 20973, 5; 20974, 5; 20975, 8); **Coyote Ck., U.S. Hwy. 101 crossing in T.7S., R2E., Sec. 31**, 24/Jul/1953, seine survey (CDFG, 1 p., notes "collected", also as CAS 20980, 1); **Coyote Ck.**, 24/Jul/1953, T. J. Merkel (CAS 20980, 1, see also preceding record); **Penitencia Ck., from junction of Noble Ave. and Penitencia Ck. Rd. upstream for 0.25 mi.**, 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present); **Penitencia Ck., just outside of western boundary of Alum Rock Park**, T5S, R1E, S24, 24/Jul/1953, refer to preceding record, T. J. Merkel (CAS 20987, 10); **Coyote Ck.**, 29/Oct/1954, memorandum on fish collection (CDFG, 2 p., SJSU, CD-6); **Coyote Ck.**, 3/Jun/1955, memorandum on fish collection (CDFG, 2 p., SJSU, CD-8); **Coyote Ck.**, 6/Jun/1955, memorandum on fish collection (CDFG, 2 p., SJSU, CD-9); **Silver Ck., 80 S. Montgomery St., San Jose**, 5/Apr/1956 (CAS 21206, 3); **Coyote Ck.**, 29/Apr/1956, memorandum on fish collection (CDFG, 2 p., SJSU, CD-15); **Coyote Ck.**, (34

deg. 14.0'N-119 deg.16.0'W), 29/Apr/1956, D. Schonert and R. Tharratt (SIO 60-491,43: 39-73 mm); **Hicks Ck., at mouth of Hicks Ck**, 18/Jul/1956, visual survey (CDFG, 2 p., notes that "Observed some type of minnow (probably *Hesperoleucus*) at mouth of Hicks Creek."); **Coyote Ck., above bridge 0.8 mi. below Gilroy Hot Springs on Gilroy Hot Springs Rd.**, 12/May/1964, W.I. Follett (Follett 1973, 4: 13 specimens); **Coyote Ck., 4.8 mi. below Gilroy Hot Springs on Gilroy Hot Springs Rd. (Plasseau Ranch)**, 12/May/1964, W.I. Follett (Follett 1973, 4: 12 specimens); **Coyote Ck., from Coyote Reservoir upstream 8.2 mi. to center of Sec. 24 of T9S, R4E**, 18/Mar/1965, visual survey, (CDFG, 3 p., 20fish/100 ft. of stream: 3.0-4.0 in. TL); **Coyote Ck., btw. Coyote Reservoir and Gilroy Hot Springs**, 5/Sept/1965, R.N. and M. Lea (CAS, Acc. 1967-I: 9, 127); **Coyote Ck.**, 7/Mar/1972, field notes (R. L. Hassur, SJSU); **Coyote Ck., 1.3 mi. below Gilroy Hot Springs**, 27/Oct/1972, W.I. Follett (Follett 1973, 4: 4 specimens); **Coyote Ck., upper and lower half, Coe State Park** (Guzzetta 1974: 28); **Middle Fork Coyote Ck., middle and lower third, Coe State Park** (Guzzetta 1974: 28); **East Fork Coyote Ck., Coe State Park** (Guzzetta 1974: 28); **Kelly Cabin Ck., Coe State Park** (Guzzetta 1974: 28); **Upper Penitencia Ck., approximately 0.75 to 1.0 mi. downstream from spillway at Cherry Flat Reservoir**, 12, 13, 17/Jun/1975, visual survey (CDFG, 12 p., moderately large population, 150 fish/100 ft. of stream: up to 5 in. TL); **Upper Penitencia Ck., at confluence with Arroyo Aguague Ck. downstream to Santa Clara valley floor**, 12, 13, 17/Jun/1975, visual survey (CDFG, 12 p., observed, notes that Larval roach were found in great abundance in the warmer waters of this [valley floor] stream segment..."); **Upper Silver Ck., from just below the fork of the two headwater tributaries downstream to the middle reach adjacent to Silver Ck. Rd.**, 21, 23/Jul/1975, visual survey, (CDFG, 5 p., abundant: no size); **Arroyo Aguague Ck., from headwaters downstream to confluence with Upper Penitencia Ck. (6 mi.)**, 16-17/Sep/1975, visual and electrofishing survey (CDFG, 6 p., notes that "California roach were found only downstream from the natural falls", near the mouth, common: 1.5-3.0 in. FL); **Coyote Ck., 100 yds. downstream from Berryessa Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 62: 1.0-5.0 in. FL); **Coyote Ck., San Jose Municipal Golf Course, Oakland Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 60: 1.0-3.0 in. FL); **Coyote Ck, 1) near**

**mouth of Penitencia Ck., 2) Riverside Golf Course Rd., 3) above percolation ponds, 2 km below Anderson Reservoir, 4) below Anderson Reservoir, 5) 2 km downstream from Gilroy Hot Springs, 6) Gilroy Hot Springs, 7) Middle Fork Coyote Ck., Coe State Park**, 1972-1977 (Scoppettone and Smith 1978: 63); **Silver Ck., upper Silver Ck. Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Penitencia Ck., 1) Alum Rock Park, 2) 1-3 km downstream from Alum Rock Park**, 1972-1977 (Scoppettone and Smith 1978: 63); **Coyote Ck., downstream from confluence of Upper Penitencia Ck.**, 19/May/1977, visual survey (CDFG, numerous); **Coyote Ck., near William St. Park**, Nov/1977, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Story Rd.**, Nov/1977 and Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Cochran Rd.**, Jun and Oct/1977, Jun/1978 and Sep/1979 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., below Anderson Dam outlet**, Oct/1977, Jun/1978 and Sept/1979 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Hellyer Ave.**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., Gilroy Hot Springs, 14.4 km upstream from Coyote Reservoir Dam**, 6/1977 and Jul/1980 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Hwy. 237 crossing**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Oakland Rd. crossing**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Trimble Rd. crossing**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Riverside Rd. at golf course and Coyote Canal diversion**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sycamore Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Silver Ck., at mouth**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at Viceroy Way**, Jun/1978, Sept/1979 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at mouth**, Jun/1978, Sept/1979, Apr/1980 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Silver Ck., at Silver Ck. Rd.**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck., below falls**, Sept/1979, electrofishing



and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at Mineral Springs**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at Alum Rock**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at stream gage**, Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Coyote Ck., Gilroy Hot Springs, 8.3 km upstream from Coyote Reservoir Dam**, Jul/1980 (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck., at B.M. 332, approx. 0.6 km upstream from intersection of Dutard and Penitencia Ck. rds.**, 11/Aug/1981, R. Leidy and P. Fiedler, 7: 32-60 mm FL; **Upper Penitencia Ck., immediately upstream from confluence of Dutard Ck.**, 11/Aug/1981, R. Leidy and P. Fiedler, 5: 30-42 mm FL; **Upper Penitencia Ck., at water percolation ponds outlet near Linda Vista Rd.**, 11/Aug/1981, R. Leidy and P. Fiedler, 21: 31-90 mm FL; **Upper Penitencia Ck., approx. 0.6 km upstream from Capitol Ave. crossing**, 11/Aug/1981, R. Leidy and P. Fiedler, 200+: 50 at 39-62 mm FL; **Upper Penitencia Ck., at uppermost crossing of Mabury Rd.**, 11/Aug/1981, R. Leidy and P. Fiedler, 26: 20-67 mm FL; **Arroyo de los Coches, at frontage road near Calaveras Blvd. offramp from Hwy 680**, 12/Aug/1981, R. Leidy and P. Fiedler, 10: 18-30 mm FL; **Coyote Ck., at San Jose Bible School, near Hwy 280 bridge**, 31/Aug/1981, R. Leidy and P. Fiedler, 24: 17-20 mm, 1: 67 mm FL; **Coyote Ck., at Balfour Rd. off Senter Rd.**, 31/Aug/1981, R. Leidy and P. Fiedler, 150+: 50 at 19-44 mm, 10: 38-70 mm FL; **Silver Ck., Silver Ck., Rd. 1 km upstream from Capitol Expressway (approx. 0.5 mi. upstream from underground reach)**, 1/Sept/1981, R. Leidy and P. Fiedler, 4: 32-42 mm FL; **Silver Ck., on Silver Ck., Rd., 0.25 mi. upstream from beginning of Evergreen Canal**, 1/Sept/1981, R. Leidy and P. Fiedler, 100+: 50 at 24-91 mm FL; **Babb Ck., 20 m downstream from Lyndale Ave. crossing**, 1/Sept/1981, R. Leidy and P. Fiedler, 10: 32-42 mm FL; **Coyote Ck., 25 m upstream from Metcalf Rd. crossing**, 3/Sept/1981, R. Leidy and P. Fiedler, 4: 22-37 mm FL; **Coyote Ck., 6.12 mi. E. on Gilroy Hot Springs Rd. from intersection with Canada Rd.**, 5/Sept/1981, R. Leidy and P. Fiedler, 200+: 50 at 32-101 mm FL; **Coyote Ck., approx. 6.25 mi. E. on Gilroy Hot Springs Rd. from intersection with Canada Rd.**, 5/Sept/1981, R. Leidy and P. Fiedler, 300+: 50 at 27-90 mm FL; **Canada de los Osos Ck., approx. 1.25 mi. upstream from intersection of Canada and Gilroy Hot Springs**

**rds.**, 5/Sept/1981, R. Leidy and P. Fiedler, 26: 40-72 mm FL; **San Felipe Ck., at San Felipe Valley Rd. bridge**, 5/Sept/1981, R. Leidy and P. Fiedler, 150+: 50 at 32-110 mm FL;

**GUADALUPE RIVER WATERSHED (Santa Clara):** **Guadalupe Ck., as *Rutilus symmetricus*** (Snyder 1905, 332); **Guadalupe Ck., San Jose (in city)**, 30/Sep/1922, C. L. Hubbs (UMMZ 63408, 115: 27-95 mm SL, 2 hybrids with *Lavinia exilicauda* found and removed by Miller to UMMZ 131135, also cited in Murphy 1948: 37); **Guadalupe Ck.**, many collected during 1926-1927, D. H. Fry (Fry 1936: 67, 92-96); **Calero Ck., tributary of Guadalupe Ck.**, 18/Sept/1937, A. Taft and I. Shapovalov (SU 37847, 49); **Los Gatos Ck.**, 27/Nov/1938, Calhoun (KU 2133); **(Guadalupe Ck. (Murphy 1948: 8); Lexington Reservoir**, 12/Jul/1953, CDFG (CAS 23345, 2); **Arroyo Calero, McKean Rd. crossing in T.8S., R. 2.E., Sec. 31**, 24/Jul/1953, field notes, seine survey (CDFG, 1 p., notes "...fairly common", also as CAS 20977, 9); **Guadalupe Ck., 1.4 to 1.5 mi. by rd. upstream from junction of Hicks and Shannon rds., in T.8S., R.1E., Sec. 30**, 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present, also as CAS 20985, 2); **Guadalupe Ck., 0.2-0.5 mi. by rd. downstream from junction of Hicks and Shannon rds., in T.8S., R.1E., Sec. 19**, 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present, also as CAS 20984, 5); **Guadalupe Ck., Coleman Rd. crossing, in T.8S., R.1E., Sec. 30**, 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present, also as CAS 20982, 1); **Guadalupe Ck.**, various locations, refer to preceding records, 24/Jul/1953, T.J. Merkel (CAS 20982, 1; 20984, 5; 20985, 2); **Guadalupe River, Brokaw Rd. crossing**, 26/Sep/1975, electrofishing survey (CDFG, 3 p., notes "several hundred roach...carcasses were found."); **Guadalupe River, West Taylor St. crossing**, 26/Sep/1975, electrofishing survey (CDFG, 3 p., 10: 1.5-2.5 in. FL); **Guadalupe River, Auzeriis St. crossing**, 26/Sep/1975, electrofishing survey (CDFG, 3 p., 30 to 40: 1.0-3.0 in. FL); **Guadalupe River, Alma St. bridge crossing**, 26/Sep/1975, electrofishing survey (CDFG, 3 p., numerous: 1.0-3.0 in. FL); **Guadalupe River, Willow Glenn Way**, 26/Sep/1975, electrofishing survey (CDFG, 3 p., numerous: 1.0-3.0 in. FL); **Guadalupe Ck., two stations along Hicks Rd., 1) approximately 2 mi. downstream from Guadalupe Dam, 2) approximately 3 mi. downstream from Guadalupe Dam, Secs. 19 & 30, T8S, R1E**, 14/Nov/1975, electrofishing survey (USFWS, 1 p., numerous: no size); **Los**

**Trancos Ck., under Fwy. 280**, 11-12/Jun/1978, (CDFG, 3: 2.5-2.8 in. FL); **Guadalupe R., at Camden Ave.**, 26/Aug/1981, R. Leidy and P. Fiedler, 100+: 17-87 mm FL; **Guadalupe R., at lowermost junction with Almaden Expressway, at confluence with Canoas Ck.**, 26/Aug/1981, R. Leidy and P. Fiedler, 15: 20-37 mm FL; **Guadalupe R., 1.2 km N.E. (downstream) from Redmond/Coleman Ave. bridge**, 26/Aug/1981, R. Leidy and P. Fiedler, est. 2000+: 50 at 30-72 mm FL; **Guadalupe R., immediately upstream from W. Virginia Ave. bridge**, 26/Aug/1981, R. Leidy and P. Fiedler, 95: 17-102 mm FL; **Guadalupe R., at USGS gauging sta. at Hicks Rd.**, 26/Aug/1981, R. Leidy and P. Fiedler, 100+: 17-82 mm TL; **Guadalupe R., 50 m downstream from Guadalupe Dam**, 26/Aug/1981, R. Leidy and P. Fiedler, 52: 21-121 mm FL; **Rincon Ck., 50 m upstream from confluence with Guadalupe R.**, 26/Aug/1981, R. Leidy and P. Fiedler, 11: 18-68 mm FL; **Guadalupe R., 0.3 km S. of Bayshore Fwy. on Guadalupe Parkway near San Jose Airport**, 30/Aug/1981, R.A. and G.R. Leidy, 2: 80-94 mm FL; **Guadalupe R., at Seymour St.**, 30/Aug/1981, R.A. and G.R. Leidy, 10: 13-58 mm FL; **Alamitos Ck., Alamitos rd. crossing upstream from Vichy Springs in town of New Almaden**, 3/Sept/1981, R. Leidy and P. Fiedler, 20: 23-77 mm FL; **Alamitos Ck., at junction of Graystone Ln. off Camden Ave.**, 3/Sept/1981, R. Leidy and P. Fiedler, 300+: 50 at 26-121 mm FL; **Arroyo Calero Ck., at junction of Camden Ave. and Grimeswood Ct.**, 3/Sept/1981, R. Leidy and P. Fiedler, 31: 27-73 mm FL; **Herbert Ck., at Alamitos and Hicks rds.**, 3/Sept/1981, R. Leidy and P. Fiedler, 5: 23-86 mm FL;

**SARATOGA CREEK WATERSHED (Santa Clara): Campbell [Saratoga] Ck.**, as *Rutilus symmetricus* (Snyder 1905, 332); **Campbell Ck.** (Murphy 1948: 8); **Campbell (Saratoga) Ck., at town of Saratoga**, 1/Jul/1953, field notes (CDFG, 5 p., as "roaches" present); **San Tomas Aquinas Ck., at junction of Old Adobe Rd.**, 25/Aug/1981, R. Leidy and P. Fiedler, 250: 22-101 mm FL; **Vasona Ck., at Alendale Ave.**, 25/Aug/1981, R. Leidy and P. Fiedler, 260: 21-107 mm FL; **Herbert Ck., at Alamitos and Hicks rds. (0.25 mi. upstream from confluence with Capitancillos Ck.)**, 3/Sept/1981, R. Leidy and P. Fiedler, 5: 23-86 mm FL;

**STEVENS CREEK WATERSHED (Santa Clara): Stevens Ck.** (Murphy 1948: 8); **Stevens Ck., Stevens Ck. Rd. bridge nearest Stevens Ck. Canyon Rd.**, 8/May/1978 (CDFG, 1: 2.5 in. FL); **Stevens Ck., from Stevens Ck. Rd. bridge downstream 25 m**, 19/Aug/1981, R. Leidy and

P. Fiedler, 2: 58-71 mm FL; **Stevens Ck., at Stevens Ck. County Park, 100 m upstream from gaging station**, 19/Aug/1981, R. Leidy and P. Fiedler, 56: 40-87 mm FL; **Stevens Ck., 20 m downstream from 1<sup>st</sup> bridge above Eden Rd.**, 20/Aug/1981, R. Leidy and P. Fiedler, 15: 37-76 mm FL; **Stevens Ck., at bridge 5.9 mi. upstream from Stevens Ck. Reservoir**, 20/Aug/1981, R. Leidy and P. Fiedler, 6: 51-62 mm FL;

**ADOBE CREEK WATERSHED (Santa Clara): San Antonio [Adobe] Ck.**, as *Rutilus symmetricus* (Snyder 1905, 332); **San Antonio Ck.** (Murphy 1948: 8);

**MATADERO CREEK WATERSHED (Santa Clara): Madera [Matadero] Ck.**, as *Rutilus symmetricus* (Snyder 1905, 332); **Madera Ck.** (Murphy 1948: 8);

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/ San Mateo): San Francisquito Ck.**, as *Rutilus symmetricus* (Snyder 1905); **San Francisquito Ck., below Searsville Lake** (only isolated pools of water present), 30/Aug/1936, L. Shapovalov and W. A. Dill (CAS 72661, 4); **San Francisquito Ck.**, 19/May/1938, L. Shapovalov (CAS, Acc. 1952-X: 30, 4); **San Francisquito Ck., near [Stanford] campus**, Dec/1938, A. Calhoun and Gosline (SU 36980, 54); **San Francisquito Ck., Stanford University, Palo Alto**, 3/Jun/1939, C.D. Grant and K. Stanton (SU, 49); **San Francisquito Ck., bridge W. of golf course, Stanford University**, 11/Jun/1939, C.D. Grant and K. Stanton (SU 59821, 10); **"Stanford, Lake Lagunita"**, 10/Jul/1940, L. Shapovalov (CAS 20902, 8); **Lagunita Lake, Stanford, Santa Clara**, as *H. s. venustus*, 14/Aug/1942, L. Shapovalov (CAS 20915, 1); **Lagunita Lake, Stanford, Santa Clara**, 17/Aug/1942, L. Shapovalov (CAS 20919, 1); **San Francisquito Ck.** (Murphy 1948: 8); **San Francisquito Ck.**, 16/Nov/1953 (CDFG, 1 p., present); **San Francisquito Ck. drainage**, Mar/1956 (SJSU, SF-7); **San Francisquito Ck. diversion channel to Lake Lagunita, Stanford University**, 20/May/1966, hand nets (CDFG, 2 p., present); **West Union and Bear Gulch cks. Confluence to confluence with San Francisquito Ck.**, 24/May/1976, visual survey (CDFG, numerous); **Bear Ck., pools downstream from concrete dam below Sand Hill Rd.**, 24/Jun/1976, visual survey (CDFG, 4 p., numerous observed); **San Francisquito Ck., from confluence of Corte Madera and Bear cks., downstream to San Francisco Bay**, 1, 2 and 5/Jul/1976, visual survey (CDFG, 6 p., present); **San Francisquito Ck., immediately above and below Junipero Serra Blvd. crossing**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 8 (sample): 1.2-

2.5 in. FL); **San Francisquito Ck., immediately above and below Lake Lagunita Diversion Dam**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 10 (sample): 1.9-3.0 in. FL); **San Francisquito Ck., bedrock pools about 75 yds. downstream from Junipero Serra Fwy. 280**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 10 (sample): 1.9-3.1 in. FL); **San Francisquito Ck., 75 yd. reach approximately 1.5 mi. above Junipero Serra Fwy. 280 crossing**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., abundant: 2.0-2.5 in. FL); **Los Trancos Ck., 75 yd. reach upstream from Piers Ln. bridge (near confluence with San Francisquito Ck.)**, 14/Jul/1976, electrofishing survey (CDFG, 4 p., abundant, 10 at 1.1-2.3 in. FL); **Bear Ck., 400 yd. reach above Sand Hill Rd. crossing**, 15/Jul/1976, electrofishing survey (CDFG, 4 p., 10 (sample): 1.9-3.8 in. FL); **Los Trancos Ck., downstream from Felt Lake diversion**, 7/Aug/1976, visual survey (CDFG, abundant); **San Francisquito Ck., from Sand Hill Rd. crossing on Bear Gulch Ck. downstream to the end of Alma Rd. just downstream of El Camino Real**, 30/Jun/1981, visual survey (CDFG, 5 p., observed); **San Francisquito Ck., at Middlefield Rd. crossing**, 15/Aug/1981, R. Leidy and P. Fiedler, 500+: 50 at 26-63 mm, 1 at 85 mm FL; **San Francisquito Ck., at Oak Ck. apartments, downstream from Willow Rd. crossing**, 16/Aug/1981, R. Leidy and P. Fiedler, 250+: 50 at 21-56 mm FL; **San Francisquito Ck., 20 m downstream from Willow Rd. crossing**, 16/Aug/1981, R. Leidy and P. Fiedler, 100: 22-71 mm FL; **San Francisquito Ck., crossing at 1<sup>st</sup> rt. Turn off of Alpine Rd., off Hwy 280 (rd. to hospital and quarry)**, 16/Aug/1981, R. Leidy and P. Fiedler, 200+: 50 at 27-74 mm FL; **Los Trancos Ck., approx. 0.25 mi upstream from Hwy 280 bridge**, 16/Aug/1981, R. Leidy and P. Fiedler, 200+: 77 at 21-61 mm FL;

**SAN MATEO CREEK WATERSHED (San Mateo): San Mateo Ck.**, 9/1857 and 1860, A. Agassiz and T. G. Cary (UMMZ 87106, 10: 74-91 mm SL, also cited in Murphy 1948: 37); **San Mateo Ck.**, Sept/1857, T. G. Cary (MCZ 1973, 6); **San Mateo Ck.**, 1860, A. Agassiz (MCZ 1971, 21);

**ARROYO CORTE MADERA DEL PRESIDIO CREEK (Marin): Arroyo Corte Madera del Presidio**, 16/Jul/1963, visual survey (CDFG, 4 p.); **Cascade Ck., at Bolinas Rd. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 12: 21-98 mm FL;

**CORTE MADERA CREEK WATERSHED (Marin): San Anselmo Ck.**, 29/Aug/1927 (LACM 31705.001, 18: 22-74 mm); **San Anselmo Ck., San Anselmo** (Fry 1936: 67-68);

**San Anselmo Ck., downstream section**, 26/Jul/1959, fish kill (CDFG, several thousand dead); **Corte Madera Ck., at Lagunitas Rd. bridge, just W. of Ross City Hall** (37°, 57', 45" N., 122°, 33', 15" W.), 1/Nov/1963 (San Francisco State College, 200); **Corte Madera Ck., between San Anselmo and Ross, at bridge near firehouse in Ross**, 15/May/1965 (San Francisco State College 241 +-); **Corte Madera Ck., bridge at Ross**, 9/Oct/1967 (San Francisco State College, 182: 14-69 mm SL); **Corte Madera Ck., from bay to confluence of San Anselmo and Sleepy Hollow cks. (6 mi.)**, 24-25/Jul/1968, visual survey (CDFG, 2 p., 100 fish/100 ft. of stream, 1.0-5.0 in. TL); **Corte Madera Ck., at Ross, upstream from bridge**, 7/Oct/1968 (San Francisco State College, 140: 14-67 mm SL); **Corte Madera Ck., at Ross, downstream from bridge**, 7/Oct/1968 (San Francisco State College, 196: 14-79 mm SL); **San Anselmo Ck., Pastori Ave. bridge**, 14/Aug/1969 (CDFG, 9 p., 109); **Corte Madera Ck., downstream from Lagunitas Dr. bridge**, 11/Sept/1969 (CDFG, 9 p., 132); **Sleepy Hollow Ck., Butterfield Rd. bridge**, 11/Sept/1969 (CDFG, 9 p., 41); **Corte Madera Ck., bridge at Ross firehouse**, 17/Oct/1969 (San Francisco State College, 263: 17-81 mm SL); **Corte Madera Ck., Lagunitas Rd. bridge in Ross**, 27/Sept/1971 (San Francisco State College, 37: 17-65 mm SL); **Corte Madera Ck., at bridge near fire station, Ross**, 20/Sept/1972 (San Francisco State College, approximately 50); **Corte Madera Ck., bridge near Ross fire house off Sir Francis Drake Blvd.**, 24/Sept/1973 (San Francisco State College, 561); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (directly downstream from bridge)**, 16/Oct/1974 (San Francisco State College, 191: 18-55 mm SL); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (several hundred feet downstream from bridge)**, 16/Oct/1974 (San Francisco State College, 108: 18-48 mm SL); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (directly upstream from bridge)**, 16/Oct/1974 (San Francisco State College, 52: 18-55 mm SL); **Corte Madera Ck.**, 1976, environmental assessment (Madrone Associates, Table 9); **Corte Madera and San Anselmo cks., middle one-third from Ross to Happersberger Pt. (5.5 mi.)**, 9-10/Sept/1980, visual survey (CDFG, 12 p., noted as "most abundant species observed", densities to 300 fish/100 ft. of stream); **Corte Madera Ck., immediately downstream from Madrone Dr. bridge**, 18/Sept/1981, R. Leidy and

P. Fiedler, 200+: 50 at 21-146 mm FL; **Corte Madera Ck., Lagunitas Rd. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 50+: 22-106 mm FL;

**MILLER CREEK WATERSHED (Marin): Miller Ck., at Bridge 27-04 on Highway 101**, [Sta.] No. 1, 19/Jul/1945, D. A. and H. Simpson (CAS 12990, 50, juv., one-fourth grown); **Miller Ck., at Mt. Shasta Dr. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 1: 47 mm FL; **Miller Ck., 50 m upstream on Lucas Valley Rd. from junction with Sequeira Rd.**, 17/Sept/1981, R. Leidy and P. Fiedler, 35: 27-120 mm FL; **Miller Ck., at Gallinas Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 25: 20-100 mm FL;

**ARROYO DE SAN JOSE WATERSHED (Marin): Arroyo de San Jose, at Bridge 27-03 on Hwy. 101, 100 yds. S. of Ignacio R.R. Station**, [Sta.] No. 2, 19/Jul/1945, D. A. and H. Simpson (CAS 12993, 3, very young); **Arroyo de San Jose**, 17/Sept/1981, R. Leidy and P. Fiedler, 30+: 45-136 mm FL;

**NOVATO CREEK WATERSHED (Marin): Novato Ck., U.S. Hwy. 101 bridge**, 19/Jul/1945, D. Simpson (CAS 12999:1); **Warner Ck., at McClay Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 10: 33-72 mm FL;

**PETALUMA RIVER WATERSHED (Sonoma/Marin): San Antonio Ck., San Antonio Slough to Chileno Valley Rd.**, 9/Jul/1968, visual survey (CDFG, 3 p., as "small roach ranging from 0.25 to 1.0 inch in size and in numbers of 50 per 100 feet of stream.");

**SONOMA CREEK WATERSHED (Sonoma): "Sonoma Co., California"** [likely collected either from Sonoma Ck., or Napa River watershed, see below], 6/Jun/1897, J. O. Snyder and party (USNM 74466, 1, holotype); **Rodgers Ck., at intersection of Arnold Rd. and Hwy. 104 (Stage Gulch Rd.)**, 28/Oct/1958, visual survey (CDFG, 1 p., noted as "present"); **Rodgers Ck., lower 1.6 mi. above mouth**, 24/Jun/1966, visual survey (CDFG, 2 p., noted as "abundant."); **Rodgers Ck., from mi. 1.0 to mi. 2.5**, 13/Jul/1966, visual survey (CDFG, 29 p., as "abundant"); **Yulupa Ck., lower 0.75 mi.**, 14/Jul/1966, visual survey (CDFG, 29 p., as "observed"); **Calabazas Ck., lower portion of stream**, 7/Jun/1974, visual survey (CDFG, 1 p., noted as "present."); **Nathanson Ck., pools within the Sonoma City area**, 12/Sept/1974, visual survey (CDFG, 3 p., noted as "in large numbers": 1.0-3.0 in. TL); **Calabazas Ck., lower section**, 12/Sept/1975, visual survey (CDFG, 3 p., numbers estimated at 200 fish/100 ft. of stream); **Rodgers Ck., lower 2 mi. of stream**, 29/Jul/1975, visual survey (CDFG, 4 p., estimated at 200 fish/100 ft. of stream: 1.0-5.0 in. TL); **Stuart Ck., lower**

**1.8 mi. of stream**, 17/Oct/1975, visual survey (CDFG, 4 p., estimated at 30 fish/100 ft. of stream: 0.5-1.0 in. TL); **Yulupa Ck., mouth to headwaters (2.7 mi.)**, 23/Jul/1976, visual survey (CDFG, 3 p., as "most successful fish in stream": approximately 40 fish/100 ft. of stream); **Sonoma Ck., from Madrone Rd. bridge to confluence with Hooker Ck.**, 7/Apr/1977, visual survey (CDFG, 2 p., as "many roach", 2.0-3.0 in. TL); **Sonoma Ck., 0.5 mi. along Warm Springs Rd. from junction with Hwy. 12 (Kenwood)**, 14/Sept/1981, R. Leidy and P. Fiedler, 150+: 50 at 27-86 mm FL; **Sonoma Ck., on Adobe Canyon Rd. immediately downstream from entrance of Sugarloaf Ridge State Park (below falls)**, 14/Sept/1981, R. Leidy and P. Fiedler, 17: 40-85 mm FL; **Yulupa Ck., 0.25 mi. upstream on Bennett Valley Rd. from junction with Warm Springs Rd.**, 14/Sept/1981, R. Leidy and P. Fiedler, 27: 15-61 mm FL; **Felder Ck., approximately 2 mi. downstream from W. end of Felder Rd.**, 14/Sept/1981, R. Leidy and P. Fiedler, 150+: 50 at 25-110 mm FL; **Sonoma Ck., at West Watmaugh Rd. bridge**, 15/Sept/1981, R. Leidy and P. Fiedler, 250+: 50 at 21-102 mm FL;

**NAPA RIVER WATERSHED (Napa): Conn Ck., Napa**, 26/May/1897, C. H. Gilbert and party (CAS 115970, 19, also cited in Murphy 1948: 37); **Napa Ck.[River], Calistoga, Calif.**, [likely collected by J. O. Snyder and party, incl. C. H. Gilbert], 30/May/1897 (CAS 124642, 17, also cited in Murphy 1948: 37); **Napa Ck.[River], Calistoga**, 31/May/1897, C. H. Gilbert and Party (CAS 124282, 22, listed also as Napa River, Rutherford (Snyder 1908b: 160); **Napa River at Rutherford and Calistoga**, as *Rutilus symmetricus* (Snyder 1908a: 160); **Conn Ck.**, as *Rutilus symmetricus* (Snyder 1908a: 160); **Napa River, 2 mi below Calistoga, tributary to San Pablo Bay**, 1/Aug/1943, G. Murphy (UMMZ 141912, 24: 12-31 mm SL); **Chiles Ck., in canyon above mouth of Moore Ck.**, 27/Jul/1945, B. Curtis (CAS 20937, 21: juveniles, see also Curtis 1945a, 4); **Conn Ck., 0.25 mi. above dam under construction by City of Napa**, 30/Jul/1945 (Curtis 1945 a, 4, 58 specimens: juveniles); **Moore Ck., at Greenfield Ranch, 1.5 mi. above junction with Chiles Ck.**, 30/Jul/1945 (Curtis 1945a, 4, 4 specimens: juveniles); **Conn Ck., from B.B. Ranch, downstream 3 mi.**, 31/Jul/1945, (Curtis 1945a, 4, 20 specimens: juveniles and young adults); **Chiles Ck., about one mile above junction with Sage Ck., just above stone winery**, 9/Aug/1945 (Curtis 1945b, 5, 116 specimens: adults and juveniles); **Sage Ck., pool at "Jack London"**, 9/Aug/1945



(Curtis 1945b, 6, 78 specimens: 3 young adults and 75 juveniles); **Sage Ck., just above "Jack London"**, 10/Aug/1945 (Curtis 1945b, 6, 20 specimens: 18 adults and young adults, and 2 juveniles); **Conn Ck., pool one mile above junction with Sage Ck. Near old ranch house**, 10/Aug/1945 (Curtis 1945b, 5, 52 specimens: adults and juveniles); **Moore Ck., pools one-fifth mi. above mouth and on Greenfield Ranch**, 10/Aug/1945, B. Curtis (CAS 20942-20943, 13: 54-82 mm SL, see also Curtis 1945b, 5: adults and young adults); **Chiles Ck., in canyon above mouth of Moore Ck.**, 27/Aug/1945, B. Curtis (20937, 21: 14-47 mm SL); **Sage Ck., 0.12 mi. above the mouth**, 15/Jun/1948, G. Murphy, visual survey (CDFG, Stream Survey Files, Yountville, 2 p., noted as "...large schools of spawning *Hesperoleucus* seen"); **Sage Ck., 1.12 mi. above the mouth**, 15/Jun/1948, G. Murphy, visual survey (CDFG, Stream Survey Files, Yountville, 2 p., noted as "...fair number of *Hesperoleucus* seen"); **Chiles Ck., 1 mi. above mouth of Moore Ck.**, 15/Jun/1948, G. Murphy, visual survey (CDFG, Stream Survey Files, Yountville, 2 p., noted as "...many *Hesperoleucus* seen"); **Chiles Ck., at gaging station just below mouth of Moore Ck.**, 15/Jun/1948, G. Murphy, visual survey (CDFG, Stream Survey Files, Yountville, 2 p., noted as "Large numbers of spawning *Hesperoleucus*... seen"); **Conn Ck., at mouth**, 15/Jun/1948, B. Curtis, visual survey (CDFG, 2 p., noted as "Numerous spawning *Hesperoleucus* seen."); **Chiles Ck., about 2 mi. above mouth, in the large pool just below Whiskey Crossing**, 11/Jul/1949, G. Murphy, visual survey (CDFG, 1 p., noted as "*Hesperoleucus* abundant."); **Conn Valley Reservoir and its tributaries** (Murphy 1949, 4); **Sage Ck.**, 15/Jul/1950, H. E. Pintler (CAS 23086, 9: 24-66 mm SL); **Tulucay Ck., near mouth**, Napa (CAS 23832: 1); **Creek near Yountville, in old soldiers [veterans] home, tributary to Napa River**, 31/Aug/1955, E.W. Kirschbaum, T. Doud, and D. Rentz (CAS, Acc. 1958-VIII: 9, 16); **Chiles Ck., middle flowing section, 0.5 mi. upstream from mouth upstream to confluence of west and east branches**, 7/Aug/1956, visual survey (CDFG, Stream Survey Files, 3 p., noted as "roaches...were common"); **Sulphur Ck., mouth to headwaters (4.2 mi.)**, 28/Oct/1958, visual survey (CDFG, 3 p. + notes, noted as "...in the west tributary...a few roach averaging 3.0 in."); **Huichica Ck., headwater tributary below Lovall and Carneros valleys to a point 2.7 mi. downstream**, 8/Jul/1960 (CDFG, present); **Napa River, from Bale Lane downstream to Zinfandel Lane (6.0 mi.)**, 9-10/Jun/1961,

visual survey (CDFG, 3 p., noted as "...quite successful..."); **Napa River, 1 mi. north of Calistoga downstream to Bale Lane (5.5 mi.)**, 22-23/Jun/1961, visual survey (CDFG, 3 p., noted as "...extremely successful."); **Huichica Ck.**, 15/Mar/1963, visual survey (CDFG, 2 p., as "present"); **Kimball Canyon Ck., base of St. Helena [Kimball Canyon] Reservoir dam**, 1/Jul/1965, visual survey (CDFG, 1 p., 10-20 observed); **York Ck., T8N, R6W, S25**, 19/May/1966 (CDFG, present); **Carneros Ck.**, 26/May/1966 (CDFG, present); **Huichica Ck., lower 5.25 mi.**, 27/May/1966 (CDFG, present); **Hinman Ck., Hinman Reservoir to mouth (2.5 mi.)**, 23, 25/June/1966, visual survey (CDFG, 5 p., approximately 500 fish/100 yds. of stream, average 3.0 in. TL); **Redwood Ck., below junction of Dry Ck. and Redwood rds.**, 8-10/Jun/1966, visual survey (CDFG, 4 p. 1000 fish/100 ft. of stream: 1.0-6.0 in. TL); **Browns Valley Ck., mouth to headwaters (4.5 mi.)**, 29/Jun/1966, visual survey (CDFG, 6 p., 500 fish/100 ft. of stream: 0.5-3.0 in. TL); **Outfall from storm drain 100 yds. E. of Hwy. 29 bridge to confluence with Napa River**, 15/Jun/1967, fish kill (CDFG, 1800: 0.8-4.0 in. TL); **Ritchie Ck., mouth to headwaters (3.5 mi.)**, 13/Jul/1967, brail net and visual survey (CDFG, 4 p., noted as "...numerous in the pools upstream from the confluence with the Napa River."); **Bell Canyon Ck., from spillway of Bell Canyon Dam downstream to confluence with the Napa River (2 mi.)**, 20/Jun/1969, visual survey (CDFG, 4 p., 50 fish/100 ft. of stream: 0.5-2.0 in. TL); **Bell Canyon Ck., approximately 1 mi. downstream from Bell Canyon Dam within NE0.25 of SW0.25, S13, T8N, R6W**, 18/Jul/1969, electrofishing survey 100 ft. length (CDFG, 2 p., 129: 1.5-3.5 in. FL); **Napa River, Zinfandel Lane bridge**, 29/Jul/1969, electrofishing (CDFG, 4 p., 472: no size); **Napa River, 0.25 mi. downstream from Kimball Dam**, 8/Aug/1969, electrofishing survey (CDFG, 2 p., 14: no size); **Napa River, Berry Ave., Bale Ln., Pratt Ave., Pope St., Zinfandel Ln., Hwy. 128, Yountville Cross Rd. bridges**, 28/Jul/1969-8/Aug/1969, electrofishing survey (CDFG, 4 p., among "...most abundant species..."); **Garnett Ck., 1.5 mi. upstream from Hwy. 29 bridge to mouth (3.5 mi.)**, 16/Jun/1970, visual survey (CDFG, 4 p., 50-100 fish/100 ft. of stream: 2.0-3.0 in. TL); **Jericho Canyon Ck., from confluence with Garnett Ck., upstream 2.0 mi.**, 1/Jul/1970, visual survey (CDFG, 3 p., 200 fish/100 ft. of stream in the "middle sections", averaging 40-50 fish/100 ft. of stream: 1.5-5.0 in. TL); **Huichica Ck., from Nuenschwander Dr. bridge**

downstream to Dutra Dairy complex, 17, 24, 27/ Mar/1972, visual survey (Hallett and Lochbaum 1972: observed); **Napa River, Yount Mill Rd.**, 20/Oct/1972, P.B. Moyle (UCDPM 72-24, 3); **Suscol Ck., from confluence with Napa River to headwaters (8 mi.)**, 8-9/May/1973, visual survey (CDFG, 3 p., 400 fish/100 ft. in mid-section of stream: 1.0-3.5 in., average 2.0 in. TL); **Suscol Ck., from Hwy. 29 bridge upstream 1500 ft.**, 27/Jun/1973, visual survey (CDFG, 5 p., as "fairly abundant": 30-100 mm TL); **York Ck., mouth to 2.25 mi. upstream**, 9/Jul/1973, visual survey (CDFG, 3 p., 1) below first dam, 50 fish/100 ft. of stream: 1.0-3.0 in. TL, 2) above first dam, very few: 1.0-3.0 in. TL); **Dry Ck., lower section from mouth to point 8 mi. upstream**, T6N, R5W, S4, 3, 7/Aug/1973 (CDFG, present); **Ritchie Ck., pools from the confluence with the Napa River upstream to Hwy. 29**, 5/Oct/1973, visual survey (CDFG, 3 p., no numbers given); **Bell Canyon Ck., from Bell Canyon Dam to mouth (2 mi.)**, 14, 16/Jul/1975, visual survey (CDFG, 5 p., 50-60 fish/100 ft. of stream: 0.5-3.0 in. TL); **Milliken Ck., downstream from Milliken Reservoir**, 3/Nov, 5/Dec/1975, visual survey, (CDFG, 4 p., 1) below diversion dam barrier no. 3, lower 1 mi., 20 fish/100 ft. of stream: 2.0-5.0 in., averaging 3.0 in. TL, 2) lower section below the canyon, 100 fish/100 ft. of stream: 2.0-5.0 in., averaging 3.0 in. TL; **Redwood Ck., from mouth upstream 1 mi. and 1.75 mi. upstream from mouth**, 13, 14/Apr/1977, visual survey (CDFG, 3 p., as "numerous"); **Huichica Ck., from Hwy. 121 crossing upstream to headwaters (3.6 mi.)**, 24/Jan/1980, visual survey (CDFG, 3 p., 300 fish/100 ft. of stream: no size); **Milliken Ck., Sta. 2, mouth of Milliken Canyon, downstream from Sta. 1**, 30/Apr, 6, 13, 15/May/1980, electrofishing (CDFG, 3 p. + notes, 10: mean 58.0 mm FL); **Sulphur Ck., immediately above first rd. crossing upstream from confluence with the Napa R., off Pope St.**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 39: no size); **Sulphur Ck., immediately upstream from Pope St. bridge**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 15: no size); **Sulphur Ck., near elevation 309 ft., adjacent to Sulphur Canyon Rd.**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 32: no size); **Huichica Ck., reach about 0.9 mi. downstream from 6 ft. high concrete dam near 300 ft. elevation**, 8/Jul/1980, visual survey (CDFG, 3 p., noted as "...observed..."); **Pickle Canyon Ck., three isolated, deep pools**, 15/Jun/1981, visual survey (CDFG, 2 p., as "roach"); **Tulucay Ck., lower portion of stream**, 22/ Jun/1981, visual survey (CDFG, 3 p., as "abundant"); **Bell Canyon Ck., Bell Canyon Dam downstream to confluence with Napa River (2 mi.)**, 3/Jul/1981, visual survey (CDFG, 2 p., noted as "Roach...were seen at the Silverado Trail and Glass Mtn. Ln. crossing."); **Napa River, at Dunaweal Ln., opposite sewage treatment plant downstream from Calistoga**, 9/Sept/1981, R. Leidy and P. Fiedler, 200+: 50 at 57-121 mm FL; **Garnett Ck., at Grant St. bridge**, 9/Sept/1981, R. Leidy and P. Fiedler, 26: 20-47 mm FL; **York Ck., at Spring Mtn. Rd. bridge**, 9/Sept/1981, R. Leidy and P. Fiedler, 10: 24-106 mm FL; **Sulphur Canyon Ck., 1.7 mi. along Spring St. (White Sulphur Springs Rd.) from junction with Main St., St. Helena**, 9/ Sept/1981, R. Leidy and P. Fiedler, 20: 41-112 mm FL; **Sulphur Ck., at Pope St. bridge**, 9/Sept/1981, R. Leidy and P. Fiedler, 11: 27-43 mm FL; **Conn Ck., approximately 50 m upstream from road crossing upstream from Lake Hennessy**, 9/Sept/1981, R. Leidy and P. Fiedler, 2: 57-72 mm FL; **Conn Ck., 1.5 mi. upstream from Lake Hennessy**, 9/Sept/1981, R. Leidy and P. Fiedler, 100+: 31-88 mm FL; **Conn Ck., at milepost 8.07 E. on Hwy. 128**, 10/ Sept/1981, R. Leidy and P. Fiedler, 150+: 34 at 27-88 mm FL; **Napa River, at Yountville Cross Rd. bridge, upstream at CDFG Ecological Reserve**, 10/Sept/1981, R. Leidy and P. Fiedler, 53: 52-112 mm FL; **Dry Ck., 7.75 mi. upstream on Dry Ck. Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 13: 37-73 mm FL; **Redwood Ck., on Redwood Rd. 0.25 mi. before junction with Browns Valley Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 32: 37-82 mm FL; **Chiles Ck., immediately downstream from junction of Lower Chiles Valley and Chiles-Pope Valley rds.**, 10/Sept/1981, R. Leidy and P. Fiedler, 20: 34-62 mm FL; **Chiles Ck., approximately 0.25 mi. upstream from confluence with Moore Ck.**, 10/ Sept/1981, R. Leidy and P. Fiedler, 58: 24-98 mm FL; **Sage Ck., at milepost 15.5 on Hwy 128**, 10/Sept/1981, R. Leidy and P. Fiedler, 7: 32-78 mm FL; **Napa Ck., at Jefferson St. bridge, Napa**, 12/Sept/1981, R. Leidy and P. Fiedler, 300+: 61 at 20-85 mm FL; **Tulucay Ck., at 4<sup>th</sup> Ave. bridge**, 12/ Sept/1981, R. Leidy and P. Fiedler, 13: 32-68 mm FL; **Tulucay Ck., 50 m upstream from Suscol Ave. bridge**, 12/ Sept/1981, R. Leidy and P. Fiedler, 2000+: 50 at 35-90 mm FL; **Murphy Ck., at Shadybrook Ln. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 5: 33-63 mm FL; **Suscol Ck., at frontage rd. bridge along Hwy. 12/29**, 12/Sept/1981, R. Leidy and P. Fiedler, 250+: 50 at 20-43 mm FL; **Milliken Ck.,**

immediately upstream from West Trancas Rd. bridge, 12/Sept/1981, R. Leidy and P. Fiedler, 17: 43-115 mm FL; **Milliken Ck., at Westgate Dr. immediately before Milliken Dr.**, 12/Sept/1981, R. Leidy and P. Fiedler, 35: 35-73 mm FL; **Sarco Ck., immediately upstream from Hwy. 121 bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 100+: 22-30 mm, 17: 28-105 mm FL; **Soda Ck., at milepost 2.25**, 12/Sept/1981, R. Leidy and P. Fiedler, 7: 35-80 mm FL; **Huichica Ck., immediately downstream from Hwy 12(121) bridge**, 14/Sept/1981, R. Leidy and P. Fiedler, 12: 35-92 mm FL; **American Canyon Ck., at American Canyon Rd. crossing opposite trailer park**, 19/Sept/1981, R. Leidy and P. Fiedler, 20: 21-126 mm FL; **American Canyon Ck., at end of Elliot Rd.**, 19/Sept/1981, R. Leidy and P. Fiedler, 10: 58-152 mm FL;

**GREEN VALLEY CREEK WATERSHED (Solano): Green Valley Ck., immediately downstream from Rockville Rd. bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 1: no size); **Green Valley Ck., at Interstate 80 bridge**, 2/Oct/1981, R.A. and G.R. Leidy, 1: 110 mm FL; **Green Valley Ck., immediately upstream from Mason Rd. bridge**, 2/Oct/1981, R.A. and G.R. Leidy, 250+: 50 at 30-90 mm FL;

**SUISUN CREEK WATERSHED (Solano): Suisun Ck., upper end of Suisun Valley near Mankas Corner**, 2/Apr/1964, visual survey (CDFG, states that "Large schools of small... roach...were noted."); **Suisun Ck., off Gordon Valley Rd., immediately below Lake Curry**, 10/Aug/1972, P.B. Moyle (UCDPM 72-12, 15); **Wooden Valley Ck., at Wooden Valley Rd. bridge**, T6N, R3W, S23, 10/Aug/1972, P.B. Moyle (UCDPM 72-11, 20); **Suisun Ck., at Suisun Valley Rd. crossing immediately before Twin Sisters Gun Club turnoff**, 2/Oct/1981, R.A. and G.R. Leidy, 3: 65-132 mm FL; **Suisun Ck., at Lakeside Rd. gate to Lake Curry**, 2/Oct/1981, R.A. and G.R. Leidy, 7: 49-128 mm FL; **Wooden Valley Ck., 0.3 km upstream from B.M. 535 on Wooden Valley Rd.**, 2/Oct/1981, R.A. and G.R. Leidy, 15: 21-35 mm FL;

***Lavinia symmetricus* X *Lavinia exilicauda* hybrid**  
**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Arroyo de la Laguna Ck., 3 mi. N. Sunol**, 22/Feb/1966, J.D. Hopkirk and party (CAS, Acc. 1966-VI: 20, 3: 43-52 mm SL);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck.**, add Miller paper

***Lavinia symmetricus* X *Rhinichthys osculus* hybrid**  
**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Santa Isabel Ck., Mt. Hamilton**, listed as *Hesperoleucus* x *Apocope* hybrid, 20/Jul/1898, J. O. Snyder (CAS 115980, 2).

***Orthodon microlepidotus* (Sacramento blackfish)**  
**SAN FRANCISCO: San Francisco markets**, as *Leuciscus microlepidotus* (Ayres 1854); **San Francisco**, likely mid-1800s, Newberry (USNM 206, 1, According to R. R. Miller, this is not a type but the specimen on which Girard based his description of *Orthodon*. Species described previously by Ayres as *Gila macrolepidota*); **San Francisco** (Girard 1856: 182, 1857: 28, 1858: 237); **San Francisco**, 16/Aug/1862, previously as "*Cyprinus* sp." (BNMH 1862.8.16.10: 1 specimen); **"Abundant, in markets"** (Lockington 1879: 50); **San Francisco**, likely mid-to-late 1800s (CAS 18404, 2, prev. no. IU 1139, 1150, 1167); **"San Francisco, Calif"** unknown date, likely late-1800s (USNM 259493, 1); **San Francisco Chinatown**, unknown date, likely late-1800s or early-1900s (CAS 154102, 1, prev. no. SU 54102, CAS 154103, 1, prev. no. SU 54103); **South Lake Merced (large lake)**, 12/Jun/1949, A. J. Calhoun (?) (CAS 73260, 6: 72-167 mm SL); **North Lake Merced (small lake)**, 12/Jul/1949, CDFG/A. J. Calhoun (?) (CAS 73265, 5: 85-215 mm SL; 73295, 48: 54-173 mm SL); **Lake Merced, north end** (CAS: 25+-, as listed in Hopkirk 1973: 64);

**SAN FRANCISCO BAY: San Francisco Bay**, 3/Feb/1862 (Ayres 1854-1862: 163); **[Carquinez Strait], Martinez** (Gannsle 1966: 78); **Carquinez Strait** (Messersmith 1966: 59);

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77);

**WALNUT CREEK WATERSHED (Contra Costa): Walnut Ck., 50 m upstream from confluence with Pine Ck.**, 5/Oct/1980, R.A. and G.R. Leidy, 1: 216 mm TL; **Pine Ck., at end of Robin Ln. near apartments and trailer park**, 21/Sept/1981, R. Leidy and P. Fiedler, 4: 59-98 mm, 1: 172 mm FL;

**ALAMEDA COUNTY NEAR EAST SIDE OF SAN FRANCISCO BAY: Vicinity of Oak Knoll Naval Hospital, Oakland**, 37°45'45" N., 122°8'22"W., early Pleistocene

(Irvingtonian land mammal) age, (Casteel and Adam 1977, 212);

**MISCELLANEOUS ALAMEDA AND CONTRA COSTA COUNTY LOCATIONS:** Six sites ranging in age from Middle Pleistocene (Irvingtonian) to Late Pleistocene (Rancholabrean) ages, Alameda Co. sites, V3604, V5834, V7079, V7080 and V70123, Contra Costa Co. site, V6312 (Casteel 1973, 360-361);

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara):** **Alameda Ck.**, 16/Sept/1934, A. Seale, San Francisco Aquarium Society (CAS 7406, 10: 20-96 mm SL); **Alameda Ck., btw. Niles and bridge just E. of Sunol**, 25/Feb/1939, R. R. Miller and G. Murphy (SSU, no. 282, 1: no size, also as UMMZ 133179, 1: 40 mm SL); **Alameda Ck., Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26156, 66: 28-67 mm SL); **Alameda Ck., ca. 100 yds. below SPRR bridge, Niles**, 14/Oct/1955, W.I. Follett and G.M. Peckham (CAS, Acc. 1955-X: 31, 1: adult); **Alameda Ck., 0.2 mi. above WPRR bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26161, 1: opercular bones only; 73257, 1: 33 mm SL, in Hopkirk 1968, as 34: 112-394, Follett 1974, 2: 34, half-grown to adult, the largest 394 mm SL); **Alameda Ck., Niles, opposite California Nursery Co. pool**, 25/Mar/1957, W. I. Follett and G. M. Peckham (CAS 26258, 1: 406 mm SL, also listed in Hopkirk 1973: 64, as 3: 108-292 mm SL, and in Follett 1974, 2, as 4: large young to adult); **Alameda Ck., at Niles Sand and Gravel Co. pool**, 22/Apr/1957, W. I. Follett and G. M. Peckham (CAS 26728, 16: 63-384 mm SL); **Alameda Ck., 0.2-0.4 mi. above old State Hwy. 17 bridge**, 21/Jul/1957, W. I. Follett and G. M. Peckham (CAS 26285, 60: 30-231; 39639, 1, also listed in Hopkirk 1973: 64, as 10 of 60: 42-118 mm SL); **Alameda Ck., just above bridge of new fwy near Niles**, 21/Jul/1957, W.I. Follett and G.M. Peckham (CAS 26290, 10: 26-113 mm SL); **Alameda Ck., 0.2 mi. above bridge of new fwy near Niles, 0.4 mi. above old Calif. Hwy. 17**, 21/Jul/1957, W.I. Follett and G.M. Peckham (CAS 26285, 60: young to small adult); **Alameda Ck., between Niles and Sunol** (CAS 22884, 6: 193-220 mm SL); **Alameda Ck.**, collected "before July 2, 1958", G. Peckham (CAS 73174, 2: 99-142 mm SL); **Alameda Ck., near Niles nursery**, 31/Oct/1958, W.I. Follett and G.M. Peckham (CAS, many); **Alameda Ck., between Niles and Sunol**, 18/Aug/1961, J. D. Hopkirk and S. Mathews (CAS 22884, 6: 193-220 mm SL); **Ck., Niles Canyon Road & highway 84**, 22/Feb/1966, J. Hopkirk and

party (CAS 17866, 21: 38-77 mm SL); **Creek tributary to Alameda Ck., adjacent to Lowry Rd., near Southern Pacific Railway Bridge, two mi. SE of Alvarado**, 22/Feb/1966, Hopkirk and Kuris, et. al. (CAS 73293, 8: 48-76 mm SL); **Alameda Ck., Stanley Bridge, Old Canyon Rd., Niles**, 21/Apr/1967, U.C. Berkeley Zoology 166 class, G. Barlow, few young adults); **Alameda Ck., at Niles**, 25/Jun/1967, C. Swift (LACM 37726.002, 1: 180 mm; 37726.003, 1: 185 mm; 37726.004, 1: 212 mm; FLMNH 15197, 17, many juveniles and adults, common); **Alameda Ck., railroad bridge 1.2 mi. from intersection of Niles Canyon and Old Niles rds.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "several large, many small individuals"; **Alameda Ck., Stanley Bridge, on Old Niles Rd., at intersection of Niles Canyon Rd.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "common, mostly small"; **[Arroyo Mocho], Kaiser Borrow Pits, will be called "Shadow Cliffs", Pleasanton**, 19/Mar/1970, W. E. Strohochein (CAS 39825, 1: large adult); **Alameda Ck., at Niles, xing Hwy 9 (21)**, 24/Sept/1970, C. Swift (LACM 37724.001, 1: 212 mm); **Alameda Ck., Niles Canyon, picnic ground at railroad bridge**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 1: small); **Alameda Ck., Niles Canyon, 0.3 mile downstream (west) from picnic ground at railroad bridge**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 1); **Alameda Ck., Niles Canyon, 0.4 mile downstream (west) from picnic ground at railroad bridge (above flattish dam)**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 2); **Alameda Ck.** (lat. 37°, 34', long. 121°, 59', elevation 12 m), 20/Jun/1973 (Aceituno et al. 1976: 199, 10: 41-322 mm FL); **Alameda Ck., 200 yd. reach adjacent to and downstream from the USGS Niles gauging station**, 8/May/1976, electrofishing survey (Chabot College Ecology 40-84 class and J. Smith, CDFG, 2 p., 1: 132 mm FL); **Grau Pond, Niles District of Fremont**, 30/Aug/1976, gill net and seine sampling (CDFG, 14 p., 48: 4.9-21.5 in. FL); **Shinn Pond, Niles District of Fremont**, 31/Aug/1976, gill and net sampling (CDFG, 14 p., 13: 3.4-14.1 in. FL); **Kaiser B Pond, Niles District of Fremont**, 2/Sep/1976, gill and net sampling (CDFG, 14 p., 5: 12.0-16.1 in. FL); **Arroyo Valle, two ponds south of Shadow Cliffs Reservoir**, 7/1978, electrofishing survey (CDFG, 1 p., present: no size);

**COYOTE CREEK WATERSHED (Santa Clara):** **Coyote Ck., Santa Clara, Calif.**, likely collected in 1892 based on field number ("CHG [Chicago?], 1892A"), C. H. Gilbert (CAS 111447, 1, prev. no. SU 11447); **Coyote Ck.**, likely collected



in 1898, C. H. Gilbert (CAS 101199, 1); **Coyote Ck., near mouth and San Jose** (Snyder 1905, 331, 338); **Coyote Ck., San Jose (inside city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 63411, 26: 40-104 mm SL); **Coyote Ck., in canyon east of the town of Madrone**, 1926-1927, D. H. Fry (Fry 1936: 67, one larval specimen); **Coyote Ck., near mouth (Alviso)**, 1926-1927, D. H. Fry (Fry 1936: 67, "exceedingly abundant"); **Coyote Ck., at bridge opposite Milpitas**, 16/Oct/1932, W.I. Follett and party (Follett 1974, 3: seined, no number given); **Coyote Ck., 300 yds. below Coyote Dam at Coyote Lake**, [Sta.] No. 14, 23/Aug/1945, D. A. and H. Simpson (CAS 13265, 1: 57 mm SL); **Coyote River, about 6 miles south of San Jose, near stone quarry**, [Sta.] No. 16, 24/Aug/1945, D. A. and H. Simpson (CAS 13275, 9: 23-45 mm SL); **Coyote River, Hwy. 101, 1.5 miles north of Coyote at concrete dam**, [Sta.] No. 17, 24/Aug/1945, D. A. and H. Simpson (CAS 13278, 16: 19-73 mm SL); **Coyote Ck.** (Murphy 1948: 8); **Coyote Ck.**, 1948, memorandum on fish collection (CDFG, 2 p., SJSU, CD-2); **Coyote Ck., at US 101 crossing** in T7S, R2E, Sec. 31, 24/Jul/1953, T. Merkel (CAS 73294, 1); **Coyote Ck.**, 3/Mar/1964, memorandum on fish collection (CDFG, 2 p., SJSU, CD-23); **Coyote Ck., from Coyote Reservoir upstream 8.2 mi. to center of Sec. 24 of T9S, R4E**, 18/Mar/1965, visual survey, (CDFG, 3 p., 20: 7.0-9.0 in. TL); **Santa Teresa Park pond**, 23, 24, 28/Oct/1969, beach seine (SJSU, Zoology 151 class, 4 p., 1: 14 7/8 in. TL); **Coyote Ck.**, 7/Mar/1972, field notes (R. L. Hassur, SJSU); **Santa Teresa Park pond**, 12-13/Oct/1972, beach seine (SJSU, Zoology 150 class, 4 p., 4: 5.5-12.0 in. TL); **Coyote Ck.** (lat. 37°, 13', long. 121°, 45', elevation 58 m), 21/Jun/1973 (Aceituno *et al.* 1976: 203, 8: 32-223 mm FL); **Coyote Ck., 1) Tennant Rd., 2) Riverside Golf Course Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Santa Teresa Park Pond**, 8/Apr/1974, electrofishing survey (CDFG, 6 p., 1: 15.0 in. FL); **Cottonwood Lake**, 21/Jul/1976, electrofishing survey (CDFG, 3 p., 5: 5.5-11.4 in. FL); **Coyote Ck., near Story Rd.**, Nov/1977 and Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., below Anderson Dam outlet**, Oct/1977, Jun/1978 and Sept/1979 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Metcalf Rd.**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Cochran Rd.**, Jun and Oct/1977, Jun/1978 and Sep/1979 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Hellyer Ave.**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey

(Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote downstream from Coyote Canal input**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Bernal Rd. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tennant Ave. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sycamore Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sylvandale Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at Viceroy Way**, Jun/1978, Sept/1979 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Coyote Ck., near Senter Rd.**, Jun and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Cottonwood Lake**, 17, 19/Apr/1979, beach seine (SJSU, Zoology 150 class, 10 p., 49: 103-515 mm TL); **Cottonwood Lake**, 17, 1/Oct/1979, beach seine (SJSU, Zoology 116 class, 1 p., 23: 12.0-20.0 in. TL); **Coyote Ck., 25 m upstream from Metcalf Rd. crossing**, 3/Sept/1981, R. Leidy and P. Fiedler, 1: 105 mm FL; **Coyote Ck., 0.75 km upstream from town of Coyote on wildlife reserve (large pool)**, 3/Sept/1981, R. Leidy and P. Fiedler, 13: 65-104 mm FL; **Fisher Ck., immediately upstream from Bailey Rd. crossing**, 5/Sept/1981, R. Leidy and P. Fiedler, 2: 147-152 mm FL;

**MISCELLANEOUS SANTA CLARA COUNTY LOCATIONS:** **Santa Cruz Mtns., W. of Saratoga, near Saratoga Ck. (site M-1219)**, Plio-Pleistocene (Blancan) age, as *Orthodon* (Casteel 1978, 296);

**PETALUMA RIVER WATERSHED (Sonoma): Willow Brook Ck., at Penngrove and at northern limits of Petaluma**, 1982 (J.D. Hopkirk, SNSU, personal communication); **Petaluma R., 25 m upstream from Corona (Hardin Lane) crossing**, 16/Sept/1981, R. Leidy and P. Fiedler, 18: 50-162 mm FL;

**NAPA RIVER WATERSHED (Napa): Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 1 individual); **Napa River, near the confluence of Tulucay Ck.**, archaeological site CA-NAP-39, no date, (J. Quinn 2002, unpublished data, minimum number of individuals: 3); **Lake Milliken**, possibly (Shapovalov 1940: 5); **Hennessey Reservoir** [Conn Ck. watershed], 25/Jan/1974, M. Caywood (BNMH 1974.1.25.122-128: 7

specimens); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1 specimen total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1 specimen total: no size); **SUISUN CREEK WATERSHED (Solano): Lake Curry and Gordon Valley Creek at foot of spillway** (Shapovalov 1940: 13); **Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater**, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys (CDFG, 4 p., notes "...one collected in June, 1979.");

***Pogonichthys macrolepidotus* (Sacramento splittail)**  
**SAN FRANCISCO (San Francisco): San Francisco markets**, California, type locality, listed as *Leuciscus macrolepidotus* (Ayres 1854); **Presidio, near San Francisco**, Lt. W. P. Trowbridge, as *Pogonichthys argyreus* (Girard 1854a, 1856a: 188); **San Francisco**, likely collected mid-1800s, Trowbridge (USNM 190, 4, syntype); **Presidio**, Lt. W.P. Trowbridge, as *Pogonichthys argyreus* (Girard 1858: 246, likely refers to same specimens collected in 1854 by Trowbridge, as noted above); **San Francisco**, 9/ Oct/1863, previously listed as *Leucoscomus inaequilobus* (BNMH 1863.10.9.105: 1 specimen, BNMH 1863.10.9.50-51: 2 specimens); **"San Francisco"**, 1879, E.D. Cope (ANSP 19391, 1); **"Market in Spring, with other minnows or suckers"**, as *P. inaequilobus* (Lockington 1879: 50); **"San Francisco, Cal."**, 1880, D. S. Jordan (USNM 27134, 10+); **"San Francisco, Ca"**, likely collected around 1880, D. S. Jordan (CAS 101524, 1); **San Francisco Chinatown**, no date (CAS 154104, 1);

**SAN FRANCISCO BAY: "Mare Isl., Cal"**, 16/Apr/1890, C. H. Townsend (USNM 67326, 10+); **Mare Island**, likely collected late-1800s, C. H. Eigenmann (CAS 73406, 5); **Mare Island** (Evermann and Latimer 1910: 133); **Carquinez Strait, Benicia** (Rutter 1908: 131); **Carquinez** Lt., N. 55 deg. W., Crockett Whf., S. 68.5 deg. E., Selby Whf., S. 64 deg. W., Hydrographic sta. 5088, 23/Apr/1912, U. S. Fisheries Commission, Steamer Albatross (CAS 12962, 1; 13049, 1); **Carquinez Strait off Port Costa**, 10/Jul/1948, USFWS (CAS 73413, 1); **Carquinez Strait at Port Costa**, 18/Oct/1957, CDFG (CAS 73402, 1); **Hastings Slough near**

**Port Chicago**, 21/Oct/1962, D. Stevens (CAS 73416, 1: 93 mm SL); **Hastings Slough near Port Chicago** (CAS Acc. 1964-VI: 13:1); **San Pablo Bay** (Ganssle 1966: 78, "two fish"); **Carquinez Strait** (Messersmith 1966: 59); **Carquinez Straits (north shore) at Benicia**, within 400 yds of end of West 3<sup>rd</sup> Street, 28/Jun/1967, C. and D. Swift (FLMNH 15199, 51, 4 adult[s], many y-o-y common); **San Pablo Bay, vicinity of San Pablo Creek marsh**, Apr/1974 (Nakaji 1975, 19: 72-179 mm FL); **San Pablo Bay at Richmond**, 19/Apr/1974, USFWS survey (Caywood 1974: 10 specimens); **MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77);

**WALNUT CREEK WATERSHED (Contra Costa): "Tice [Creek] Valley, Rossmore, Walnut Creek, Contra Costa Co."**, A.D. 1400-1500, archaeological site CCO-309 (Gobalet 1992: 76-77, 80-81);

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck.**, 1000 B.C. – 500 A.D., archaeological sites CCO-269, -270, -271, questionable identification (Gobalet 1990a: 239-241).

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): "Arroyo Crista Blanca, Livermore"**, 9/1912, F. S. Curtis (ANSP 38898, 1); **Alameda Ck.**, 31/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26166, 1);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., San Jose**, likely collected in 1898, C. H. Gilbert (CAS 102537, 8); **Coyote Ck.**, likely collected late-1890s (CAS 104342, 14: 82-111 mm SL); **Coyote Ck.**, "no other data", as listed in Hopkirk (1973: 24)(SU 4342: 13, SL 82-111, housed at CAS); **Coyote Ck., near mouth** (Snyder 1905: 331, 338, may refer to specimens collected in 1898 by C.H. Gilbert, as noted above); **Coyote Ck.** (Murphy 1948: 8, likely based on Snyder 1905);

**GUADALUPE RIVER WATERSHED (Santa Clara): "San Jose, 0.3 km. from Guadalupe River, Santa Clara Co."**, A.D. 700-1300, archaeological site SCL-690 (Gobalet 1992: 76-77);

**PETALUMA RIVER WATERSHED (Sonoma): Petaluma**, listed in old Catalog Book as *P. inaequilobus*, 1855, E. Samuels (UMMZ 56278, 1: 118 mm SL); **"Petaluma"**, likely collected in 1855, [E.] Samuels (USNM 183, 7); **Petaluma**, as *Pogonichthys inaequilobus* (Girard 1856a: 188, 1858: 245, these records likely refer to specimens collected by E. Samuels in 1855, noted above); **Petaluma**, as *Pogonichthys*

*inaequilobus* (Girard 1859, 246: 8); **Petaluma River, mouth**, J. Baker (SSU, in Caywood 1974: 1); **Petaluma River, west side between Bahia Cut and power lines**, 28/May/1974, Caywood, Baker and Jones (SSU Sta. No. MLC-157-74, 1: 180 mm); **Petaluma River, from Hwy. 101 bridge to Petaluma City**, 26/Apr/1974, Caywood and Baker (SSU Sta. No. MLC-124-74, 2: 145-154 mm); **Petaluma River, Bahia turning basin (east side, artificial dead-end slough)**, 26/Apr/1974, Caywood and Baker (SSU Sta. No. MLC-131-74, 36: 109-177 mm);

**NAPA RIVER WATERSHED (Napa): Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 1 individual); **Napa River, near the confluence of Tulucay Ck.**, archaeological site CA-NAP-39, no date, (J. Quinn 2002, unpublished data, minimum number of individuals: 23); **Napa River, Napa**, circa 1897, G. B. Culver (CAS 104100, 1, also as SU 4100, 3); **Napa River at Good Luck Point, Vallejo**, 2/Jul/1948, USFWS (CAS 73392, 1: 32 mm SL, also CAS Acc.1952-III: 17); **Napa River at Good Luck Point, Vallejo**, 2/Jul/1948, USFWS (CAS Acc.1952-III: 17, 7: 21-41 mm SL); **Tulucay Ck., near mouth, Napa**, 16/March/1960, P.R. Needham and party (CAS: 7: 146-168 mm SL); **Tulucay Ck., near mouth, Napa**, 1/Apr/1960, P. R. Needham, D.W. Seegrist and J.D. Hopkirk (CAS 23831, 4: 130-156 mm SL); **Napa River, 200 yds downstream from Hwy 20(12) xing, at SE edge of Napa**, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15181, 36: 65489, 36, juveniles common); **Napa Marsh, South Slough**, 26/Feb/1974, CDFG survey (Caywood 1974: 7); **Napa Marsh, Devil's Slough**, 26/Feb/1974, CDFG survey (Caywood 1974: 2); **Napa Marsh, Hudeman Slough**, 26/Feb/1974, CDFG survey (Caywood 1974: 7); **Napa Marsh, Dutchman Slough**, 26/Feb/1974, CDFG survey (Caywood 1974: 1); **Napa River, upstream from Bull Island**, 20/May/1976, gill net survey (CDFG, 2 p., 6: 220-230 mm FL); **Napa River marshes, Dutchman Slough (N-1), below bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 55 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 141 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling

intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 137 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 115 specimens total: no size);

#### ***Mylopharodon conocephalus* (hardhead)**

**SAN FRANCISCO (San Francisco): San Francisco market, from San Joaquin River**, 1856, Dr. [W. O.] Ayres (USNM 934, 1, originally entered as *M. robustus* Ayres 1855: 33, and noted as a type; this specimen was collected in 1856, however, and thus is probably not a type (see Girard 1859)); **San Francisco market, from San Joaquin River**, 1855, J. S. Newberry (USNM 244, 1, pharyngeal bone # 2796, originally entered as *M. robustus* Ayres 1855; this specimen is probably not a type); **San Francisco**, as *Mylopharodon robustus*, J.S. Newberry (Girard 1856: 169, 1857: 27, 1858: 216, 1859: 88); **"San Francisco market, rare"** (Eigenmann 1890: 57);

**SAN FRANCISCO BAY: San Francisco Bay**, as *Mylopharodon robusta*, 3/Feb/1862 (Ayres 1854-1862: 163); **MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77);

**SAN PABLO CREEK (Contra Costa): San Pablo Ck.**, 1000 B.C. – 500 A. D., archaeological site CCO-271, questionable identification (Gobalet 1990a: 239-241);

**ALAMEDA COUNTY NEAR EAST SIDE OF SAN FRANCISCO BAY:** Vicinity of Oak Knoll Naval Hospital, Oakland, 37°45'45" N., 122°8'22"W., early Pleistocene (Irvingtonian land mammal) age, (Casteel and Adam 1977, 212);

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Alameda Ck.** (Murphy 1948: 8-9, refer to discussion of species distribution in text); **Alameda Ck., at Niles (xing of hwys 9 and 21)**, 25/Jun/1967, C. and D. Swift (FLMNH Field No. CCS67-95, "possibly few juv."); **Alameda Ck., railroad bridge, 1 mi. E. of Niles**, 12/Oct/1968, U.C. Berkeley Zoology 166 class, G. Barlow: as "fair numbers, small...perhaps hardhead" (see species distribution discussion); **Alameda Ck., bridge at Niles**, 12/Oct/1968, U.C. Berkeley Zoology 166 class, G. Barlow: as "hardhead... in lesser numbers" (see species distribution discussion);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck.** (Murphy 1948: 8, refer to discussion of species distribution in text);

**MISCELLANEOUS SANTA CLARA COUNTY LOCATIONS: Santa Cruz Mtns., W. of Saratoga, near Saratoga Ck. (site M-1219),** Plio-Pleistocene (Blancan) age, as *Mylopharodon* (Casteel 1978, 296);

**NAPA RIVER WATERSHED (Napa): Napa River, west bank Napa River on the northern edge of the City of Napa,** ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 1 individual); **Napa River, near the confluence of Tulucay Ck.,** archaeological site CA-NAP-39, no date, (J. Quinn 2002, unpublished data, minimum number of individuals: 1); **Napa River** (Murphy 1948: 8); **Napa River, Yount Mill Road,** 20/Oct/1972, P.B. Moyle (UCDPM 72-24, 2);

***Ptychocheilus grandis* (Sacramento pikeminnow)**

**SAN FRANCISCO: "[San Francisco]"**, type locality not given, as referenced in Hopkirk (1973: 34); **Possibly San Francisco** (Ayres 1854:17, as *Gila grandis*); **"San Francisco market"**, as *Leuciscus gracilis*, type specimen (Ayres 1854); **San Francisco**, 1854, A. Agassiz and T. G. Cary (MCZ 1976, 5: 236-305 mm SL); **San Francisco, Cal.,** 1856, W. D. [O.] Ayres (USNM 937, 1); **San Francisco**, J. S. Newberry and W.O. Ayres (Girard 1856: 209, 1857: 31, 1858: 209); **San Francisco**, 1856-1862, T. G. Cary (MCZ 18920, 1, as *Orthodon grandis*); **San Francisco**, 1856-1862, T. C. Cary (MCZ 1983, 1); **San Francisco**, 1856-1862, T. G. Cary (MCZ 1975, 1, as *P. major*); **San Francisco**, 1856-1862, T. G. Cary (MCZ 18919, 1, as *P. rafax*); **San Francisco**, 9/Oct/1863, previously entered as "Cyprinidae" (BNMH 1863.10.9.55-56: 2 specimens); **San Francisco**, likely collected mid-1800s, Newberry (USNM 204, 1); **"Market, from freshwater"**, as *Gila grandis* (Lockington 1879: 50); **San Francisco, Cal.,** Jan/1880, possibly collected by D. S. Jordan (USNM 24128, 2); **San Francisco**, 19/May/1891, previously identified as *Leuciscus oregonensis* (BNMH 1891.5.19.197-199: 3 specimens); **San Francisco**, likely collected in mid-to-late 1890s based on IU catalog number (CAS 18403, 2, prev. no. IU 1502);

**SAN FRANCISCO BAY: San Francisco Bay,** 3/Feb/1862 (Ayres 1854-1862: 163); **Mare Island, Cal.,** 16/Apr/1890, C. H. Townsend (USNM 67258, 51959, 1); **Carquinez Strait, Benicia** (Rutter 1908: 133); **Mare Island**, as *P. hardfordi* (Evermann and Latimer 1910: 133); **Carquinez Strait** (Messersmith 1966: 59); **Carquinez Straits (north shore)**

**at Benicia**, within 400 yds of end of West 3<sup>rd</sup> Street, 28/ Jun/1967, C. and D. Swift (FLMNH Field No. CCS67-96, 1, ca. 3", possibly few juv. scarce); **San Pablo Bay, vicinity of San Pablo Creek marsh**, Apr/1974 (Nakaji 1975, 5: 25-100 mm FL);

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co.,"** A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77); **Marsh Ck., at Cypress Rd. crossing**, 22/May/1981, R.A. and G.R. Leidy, 5: 86-129 mm FL;

**WALNUT CREEK WATERSHED (Contra Costa): Walnut Ck., immediately downstream from Hwy 4 crossing**, 5/Oct/1980, R.A. and G.R. Leidy, 1: 229 mm TL; **Walnut Ck., at confluence with Grayson Ck.,** 12/Oct/1980, R.A. and G.R. Leidy, 1: 254 mm TL; **Walnut Ck., 50 m upstream from confluence with Pine Ck.,** 5/Oct/1980, R.A. and G.R. Leidy, 3: 191-280 mm TL;

**RODEO CREEK WATERSHED (Contra Costa): Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., 32: fingerlings to 14.1 in. TL); **Rodeo Ck., immediately downstream from Hwy. 80 bridge**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., 1: no size); **Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure**, 20/Mar/1974, electrofishing survey (CDFG, 4 p., 23: 2.4-14.0 in. FL); **Rodeo Ck., immediately upstream from 2<sup>nd</sup> St. bridge**, 18/ Jun/1981, R. Leidy and P. Fiedler, 10: 141-232 mm FL;

**PINOLE CREEK WATERSHED (Contra Costa): Pinole Ck., 1.5 mi. reach from Hwy. 80 downstream**, 23/Apr/1975, fish kill (CDFG, 3 p., 240: 6.0-8.0 in. FL); **Pinole Ck., 100 m upstream from culvert under San Pablo Ave.,** 23/ Jun/1981, R. Leidy and P. Fiedler, 2: 235-270 mm FL; **Pinole Ck., 100 m upstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 1: 150 mm FL; **Pinole Ck., 175 m upstream from Interstate 80 crossing**, 23/ Jun/1981, R. Leidy and P. Fiedler, 1: 137 mm FL;

**GARRITY CREEK WATERSHED (Contra Costa): Garrity Ck., 1 km upstream from 2<sup>nd</sup> (upper) railroad crossing**, 7/Jul/1981, R. Leidy and P. Fiedler, 4: 123-278 mm FL;

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck., at Rancho School on N. side of new development**, 13/Jul/1981, R. Leidy and P. Fiedler, 2: 106-121 mm FL; **San Pablo Ck., 30 m above bridge to St. Joseph Cemetery**, 13/Ju/1981, R. Leidy and P. Fiedler, 1:



231 mm FL;

**SAN LORENZO CREEK WATERSHED (Alameda): Crow Canyon Ck., E. of 4821 Crow Canyon Rd., Hayward,** 8/Jul/1975, fish kill (CDFG, 1 p., 101-500: 1.0-3.0 in. TL);

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): [Alameda Ck., Sunol,** 15/Jun/1898, J.O. Snyder (CNHM 2574, 9: half-grown to small adults; **Alameda Ck., Sunol** (Snyder 1905: 331, likely based on 1898 record, above); **Alameda Ck., Niles** (CAS 3: 39-87 SL); **Alameda Ck., Niles Canyon,** 7/May/1927 (CAS 159793, 2); **Alameda Ck., immediately below dam in Niles Canyon,** 24/Jul/1927, W.I. Follett (Follett 1974, 1: several small); **"Livermore",** 8/Jul/1931 (CAS 73510, 1: 82 mm SL); **Alameda Ck.,** 9/Sept/1934 (Seale 1934: 152); **Alameda Ck., between Niles and bridge just E. of Sunol,** tributary to San Francisco Bay, 25/Feb/1939, R. R. Miller and G. Murphy (UMMZ 133180, 24: 28-129 mm SL); **Alameda Ck., Niles,** ca. 1930s-1940s ? (CAS, 3: 39-87 mm SL); **Alameda Ck.** (Murphy 1948: 8); **Alameda Ck., dredger ponds at Niles,** 23/Jan/1953, W.I. Follett and G.M. Peckham (CAS 25735, 1); **Alameda Ck.,** 29/Jul/1956, G.M. Peckham (CAS Acc. 1956-VIII: 7: 1); **Alameda Ck., Niles, opposite California Nursery Co.,** pool, turbid water, 25/Mar/1957, W. I. Follett and G. M. Peckham (CAS 26259, 3: large young); **Alameda Ck., below Niles,** 16/May/1957, visual survey (CDFG, 5 p., observed: no abundance or size); **Alameda Ck., 0.4 mile above old Calif. Hwy 17, 0.2 mile above bridge of new freeway,** 21/Jul/1957, W. I. Follett and G. M. Peckham (CAS 26286, 1; 26291, 1: half-grown); **Alameda Ck., just above bridge of new fwy near Niles,** 21/Jul/1957, W. I. Follett and G. M. Peckham (Follett 1974, 2, 1: half-grown); **Alameda Ck., near Hwy bridge E. of Niles,** 18/Aug/1961 or 2/Sept/1961, J. D. Hopkirk, S. Mathews and R. Behnke (CAS 22879, 3: 39-87 mm SL); **Alameda Ck., at Niles,** 22/Feb/1966, J.D. Hopkirk and party (CAS Acc. 1966-VI: 20, 46: 30-61 mm SL); **Arroyo de la Laguna Ck., 3 mi N. of Sunol,** 22/Feb/1966, J.D. Hopkirk and party (CAS Acc. 1966-VI: 20, 1: 33 mm SL); **Alameda Ck., Stanley Bridge, Old Canyon Rd., Niles,** 21/Apr/1967, U.C. Berkeley Zoology 166 class, G. Barlow, juveniles, common); **Alameda Ck., at Niles (xing Hwys 9 and 21),** 25/Jun/1967, C. and D. Swift, (FLMNH 15198, 34, y-o-y common); **Alameda Ck., Stanley Bridge, Niles Canyon,** 21/Oct/1967, G. W. Barlow and party (CAS 53102, 55); **Alameda Ck., railroad bridge at Union City (limit on Niles Canyon Rd.),** 21/Oct/1967, U.C. Berkeley ichthyology class, G. Barlow, 20: 50-80 mm;

**Alameda Ck., railroad bridge, 1 mi. E. of Niles,** 12/Oct/1968, U.C. Berkeley Zoology 166 class, G. Barlow: as "fair numbers, small"; **Alameda Ck., bridge at Niles,** 12/Oct/1968, U.C. Berkeley Zoology 166 class, G. Barlow: as "squawfish...in lesser numbers"; **Alameda Ck., railroad bridge 1.2 mi. from intersection of Niles Canyon and Old Niles rds.,** 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "many small individuals"; **Alameda Ck., Stanley Bridge, on Old Niles Rd., at intersection of Niles Canyon Rd.,** 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "many, small"; **Alameda Ck., Niles Canyon, 0.3 mi. downstream from picnic ground at railroad bridge,** 20/Feb/1972, W.I. Follett (Follett 1974, 3, 1: dead); **Alameda Ck., Niles Canyon, 0.4 mi. downstream from picnic ground at railroad bridge above flattish dam,** 20/Feb/1972, W.I. Follett (Follett 1974, 3, 1: dead adult); **Alameda Ck., approx. 3.4 mi. upstream from bridge "1948" on Niles Canyon Rd.,** 20/Feb/1972, W.I. Follett (Follett 1974, 3, 3); **Alameda Ck.** (lat. 37°, 34', long. 121°, 59', elevation 12 m), 20/Jun/1973 (Aceituno *et al.* 1976: 199, 2: 252-397 mm FL); **Alameda Ck., Niles Canyon reach,** 9-10/Aug/1974, creel census (CDFG, 3 p., noted as "occasional"); **Alameda Ck., Niles Canyon near Kaiser Quarry (T4S, R1W, S12),** 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., present: no abundance or size); **Alameda Ck., 200 yd. reach adjacent to and downstream from the USGS Niles gauging station,** 8/May/1976, electrofishing survey (Chabot College Ecology 40-84 class and J. Smith, CDFG, 2 p., 3: 85-270 mm FL); **Alameda Ck., Sunol Park headquarters,** 1972-1977 (Scoppettone and Smith 1978: 64); **Shinn Pond, Niles District of Fremont,** 31/Aug/1976, gill and net sampling (CDFG, 14 p., 2: 15.2-15.5 in. FL); **Kaiser B Pond, Niles District of Fremont,** 2/Sep/1976, gill and net sampling (CDFG, 14 p., 1: 18.0 in. FL); **Arroyo Valle, two ponds south of Shadow Cliffs Reservoir,** 7/1978, electrofishing survey (CDFG, 1 p., present: no size); **Arroyo Mocho Ck., at Hopyard Rd. crossing, Pleasanton,** 30/Jul/1981, R. Leidy and P. Fiedler, 1: 113 mm FL; **Arroyo Valle Ck., upstream from Hwy. 84 crossing,** 1/Aug/1981, R.A. and G.R. Leidy, 1: 156 mm FL; **Arroyo de la Laguna Ck., at 2<sup>nd</sup> bridge downstream from Castlewood Golf Course near BM 303,** 3/Aug/1981, R. Leidy and P. Fiedler, 7: 21-52 mm FL; **Alameda Ck., opposite Sunol Regional Wilderness headquarters, immediately below swimming hole dam, T5S, R2E, S17,** 6/Aug/1981, R. Leidy and P. Fiedler, 27:

90-301 mm FL; **Alameda Ck., opposite Sunol Regional Wilderness headquarters**, 6/Aug/1981, R. Leidy and P. Fiedler, 14: 98-220 mm FL; **Alameda Ck., below spillway at USGS gaging station**, T4S, R1E, S7, 1/Oct/1981, R. Leidy and P. Fiedler, 7: 53-92 mm FL; **Alameda Ck., opposite Kaiser aggregate quarry**, T4S, R1W, S12, 1/Oct/1981, R. Leidy and P. Fiedler, 9: 55-92 mm FL; **Alameda Ck., at 1<sup>st</sup> railroad crossing upstream from Niles**, T4S, R1W, S15, 1/Oct/1981, R. Leidy and P. Fiedler, 6: 42-78 mm FL;

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., near Gilroy Hot Springs** Sta. 46, likely collected in 1898 or 1909, J. O. Snyder (USNM 75384, 10+); **Coyote Ck.**, possibly collected by J. O. Snyder in 1898 or 1909 (USNM 58193, 10+); **Coyote Ck.**, likely collected late-1800s (ZMH 15 063); **Coyote Ck., near mouth and San Jose** (Snyder 1905, 331, 338); **Coyote Ck., San Jose (inside city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 63410, 15: 45-75 mm SL); **Coyote Ck., near Madrone**, 12/Sept/1926, D. H. Fry (CAS 73509, 27, see also Fry 1936: 67); **Coyote Ck., near Madrone**, 5/Dec/1926, D. H. Fry (CAS 159709, 50 (82?), see also Fry 1936: 67); **Coyote Ck., near Madrone**, 5/Dec/1926, D.H. Fry (SU 21, see also Taft 1928, Fry 1936: 67, and Taft and Murphy 1950: 154, 259); **Coyote Ck., Madrone**, 12/Feb/1927 (Taft 1928, Taft and Murphy 1950: 154: 1); **Coyote Ck., Madrone**, 7/ Mar/1927, D. H. Fry (CAS 137886, 44, see also Taft 1928, Fry 1936: 67, and Taft and Murphy 1950, 154: 74); **Coyote Ck.**, 25/May/1927, A. C. Taft (CAS 20802, 2); **Coyote Ck., near Madrone bridge**, 13/May/1927, A. C. Taft (CAS 137887, 75, see also Taft 1928, Taft and Murphy 1950: 154); **Coyote Ck., at Madrone bridge**, 25/May/1927, A. C. Taft (CAS 73486, 3); **Coyote Ck., at Madrone bridge**, 25/May/1927, A. C. Taft (CAS 20802, 5); **Coyote Ck., Madrone**, 24/ Jun/1927 (Taft 1928, see also Taft and Murphy 1950, 154: 1); **Coyote Ck., above Madrone bridge**, 8/Jul/1927, A. C. Taft (CAS 137883, 125, see also Taft 1928, Taft and Murphy 1950, 154: 22); **Coyote Ck., near Madrone**, 2/Aug/1927, A. C. Taft and D. H. Fry (CAS 137888, 22, see also Fry 1936: 67); **Coyote Ck., above Madrone swimming hole**, 11/Oct/1927, D. H. Fry (CAS 137882, 8, see also Fry 1936: 67); **Coyote Ck., Madrone**, 25/Oct/1927 (Taft 1928, see also Taft and Murphy 1950, 154: 71); **Coyote Ck., above Madrone swimming pool**, 10/Nov/1927, D. H. Fry (NRM 24306, 3 see also Fry 1936: 67); **Coyote Ck., near mouth (Alison)**, 1926-1927, D. H. Fry (Fry 1936: 67, "exceedingly abundant"); **Coyote Ck., near Madrone**, 20/Feb/1928, A. C. Taft (CAS 113456, 3 and CAS 124568, 27, see also Taft

1928, Taft and Murphy 1950, 154: 67); **Coyote Ck.**, 12/ Nov/1935 (ZMH 15-063, 6); **Coyote Ck., at Calif. Hwy 9 opposite Milpitas, Calif. Hwy. 9 bridge**, elev. ca. 20 ft. (lat. 37°, 25', 20" N., long. 121°, 55', 30" W.), 2/Aug/1944, W. I. Follett (CAS 18605, 1, CAS 66436, 1); **Coyote River, junction of Cochran Road and Malaguira Road, east between Madrone and Morgan Hill**, [Sta.] No. 15, 24/ Aug/1945, D. A. and H. Simpson (CAS 13270, 30: 17-88 mm SL); **Coyote River, about 6 miles south of San Jose, near stone quarry**, [Sta.] No. 16, 24/Aug/1945, D. A. and H. Simpson (CAS 13272, 3: 33-62 mm SL); **Coyote River, Hwy. 101, 1.5 miles north of Coyote at concrete dam**, [Sta.] No. 17, 24/Aug/1945, D. A. and H. Simpson (CAS 13279, 3: 42-47 mm SL); **Coyote River, on Hwy. 101 at old service station at North Coyote**, [Sta.] No. 18, 24/Aug/1945, D. A. and H. Simpson (CAS 13281, 2: 52-55 mm SL); **Coyote River, at North Coyote just south of junction of unnamed creek flowing from east side of Hwy. 101**, [Sta.] No. 19, 25/Aug/1945, D. A. and H. Simpson (CAS 13284, 12: 42-59 mm SL); **Coyote R.**, 25/Aug/1945, D. A. Simpson (CAS 18727, 3: 53-76 mm SL); **Coyote Ck.** (Murphy 1948: 8); **Coyote Ck., 2.4 mi. downstream from junction of Gilroy Hot Springs Rd. and Canada Rd.** (T10S, R4E, S11), 23/Jul/1953, T. J. Merkel (CAS 20971, 5: no size); **Coyote Ck. drainage**, 29/Oct/1954, memorandum on fish collection (CDFG, 2 p., SJSU, CD-3); **Coyote Ck. drainage**, Nov/1954, memorandum on fish collection (CDFG, 2 p., SJSU, CD-7); **Coyote Ck.**, 23/Oct/1955, memorandum on fish collection (CDFG, 2 p., SJSU, CD-11, 12); **Coyote Ck. drainage**, 23/ Nov/1955 (SJSU CD-11, 12); **Coyote Ck., above bridge 0.8 mi. below Gilroy Hot Springs**, 12/May/1964, W.I. Follett (CAS, 3); **Coyote Ck., above bridge 0.8 mi. below Gilroy Hot Springs on Gilroy Hot Springs Rd.**, 12/May/1964, W.I. Follett (Follett 1973, 4: 3 specimens); **Coyote Ck., from confluence with Coyote Reservoir upstream 8.2 miles to center of Sec. 24, T9S, R4E**, 18/Mar/1965 (CDFG, 12: 8-14 in.); **Coyote Ck., upper and lower half, Coe State Park** (Guzzetta 1974: 28); **Middle Fork Coyote Ck., middle and lower third, Coe State Park** (Guzzetta 1974: 28); **East Fork Coyote Ck., Coe State Park** (Guzzetta 1974: 28); **Coyote Ck., 1) below Coyote Reservoir, 2) 2 km downstream from Gilroy Hot Springs, 3) Middle Fork, Coe State Park**, 1972-1977 (Scoppettone and Smith 1978: 63); **Anderson Reservoir**, 12/Oct/1973, electrofishing survey summary dated 20/May/1976 (CDFG, 5 p., 5: 2.8-6.9 in. FL); **Coyote Ck., Dunne Ave., inflow to**

**Anderson Lake**, Oct/1977 (Pitt and Bozeman 1982, p. 73); **Anderson Reservoir**, 10/Jun/1978, electrofishing survey (CDFG, 3 p., 4: 2.6-8.5 in. FL); **Anderson Reservoir**, 7-8/Jul/1980, electrofishing survey (CDFG, 5 p., 6: 2.0-5.5 in. FL); **Coyote Ck., a El Parque de la Raza de Paz, at canal input above pool**, 1/Sept/1981, R. Leidy and P. Fiedler, 1: 53 mm FL; **Coyote Ck., 25 m upstream from Metcalf Rd. crossing**, 3/Sept/1981, R. Leidy and P. Fiedler, 1: 27 mm FL; **Coyote Ck., 6.12 mi. E. on Gilroy Hot Springs Rd. from intersection with Canada Rd.**, 5/Sept/1981, R. Leidy and P. Fiedler, 4: 40-102 mm FL;

**GUADALUPE RIVER WATERSHED (Santa Clara):** **Guadalupe [Guadalupe] Ck.**, 1909, E. Starks (KU 10276); **Guadalupe Ck., San Jose (in city)**, 30/Sept/1922, C.L. Hubbs (UMMZ 63409, 1: 60 mm);

**STEVENS CREEK WATERSHED (Santa Clara):** **Stevens Ck., at Stevens Ck. County Park, 100 m upstream from gaging station**, 19/Aug/1981, R. Leidy and P. Fiedler, 2: 50-53 mm FL;

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/ San Mateo):** **San Francisquito Ck.** (Snyder 1905, 331, likely collected circa 1897); **San Francisquito Ck.** (Murphy 1948: 8);

**CORTE MADERA CREEK WATERSHED (Marin):** **Corte Madera Ck., Lagunitas Rd. bridge, just W. of Ross City Hall** (37°, 57', 45" N., 122°, 33', 15" W.), 1/Nov/1963 (San Francisco State College, 200); 1/Nov/1963, M. Bradbury and San Francisco State University Ichthyology Class (CAS 24726, 1: 64 mm SL); **Corte Madera Ck.**, 1976, environmental assessment (Madrone Associates, Table 9);

**NOVATO CREEK WATERSHED (Marin):** **Novato Ck., at 7<sup>th</sup> St., bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 1: 278 mm FL;

**SONOMA CREEK WATERSHED (Sonoma):** **Sonoma Ck., Sonoma**, 24/Jun/1963, J.D. Hopkirk and party (CAS 23255, 1: 75 mm SL); **Sonoma Ck., pool 0.25 mi. below Madrone Rd. bridge**, 7/Apr/1977 (CDFG, 2 p., "many observed", 10 at 18.0 in. average TL); **Sonoma Ck., at junction with West Watmaugh Rd.**, 15/Sept/1981, R. Leidy and P. Fiedler, 25: 37-73 mm FL;

**NAPA RIVER WATERSHED (Napa):** **Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 3 individuals); **Napa River, near the confluence of Tulucay Ck.**, archaeological site CA-NAP-39, no date, (J. Quinn 2002, unpublished data, minimum

number of individuals: 1); **Conn Ck.** (Snyder 1908a: 158, likely recorded as present circa 1897); **Conn Ck.**, possibly collected in 1897 by C. H. Gilbert (USNM 58331, 10+); **Napa River, Calistoga** (Snyder 1908a: 158, likely recorded as present circa 1897); **Napa River, Rutherford, Cal.**, possibly collected in 1897 by C. H. Gilbert (USNM 58323, 10+); **Capell Ck.**, 21/Sept/1935, H. O. Jenkins (CAS 23183, 1); **Capell Ck.**, 2/Nov/1935, H. O. Jenkins (CAS 23199, 1); **Lake Milliken** (Shapovalov 1940: 5); **Napa River, 2 mi. below Calistoga**, 1/Aug/1943, G. Murphy (SU 40811, 2); **Chiles Ck., about one mile above junction with Sage Ck., just above stone winery**, 9/Aug/1945 (Curtis 1945b, 5, 2 specimens: young adults); **Sage Ck., just above "Jack London"**, 10/Aug/1945 (Curtis 1945b, 6, 2 specimens: adults); **Conn Creek, just above dam under construction**, 13/Sept/1945, B. Curtis (CAS 20944, 1, also listed as about 30 specimens: up to 16 in. TL in CDFG, 3 p.); **Napa River** (Murphy 1948: 8); **Conn Valley Reservoir and its tributaries** (Murphy 1949, 4); **Lake Hennessey (Conn Valley Reservoir)**, 1/May/1950, B. Curtis (CAS 23080, 1: 209 mm SL); **Near mouth of Chiles Ck., Conn Reservoir**, 5/May/1951, R. R. Needham, W. Freihofer, and Zoology 138 class (USNM 241275, 1, also as CAS 24727, 1: 195 mm SL); **Chiles Ck.**, 5/May/1951, P. R. Needham and party (CAS 24727, 1: 195 SL); **Chiles Ck., middle flowing section, 0.5 mi. upstream from mouth upstream to confluence of west and east branches**, 7/Aug/1956, visual survey (CDFG, 3 p., noted as "...squawfish..."); **Napa River, creek near Yountville in Old Soldier's Home, a tributary to the Napa River**, 31/Aug/1958, E. Kirschbaum, T. Boud and D. Rentz (CAS 73497, 3); **Napa River, near mouth of Tulucay Ck.**, 4/May/1959, P. R. Needham and party (CAS 23826, 3: 59-81); **Tulucay Ck., near Imola Ave. West, Napa**, 12/May/1960, J. D. Hopkirk and J. Shimizu (CAS 73477, 1: 97 mm SL); **Napa River, from Bale Lane downstream to Zinfindel Lane (6.0 mi.)**, 9-10/Jun/1961, visual survey (CDFG, Stream Survey Files, Yountville, 3 p., noted as "...quite successful..."); **Napa River, 1 mi. north of Calistoga downstream to Bale Lane (5.5 mi.)**, 22-23/Jun/1961, visual survey (CDFG, 3 p., noted as "...extremely successful."); **Napa River, Napa**, 30/May/1963, J. D. Hopkirk, J. Shimizu and A. Ota (CAS 23270, 4: 62-97); **Tulucay Ck., upstream from railroad bridge, south of Imola Ave. West**, 26/May/1965, J.D. Hopkirk, J. Shimizu and D.H. Evans (CAS 24729, 2: 136-169 mm SL, males); **Napa River, 0.25 mi. upstream and downstream from Tulucay Ck., at**

**Napa's southern city limit**, 26/May/1965, J. D. Hopkirk, J. Shimizu and D. H. Evans (CAS 73499, 1: 74 mm SL); **Kimball Canyon Ck., base of St. Helena [Kimball Canyon] Reservoir dam**, 1/Jul/1965, visual survey (CDFG, 1 p., 10-20 observed); **Tulucay Ck., at state highway 29 bridge on Imola Ave. West, Napa**, 22/Apr/1966, A. Kuris, R. Berta and J. Hopkirk (CAS 73473, 1: 113 mm SL); **Napa River, 200 yds downstream from Hwy 20(12) xing, at SE edge of Napa**, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15182, 6; 65490, 4, listed in field notes as ca. 15 (3"-6"), common); **Bell Canyon Ck., from spillway of Bell Canyon Dam downstream to confluence with the Napa River (2 mi.)**, 20/Jun/1969, visual survey (CDFG, 4 p., 5 fish/100 ft. of stream: 1.0-4.0 in. TL); **Napa River, Zinfandel Lane bridge**, 29/Jul/1969, electrofishing (CDFG, 4 p., 181: no size); **Napa River, Berry Ave., Bale Ln., Pratt Ave., Pope St., Zinfandel Ln., Hwy. 128, Yountville Cross Rd. bridges**, 28/Jul/1969-8/Aug/1969, electrofishing (CDFG, 4 p., among "...most abundant species..."); **Napa River, Yount Mill Rd.**, 20/Oct/1972, P.B. Moyle (UCDPM, 72-24, 2); **Napa River, Yountville Cross Rd.**, 20/Oct/1972, P.B. Moyle (UCDPM, 72-23, 20); **Napa River, 8284 St. Helena Hwy.**, 26/Jul/1973, fish kill (CDFG, 2 p., noted as "Numerous squawfish..."); **Conn Ck., north of Skellinger Rd. bridge**, 28/Jul/1973, fish kill (CDFG, 3 p. + notes, estimated 51-100: 45.0 400.0 mm TL); **Napa River, 0.5 mi. section upstream from the Lincoln Ave. bridge, Napa**, 1/Nov/1973, electrofishing survey (CDFG, 2 p., 1: 288 mm FL); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1975, tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1 specimen total: no size); **Napa River, from Deer Park Rd. to about one-third mi. below the Pope St. bridge**, 16-17/Oct/1979, fish kill (CDFG, 1 p., 340: 3.0-9.0 in. TL); **Conn Ck., 1.5 mi. upstream from Lake Hennessy**, 9/Sept/1981, R. Leidy and P. Fiedler, 3: 32-64 mm FL; **Napa River, at Yountville Cross Rd. bridge, upstream at CDFG Ecological Reserve**, 10/Sept/1981, R. Leidy and P. Fiedler, 15: 150-172 mm, plus 30: 61-97 mm, plus 3: 243-162 mm FL; **Redwood Ck., on Redwood Rd. 0.25 mi. before junction with Browns Valley Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 2: 47-52 mm FL; **Chiles Ck., immediately downstream from junction of Lower Chiles Valley and Chiles-Pope Valley rds.**, 10/Sept/1981, R. Leidy and P. Fiedler, 2: 48-64 mm FL; **Tulucay Ck., 50 m upstream from Suscol Ave. bridge**, 12/Sept/1981, R. Leidy and P.

Fiedler, 5: 160-203 mm FL; **Milliken Ck., immediately upstream from West Trancas Rd. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 2: 50-60 mm FL; **SUISUN CREEK WATERSHED (Solano): Lake Curry and Gordon Valley Creek at foot of spillway** (Shapovalov 1940: 13); **Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater**, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys (CDFG, 4 p., notes "...abundant from fry up to 18 in. individuals."); **Suisun Ck., at Suisun Valley Rd. crossing immediately before Twin Sisters Gun Club turnoff (T5N, R2W, S7)**, 2/Oct/1981, R.A. and G.R. Leidy, 9: 50-131 mm FL;

#### *Rhinichthys osculus* (speckled dace)

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Santa Isabel Ck., Mt. Hamilton**, as *Apocope oscula*, 20/Jul/1898, J. O. Snyder (CAS 137823, 30 and CAS 116172, 41); **Arroyo Honda and Isabel cks.**, as *Agosia nubila carringtoni* (Snyder 1905, 337); **Alameda Ck., at junction with Calaveras Ck.**, 19/May 1938, L. Shapovalov (CAS 73763, 1: 46 mm SL, also CAS Acc. 1952-X: 30, 1).

**COYOTE CREEK WATERSHED (Santa Clara):** [Coyote Ck.], "**Santa Clara County**", 15/Oct/1896, Gilbert, Osgood and Snyder (ANSP 92473, 2); **Coyote Ck., near mouth**, as *Agosia nubila carringtoni* (Snyder 1905, 337-338); **Coyote Ck.** (Murphy 1948: 8); **Coyote Ck., Hwy 237**, 1972-1977 (Scoppettone and Smith 1978: 62-64); **Coyote Ck., near Riverside Golf Course**, 1974, R.L. Hassur, SJSU, personal communication (Scoppettone and Smith 1978: 64);

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/San Mateo): San Francisquito Ck., 197?**, (YPM 9442, 59);

**NAPA RIVER WATERSHED (Napa): Napa River** (Murphy 1948: 8, refer to discussion of species distribution in text);

#### CATOSTOMIDAE (SUCKERS)

##### Unidentified Catostomid sp. (sucker)

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/San Mateo): "Francisquita [San Francisquito] Creek"**, 1860, A. Agassiz (MCZ 2290, 2);

##### *Catostomus occidentalis* (Sacramento sucker)

**SAN FRANCISCO (San Francisco): San Francisco**



**markets, California**, type locality (Ayres 1854: 17); **San Francisco**, Dr. Newberry (Girard 1856: 174, 1857: 28, 1858: 224), [? Markets, as stated in Hopkirk 1973: 68]; **San Francisco Markets** (Ayres 1854); **San Francisco**, likely collected mid-1800s, Newberry (USNM 241, 1, listed as type in ledger, retained as typed pending confirmation of status, orig. no. 2794); **San Francisco (market)**, 26/Jun/1860, A. Agassiz (UMMZ 87263, 1: 320 mm SL); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 2287, 4: 60-700 mm SL); **"Market, from the Sacramento and its tributaries"** (Lockington 1879: 50);

**SAN FRANCISCO BAY: San Francisco Bay**, 3/Feb/1862, as *C. labiatus* and *C. occidentalis* (Ayres 1854-1862: 163); **"...Mare Island"** (Eigenmann 1890: 56); **"San Pablo Creek, Antioch Bridge, Ottos big break"**, 31/Mar/1952, S. Wietzman (CAS 66213, 1); **Carquinez Straits (north shore) at Benicia**, within 400 yds of end of West 3<sup>rd</sup> Street, 28/Jun/1967, C. and D. Swift (FLMNH Field No. CCS67-96, 4 adult[s], many y-o-y common); **San Pablo Bay, vicinity of San Pablo Creek marsh**, Apr/1974 (Nakaji 1975, 1: 80 mm FL)

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77); **"Six miles back of Clayton"**, 3/Jul/1927, L.R. Rivas (SU 60178, 1); **Marsh Ck., 3 mi. E. of Livermore**, 2/Apr/1939, R. R. Miller and J. B Davies (FLMNH 7860, 8, see also SSU, no. 278: 31: no size); **Marsh Ck., 7.5 mi. E. of Mt. Diablo**, 19/Feb/1939, R.R. Miller and J. Davies (SSU 277, 1); **Marsh Ck., 0.5 mi. east of marsh Creek Springs Park**, 5/Sept/1945, D. A. and H. Simpson (CAS 17933, 26, small juveniles); **Marsh Ck., at Cypress Rd. crossing**, 22/May/1981, R.A. and G.R. Leidy, 1: 513 mm FL; **MT. DIABLO CREEK WATERSHED (Contra Costa): Mt. Diablo Ck., immediately upstream from Port Chicago Hwy. Bridge**, 21/Sept/1981, R. Leidy and P. Fiedler, 9: 99-192 mm FL;

**WALNUT CREEK WATERSHED (Contra Costa): "Tice [Creek] Valley, Rossmore, Walnut Creek, Contra Costa Co."**, A.D. 1400-1500, archaeological site CCO-309 (Gobalet 1992: 76-77, 80); **Walnut Ck., at Alamo**, 19/Dec/1942, G. Murphy (SU 40793, 2); **San Ramon Creek, 1.8 mi. above Walnut Ck. (town)**, 3/Aug/1945, W. I. Follett (CAS 19899, 50+, also as CAS WIF2235, 58); **Walnut Ck.** (Murphy 1948: 8); **Walnut Ck., near Duncan St.**, 20-21/Jul/1977, visual survey (CDFG, 5 p., noted as "...a few suckers": 6.0-8.0 in.

FL); **San Ramon Ck., lower reaches**, 26/Jul/1977, visual survey (CDFG, 3 p., noted as "...occasionally seen...": 4.0-8.0 in. FL, also several dying); **Walnut Ck., pool immediately below drop structure downstream from Bancroft Rd. crossing**, 14/July/1978, seine sampling (CDFG, 1 p. several: about 3.0 in. TL); **Walnut Ck., 50 m upstream from confluence with Pine Ck.**, 5/Oct/1980, R.A. and G.R. Leidy, 5: 121-180 mm TL; **Walnut Ck., 50 m upstream from S.P.R.R. bridge at Walnut Creek Civic Center**, 5/Oct/1980, R.A. and G.R. Leidy, 2: 95-102 mm TL; **Walnut Ck., immediately downstream from Creekside Dr. bridge at USGS gauging station**, 5/Oct/1980, R.A. and G.R. Leidy, 9: 260-315 mm TL; **San Ramon Ck., below bedrock falls approx. 150 m downstream from Chaney Rd. crossing**, 5/Oct/1980, R.A. and G.R. Leidy, 19: 152-381 mm TL; **San Ramon Ck., 0.3 km downstream from Alamo Cemetery off La Gouda Way**, 6/Oct/1980, R.A. and G.R. Leidy, 4: 178-318 mm TL; **San Ramon Ck., pool 75 m downstream from Chaney Rd. crossing (above bedrock falls)**, 7/Oct/1980, R. Leidy and P. Fiedler, 8: 258-304 mm TL; **Las Trampas Ck., 50 m upstream from Pleasant Hill Road bridge**, 12/Oct/1980, R.A. and G.R. Leidy, 20: 102-178 mm TL;

**ARROYO HAMBRE CREEK WATERSHED (Contra Costa): Alhambra Ck.**, 31/Jul/1980, fish kill (CDFG); **Arroyo Hambre at Estudillo Park, upstream from Susana St. bridge opposite junior high school**, 24/Aug/1981, R. Leidy and P. Fiedler, 15: 65-222 mm FL; **Arroyo Hambre at Alhambra Way**, 24/Aug/1981, R. Leidy and P. Fiedler, 50: 58-110, 1: 206);

**RODEO CREEK WATERSHED (Contra Costa): Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., 11: 4.5-17.5 in. TL); **Rodeo Ck., immediately downstream from Hwy. 80 bridge**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., 2: no size); **Rodeo Ck., about 0.5 mi. upstream from Hwy. 80 at bridge leading to Colliery**, 14/Feb/1974, electrofishing survey (CDFG, 4 p., estimated at 100-200 fish); **Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure**, 20/Mar/1974, electrofishing survey (CDFG, 4 p., 15: 2.5-17.6 in. FL);

**PINOLE CREEK WATERSHED (Contra Costa): Pinole Ck., 1.5 mi. reach from Hwy. 80 downstream**, 23/Apr/1975, fish kill (CDFG, 3 p., 2,262: 3.0-8.0 in., 14: 16.0-19.0 FL); **Pinole Ck., streams lower reaches**, 5-6/May/1976, visual

survey (CDFG, 4 p., noted as "one...sighted"); **Pinole Ck., 25 m reach immediately downstream from Simas Ave. crossing, Pinole**, 9/Nov/1978, electrofishing survey (CDFG, 3 p., found: 1.0-3.0 in. FL); **Pinole Ck., 175 yd. reach downstream from junction of Castro Ranch and Pinole Valley rds.**, 6/Nov/1979, electrofishing survey (CDFG, 2 p., 3: average 2.2 in. FL); **Pinole Ck., 175 yd. reach downstream from junction of Castro Ranch and Pinole Valley rds.**, 20/Nov/1979, electrofishing survey (CDFG, 4 p., 3: average 2.2 in. FL); **Pinole Ck., 70 yd. reach upstream from the Pinole Valley Rd. crossing, N. of the Ellorhorst intersection**, 20/Nov/1979, electrofishing survey (CDFG, 4 p., 1: 5.3 in. FL); **Pinole Ck., 100 m upstream from culvert under San Pablo Ave.**, 23/Jun/1981, R. Leidy and P. Fiedler, 1: 575 mm FL; **Pinole Ck., 200 m downstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 25: 80-93 mm FL; **Pinole Ck., 100 m upstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 4: 120-141 mm FL; **Pinole Ck., 150 m upstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 4: 130-145 mm FL; **Pinole Ck., 175 m upstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 5: 100-110 mm FL; **Pinole Ck., 200 m upstream from Interstate 80 crossing**, 23/Jun/1981, R. Leidy and P. Fiedler, 50: 42-91 mm FL; **Pinole Ck., Pinole Valley Rd. bridge opposite high school**, 23/Jun/1981, R. Leidy and P. Fiedler, 3: 36-48 mm FL; **Pinole Valley Rd. bridge, immediately upstream from Elhorst School**, 23/Jun/1981, R. Leidy and P. Fiedler, 15: 31-65 mm FL; **Pinole Ck., immediately downstream from junction of Pinole Valley and Castro Ranch rds.**, 24/Jun/1981, R. Leidy and P. Fiedler, 5: 97-188 mm FL;

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck.**, B.C. 1000 – A. D. 500, archaeological sites CCO-268, -269 (Gobalet 1990a: 239, 241); **San Pablo Ck.**, A.D. 500- A.D. 1100, archaeological sites CCO-600 (Gobalet 1994: 125-126); **San Pablo Ck., 6 mi. below San Pablo Reservoir**, 1/Dec/1942, G. Murphy (SU 40791, 69); **San Pablo Ck.** (Murphy 1948: 8); **San Pablo Ck., at east end of San Pablo Reservoir**, 31/Mar/1952 (USNM 239030, 3); **Lower San Pablo Ck.**, 22/Mar/1954, notes in preparation for field trip to San Pablo Ck. (P. R. Needham, U.C. Berkeley, Zoology 138 class, 1 p., states that "Lower San Pablo Creek has a fine population of suckers..."); **San Pablo Ck., silt dam**, 14/Apr/1956 (P.R. Needham and Zoology 138 class, U.C. Berkeley, 7); **Bear Ck., from mouth at San Pablo**

**Reservoir upstream 5 mi.**, 13/Sept/1960, visual survey (CDFG, 5 p., noted as "One sucker was found in the large pool in Station #1"); **San Pablo Reservoir** (CAS: 1, from Hopkirk 1973: 66); **San Pablo Ck., from the confluence of Lauterwasser Ck., downstream to the confluence of Bear Ck. (2.1 mi.)**, 3/Jun/1976, visual survey (CDFG, 4 p., noted as "...larval suckers...were fairly numerous approximately 0.2 mi. downstream from Bear Ck. Rd. bridge."); **San Pablo Ck., about 1.5 mi. downstream from the Orinda Filtration Plant**, 75 yds. of San Pablo Ck. above and 100 yds. below the confluence with Bear Ck., 4/Jun/1976, electrofishing survey (CDFG, 3 p., numerous, 8 at 0.8-0.9 in. FL); **San Pablo Ck., 0.2 mi. downstream from Bear Ck. Rd. bridge**, 4/Jun/1976, electrofishing survey (CDFG, 3 p., larval suckers, numerous: no size); **San Pablo Ck. at Rancho School on N. side of new development**, 13/Jul/1981, R. Leidy and P. Fiedler, 3: 82-91 mm FL; **San Pablo Ck., 30m above bridge to St. Joseph Cemetery**, 13/Jul/1981, R. Leidy and P. Fiedler, 3: 135-166 mm FL; **San Pablo Ck., 100 m below junction of San Pablo Ave.**, 13/Jul/1981, R. Leidy and P. Fiedler, 4: 113-255 mm FL; **San Pablo Ck., 15m below junction with 13<sup>th</sup> St.**, 13/Jul/1981, R. Leidy and P. Fiedler, 3: 116-191 mm FL; **San Pablo Ck., at S.P.R.R. crossing**, 13/Jul/1981, R. Leidy and P. Fiedler, 5: 81-206 mm FL; **San Pablo Ck. at junction with 3<sup>rd</sup> St.**, 13/Jul/1981, R. Leidy and P. Fiedler, 2: 66-92 mm FL;

**SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa): West Branch of San Leandro Ck.**, 14-15/Aug/1974, electrofishing and visual survey (CDFG, 7 p., **1) concrete drop structure near entrance to Moraga Country Club**, to 100 ft. downstream, 120: 1.0-5.0 in. TL, **2) upstream and downstream from concrete drop structure within Moraga Country Club**, many (27 collected): 1.0-5.0 in. TL, **3) stream reach in vicinity of Miramonte High School**, observed: less in number than site 2, above, **4) confluence of N. and W. branches San Leandro Ck.**, large numbers observed: 1.0-5.0 in. TL); **North Branch of San Leandro Ck.**, 14-15/Aug/1974, electrofishing and visual survey (CDFG, 7 p., **1) near confluence with W. branch San Leandro Ck.**, observed: 1.0-5.0 in. TL; **2) between road crossings adjacent to firehouse on Moraga Way**, 20: 1.0-4.0 in. TL; **3) near abandoned labor camp upstream from Moraga Way crossing**, 2: no size, **4) Moraga Rd. above junction with St. Mary's Rd.**, 15: no size); **Redwood Ck., opposite Redwood Ck. Fire Station**, 6/Jun/1978,

electrofishing survey (CDFG, 3 p., 1: 13.5 in. FL); **Redwood Ck., 150 yd. reach in front of fire station**, 5/Mar/1979, electrofishing survey (CDFG, 4 p., 8: estimated 8.0-18.0 in. FL); **Redwood Ck., from culvert under Pinehurst and Redwood rds. downstream approximately 475 yds.**, 10/Apr/1979, electrofishing survey (EBRPD, 2 p., 13: 2.0-15.6 in. FL); **Redwood Ck.**, 21/Mar/1980, electrofishing survey (CDFG, 2 p., **1) 100 yd. reach upstream from Redwood Park bridge**, 7: 10.8-17.0 in. FL, **2) 100 yd. reach above and below fire station on Redwood Rd.**, 3: 14.6-17.1 in. FL); **San Leandro Ck., immediately downstream from MacArthur Blvd. crossing**, 22/Jul/1981, R. A. Leidy and P. Fiedler, 1: 111 mm, plus 3: 76-121 mm FL in pool under bridge; **San Leandro Ck., approximately 250 m downstream from MacArthur Blvd. bridge**, 22/Jul/1981, R. Leidy and P. Fiedler, 4: 96-141 mm FL; **Redwood Ck., from Pinehurst Rd. upstream to confluence with West Fk.**, 1/Apr/1981, electrofishing survey (EBRPD, 5 p., 16: 14.2-17.5 in. FL); **Moraga Ck., immediately downstream from Moraga Rd. bridge near BM 498**, 7/Aug/1981, R. Leidy and P. Fiedler, 7: 44-147 mm FL; **Moraga Ck., at crossing of old Moraga Way**, 5/Aug/1981, R. Leidy and P. Fiedler, 3: 37-111 mm FL;

**SAN LORENZO CREEK WATERSHED (Alameda): Crow Creek**, Jun-Jul/1954, G. M. Peckham (CAS, Acc. 1954-IX: 16, 2, also as CAS 75187, 2); **San Lorenzo Ck., from pool below Don Castro Dam downstream to concrete channel**, 4-5/Aug/1975, visual survey (CDFG, 5 p., noted as "adult and young-of-the-year suckers...observed in great numbers."); **Crow Ck., lower reaches**, 5-6/Aug/1975, visual survey (CDFG, 4 p., observed); **Don Castro Reservoir**, 27/Aug/1975, fishery resource assessment (CDFG, Stream Survey Files, Yountville, 1 p., present: no abundance or size); **San Lorenzo Ck. at junction with 2<sup>nd</sup> St. across from Hayward City Hall**, 23/Jul/1981, R. Leidy and P. Fiedler, 3: 53-80 mm FL; **San Lorenzo Ck., 50 m upstream from 2<sup>nd</sup> St. bridge**, 23 Jul/1981, R. Leidy and P. Fiedler, 12: 35-211 mm FL; **San Lorenzo Ck., 50 m downstream from confluence of Crow Ck.**, 24/Jul/1981, R. Leidy and P. Fiedler, 6: 110-263 mm FL; **San Lorenzo Ck., pool immediately below Cull Canyon Reservoir spillway**, 25/Jul/1981, R.A. and G.R. Leidy, 3: 147-304 mm FL; **San Lorenzo Ck., 100 m upstream from Hwy 580 crossing**, 25/Jul/1981, R.A. and G.R. Leidy, 2: 80-92 mm FL; **Crow Ck., approx. 1 mi. upstream from junction of Cull Canyon and Crow Canyon rds., at second road crossing**, 25/

Jul/1981, R.A. and G.R. Leidy, 7: 69-232 mm FL;

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Arroyo de la Laguna, west of the intersection of Interstate 680 and Bernal Avenue, in town of Pleasanton**, beginning at least 1465 B.C., archaeological site ALA-483 (Gobalet 1990b: 246); **Alameda Ck., just north of the confluence of Dry Ck., Union City**, 1 A.D. – 600 A.D., archaeological site ALA-453 (Schulz 1986: 3, 5); **Santa Isabel Ck., Mt. Hamilton**, 20/Jul/1898, J. O. Snyder (CAS 137004, 12); **Mt. Hamilton, Santa Isabel Ck.**, 30/Jul/1898, J. O. Snyder (CAS 168823, 1, also as SU 66230, 1); **Alameda [Ck.]**, likely collected in ca. 1898, J. O. Snyder (MNH 1901 0203, 1; 0204, 1; 0205, 1; 0206, 1; 0207, 1; 0208, 1, see also CNHM 2592, 3: small adults); **Alameda, Arroyo Honda, Smith and Isabel creeks** (Snyder 1905: 331); **Alameda Ck., immediately below dam in Niles Canyon**, 24/Jul/1927, W.I. Follett (Follett 1974, 1: as "suckers", several: half-grown); **"Livermore"**, 8/Jul/1931 (CAS 11666, 1); **Alameda Ck.** (Seale 1934, 152); **Alameda Ck., at confluence of Pirate Ck.**, 19/May/1938, L. Shapovalov, field note (CDFG, 3 p., states that "Many chubs and suckers present."); **Alameda Ck., near Sunol Water Temple**, 19/May/1938, L. Shapovalov, field note (CDFG, 3 p., states that "...chubs and suckers to 5 in. common here."); **Alameda Ck.**, 25/Feb/1939, R. R. Miller and G. Murphy (SSU, no. 280, 5: no size); **Calaveras Reservoir**, 7/Jun/1945, lake survey (CDFG, 2 p., present); **Isabel Ck., reach beginning 7 mi. downstream from Isabel Lake dam**, 20/Jul/1948, L. Shapovalov (CDFG, 1 p., states that "...there are some miles of good trout water."); **Alameda, Arroyo Honda, Smith, and Isabel crks.** (Murphy 1948: 8); **Calaveras Reservoir**, 23/Apr/1951, S. K. Carnie (CAS 20566, 2); **Smith Ck., Mt. Hamilton area**, 2/Jul/1953, field note (CDFG, 3 p., present); **Isabel Ck., 6 mi. accessible from Mt. Hamilton Springs resort**, 2/Jul/1953, field notes (CDFG, 4 p., present); **Alameda Ck., ca. 100 yds. below SPRR bridge, Niles**, 31/Oct/1955, W.I. Follett and G.M. Peckham (CAS, Acc. 1955-X: 31, several half-grown); **Alameda Ck.**, 29/Jul/1956, G.M. Peckham (CAS, Acc. 1956-VIII: 7, 1: small adult); **Alameda Ck., Niles, opposite California Nursery Co., pools**, 25/Mar/1957, W. I. Follett and G. M. Peckham (CAS 26256, 1: half-grown); **Alameda Ck., at Niles Sand and Gravel Co. pool**, 22/Apr/1957, W. I. Follett and G. M. Peckham (CAS 26726, 1: 336 mm SL); **Alameda Ck., 0.2 mile above bridge of new fwy near Niles**, 21/Jul/1957, W. I. Follett and G. M. Peckham (CAS

26747, 1: half-grown); **Alameda Ck., near hwy. bridge E. of Niles**, 18/Aug/1961, J. D. Hopkirk, S. Mathews and R. Behnke (CAS 22878, 16: 33-94 mm SL, and 22883, 1: 241 mm SL); **Alameda Ck., Niles Canyon Road and Highway 84**, 22/Feb/1966, J. Hopkirk and party (CAS 17865, 63: 31-79 mm SL); **Alameda Ck., Niles Canyon Road and Highway 84**, 22/Feb/1966, J. Hopkirk and party (CAS 17865, 63: 31-79 mm SL); **Alameda Ck., at Niles**, 22/Feb/1966, J.D. Hopkirk and party (CAS, Acc. 1966-VI: 20, 4: 61-80 mm SL); **Arroyo de la Laguna, 3 mi. N. of Sunol**, 22/Feb/1966, J.D. Hopkirk and party (CAS, Acc. 1966-VI: 20, 3: 73-96 mm SL); **Alameda Ck., at Niles (xing Hwys 9 and 21)**, 25/Jun/1967, C. and D. Swift (FLMNH 15194, 82); **[Arroyo Mocho], Kaiser Borrow Pits** (will be called "Shadow Cliffs"), Pleasanton, 19/Mar/1970, W. E. Strohochein (CAS 39826, 1); **Alameda Ck., picnic ground at railroad bridge, Niles Canyon**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 3: dead and parts of three others); **Alameda Ck., Niles Canyon, 0.3 mi. downstream from picnic ground at railroad bridge**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 2: dead); **Alameda Ck., approx. 0.6 mi. upstream from bridge "1948" on Niles Canyon Rd.**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 2: dead); **Alameda Ck., approx. 3.4 mi. upstream from bridge "1948" on Niles Canyon Rd.**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 14: dead); **Alameda Ck., Niles Canyon area**, 17/Jul/1973, creel census (CDFG, 2 p., 1 dead: 12-14 in. TL); **Alameda Ck.** (lat. 37°, 34', long. 121°, 59', elevation 12 m), 20/Jun/1973 (Aceituno *et al.* 1976: 199, 14: 56-348 mm FL); **Alameda Ck.** (lat. 37°, 35', long. 121°, 55', elevation 55 m), 20/Jun/1973 (Aceituno *et al.* 1976: 199, 5: 26-50 mm FL); **Alameda Ck.**, (37°, 30'N, 121°, 49'W., elevation 134 m), 20-21/Jun/1973 (Aceituno *et al.* 1976, 199, 6: 232-281 mm FL); **Arroyo de la Laguna, bridge at Castlewood Golf Course bridge downstream 50 ft.**, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., present: to 7.0-10.0 in. TL); **Alameda Ck., Niles Canyon near Kaiser Quarry (T4S, R1W, S12)**, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., numerous: most 7.0-9.0 in. TL); **Arroyo de la Laguna, from closed bridge (first bridge downstream from Castlewood Golf Course bridge) downstream 100 yds.**, 13/Nov/1975, USFWS electrofishing survey (CDFG, 1 p., numerous: no size); **Alameda Ck.** (lat. 37°, 30', long. 121°, 49', elevation 134 m), 20/Jun/1973 (Aceituno *et al.* 1976: 199, 6: 232-281 mm FL); **Lake Del Valle** (California Department of Water Resources 1974, 25); **Arroyo Mocho Ck., Lawrence Laboratory pumping station** (NE0.25 of S.8, T4S, R3E), 3/Feb/1976, electrofishing survey (CDFG, 2 p., 23: 7 at 105-230 mm FL); **Arroyo Mocho Ck., Cedar Brook Ranch** (SW0.25 of S.14, T4S, R3E), 3/Feb/1976, electrofishing survey (CDFG, 2 p., 10: 58-323 mm FL); **Arroyo de la Laguna Ck., 100 ft. reach located between 300 and 400 ft. upstream from Bernal Rd. bridge**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., 21, 8 at 140-272 mm FL); **Arroyo de la Laguna Ck., 100 ft. reach located between 225 and 325 ft. downstream from Castlewood Rd. bridge**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., 9, 7 at 201-255 mm FL); **Arroyo de la Laguna Ck., 150 yds. upstream from confluence with Alameda Ck.**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., 1: 192 mm FL); **Arroyo de la Laguna Ck., 200 yds. upstream from Interstate 680 bridge**, 9/Apr/1976, electrofishing survey (CDFG, 2 p., 4: 9.0-10.25 in. FL); **Arroyo de la Laguna Ck., 150 yd. reach from under Interstate 680 bridge downstream**, 9/Apr/1976, electrofishing survey (CDFG, 2 p., 21: 8.75-11.5 in. FL); **Alameda Ck., 200 yd. reach adjacent to and downstream from the USGS Niles gauging station**, 8/May/1976, electrofishing survey (Chabot College Ecology 40-84 class and J. Smith, CDFG, 2 p., 15: 95-450 mm FL); **Shinn Pond, Niles District of Fremont**, 31/Aug/1976, gill and net sampling (CDFG, 14 p., 4: 13.1-17.6 in. FL); **Kaiser B Pond, Niles District of Fremont**, 2/Sep/1976, gill and net sampling (CDFG, 14 p., 7: 12.0-13.6 in. FL); **Isabel Ck., Bayou Rd.**, 1972-1977 (Scoppettone and Smith 1979: 63); **Smith Ck., Mt. Hamilton Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Arroyo Hondo, Arroyo Hondo Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Alameda Ck., 0.5 km upstream from junction with Calaveras Ck.**, 1972-1977 (Scoppettone and Smith 1978: 64); **Arroyo de la Laguna, 1) Castlewood Rd., 2) near mouth**, 1972-1977 (Scoppettone and Smith 1978: 64); **Arroyo Mocho, Lawrence Laboratory pumping station**, 1972-1977 (Scoppettone and Smith 1978: 64); **Arroyo Valle, two ponds south of Shadow Cliffs Reservoir**, 7/1978, electrofishing survey (CDFG, 1 p., present: no size); **Arroyo Mocho Ck., 0.4 km upstream from BM 2657 on Mines Rd.**, T5S, R4E, S27, 26/Jul/1981, R.A. and G.R. Leidy, 21: 113-307 mm FL; **Arroyo Mocho Ck., downstream from crossing of Wente Rd.**, T3S, R2E, S22, 27/Jul/1981, R. Leidy and P. Fiedler, 2: 23-114 mm FL; **South San Ramon Ck., upstream from Fwy. 580 crossing**, 30/Jul/1981, R.A. and



G.R. Leidy, 3: 92-216 mm FL; **Arroyo Valle Ck., upstream from Hwy. 84 crossing**, 1/Aug/1981, R.A. and G.R. Leidy, 12: 116-181 mm FL; **Arroyo Mocho Ck., downstream from Wente Rd. crossing**, T3S, R2E, S22, 1/Aug/1981, R.A. and G.R. Leidy, 14: 54-99 mm FL; **Arroyo Mocho Ck., 100 m upstream from Hwy. 84 crossing**, 1/Aug/1981, R.A. and G.R. Leidy, 10: 67-275 mm FL; **Alameda Ck., at Sunol Regional Wilderness headquarters**, T5S, R2E, S17, 6/Aug/1981, R. Leidy and P. Fiedler, 3: 64-151 mm FL; **Isabel Ck., at crossing of San Antonio Rd.**, T7S, R3E, S1, 13/Aug/1981, R. Leidy and P. Fiedler, 1: 59 mm FL; **Smith Ck., at Mt. Hamilton Rd. crossing**, 13/Aug/1981, R. Leidy and P. Fiedler, 1: 60 mm FL; **Arroyo Bayo Ck., 1.2 km E. of BM 1924 on San Antonio Rd.**, T7S, R4E, S5, 13/Aug/1981, R. Leidy and P. Fiedler, 17: 82-214 mm FL; **Alameda Ck., at 1<sup>st</sup> gaging station above Niles**, T4S, R1W, S15, 27Sept/1981, R. Leidy and P. Fiedler, 3: 304-354 mm FL; **Alameda Ck., at 1<sup>st</sup> railroad crossing above Niles**, T4S, R1W, S15, 1/Oct/1981, R. Leidy and P. Fiedler, 1: 73 mm FL;

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., near mouth and San Jose** (Snyder 1905, 331, 338); **Coyote Ck., near Gilroy Hot Springs**, 25/Jul/1909, U.S. Bureau of Fisheries (SU 37010, 149); **[Coyote Ck.], "San Jose"**, 30/Sept/1922, C. L. Hubbs (ANSP 85340, 1); **Coyote Ck., San Jose (inside city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 63400, 9: 44-178 mm SL); **Coyote Ck., between Milpitas and Alviso**, 24/Oct/1922, C. L. Hubbs (UMMZ 63399, 2: 39-55 mm SL); **Coyote Ck., about 5 miles southwest of Gilroy Hot Springs**, 25/Apr/1925 (CAS 137009, 24); **Coyote Ck., at Madrone bridge**, 25/May/1927, A. C. Taft (CAS 20801, 54); **Coyote Ck., in canyon east of the town of Madrone**, 1926-1927, D. H. Fry (Fry 1936: 66-67); **Coyote Ck., above Madrone swimming hole**, 11/Oct/1927, D. H. Fry (CAS 137008, see also Fry 1936: 67); **Coyote Ck., 1.8 mi. above turn off to Coyote Reservoir on Gilroy Hot Springs Rd.**, 17/Jul/1940, L. Shapovalov, field notes (CDFG, 2 p., states that "Minnows and suckers abundant where there is water."); **Coyote Ck., opposite Milpitas**, 11/May/1944, W. I. Follett (W.I. Follett 1974, 3, several small); **Coyote Ck., opposite Milpitas, Calif. Hwy. 9 bridge**, 2/Aug/1944, W. I. Follett (CAS 18603, 5); **Unnamed tributary to Coyote Ck., 1 mi. east of Hwy. 101, 0.5 mi south of Coyote**, [Sta.] No. 14, 19/May/1945, D. A. Simpson and R. R. Harry (CAS 13263, 14); **Coyote Ck., at Red Bridge 1 mi. north of Coyote on Hwy. 101**, [Sta.] No. 10, 19/May/1945, D. A. Simpson and R. R. Harry (CAS 13264, 87:

small young); **Coyote Ck., 300 yds. below Coyote Dam at Coyote Lake**, [Sta.] No. 14, D. A. and H. Simpson (CAS 13267, 20: small young); **Coyote River, junction of Cochran Road and Malaguira Road, east between Madrone and Morgan Hill**, [Sta.] No. 15, 24/Aug/1945, D. A. and H. Simpson (CAS 13268, 2: one-third grown); **Coyote River, about 6 miles south of San Jose, near stone quarry**, [Sta.] No. 16, 24/Aug/1945, D. A. and H. Simpson (CAS 13273, 1: one-third grown); **Coyote River, Hwy. 101, 1.5 miles north of Coyote at concrete dam**, [Sta.] No. 17, 24/Aug/1945, D.A. and H. Simpson (CAS 13276, 6: small young); **Coyote River, on Hwy. 101 at old service station at North Coyote**, [Sta.] No. 18, 24/Aug/1945, D. A. and H. Simpson (CAS 13283, 3); **Coyote River, at North Coyote just south of junction of unnamed creek flowing from east side of Hwy. 101**, [Sta.] No. 19, 25/Aug/1945, D. A. and H. Simpson (CAS 13286, 177: small young and one-third grown); **Coyote River**, likely collected in Aug/1946, D. A. Simpson (CAS 18725, 25); **Coyote Ck.** (Murphy 1948: 8); **Coyote Ck., 0.4 mi. by rd. downstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R4E., Sec. 12**, 23/Jul/1953, T.J. Merkel, seine survey (CAS 20968, 3, also as CDFG, 1 p., notes "several... *Catostomus* collected."); **Coyote Ck., 1.4 mi. by rd. downstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R4E., Sec. 11**, 23/Jul/1953, T.J. Merkel, seine survey (CAS 20970, 1, also as CDFG, 1 p., notes "...one *Catostomus* collected."); **Coyote Ck.**, various locations (see preceding records), 23/Jul/1953, T. J. Merkel (CAS 20968, 3; CAS 20970, 1); **Coyote Ck., above bridge 0.8 mi. below Gilroy Hot Springs on Gilroy Hot Springs Rd.**, 12/May/1964, W.I. Follett (Follett 1973, 4: 1 specimen); **Coyote Ck.**, 5/Nov/1964, memorandum on fish collection (CDFG, 2 p., SJSU, CD-28); **Coyote Ck., from Coyote Reservoir upstream 8.2 mi. to center of Sec. 24 of T9S, R4E**, 18/Mar/1965, visual survey, (CDFG, 3 p., 35: 6.0-8.0 in. TL); **Coyote Ck., btw. Coyote Reservoir and Gilroy Hot Springs**, 5/Sept/1965, R.N. and M. Lea (CAS, Acc. 1967-I: 9, 18); **Anderson Reservoir**, 6-7/May/1970, electrofishing survey (CDFG, 2 p., many: no size); **Santa Teresa Park pond**, 12-13/Oct/1972, beach seine (SJSU, Zoology 150 class, 4 p., 1: 11.0 in. TL); **Coyote Ck.**, 7/Mar/1972, field notes (R. L. Hassur, SJSU); **Coyote Ck.** (lat. 37°, 13', long. 121°, 45', elevation 58 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 3: 293-330 mm FL); **Coyote Ck.** (lat. 37°, 10', long. 121°, 38', elevation 116 m), 21/Jun/1973

- (Aceituno *et al.* 1976: 203, 3: 78-318 mm FL); **Anderson Reservoir**, 12/Oct/1973, electrofishing survey summary dated 20/May/1976 (CDFG, 5 p., 1: 15.6 in. FL); **Coyote Ck., upper and lower half, Coe State Park** (Guzzetta 1974: 28); **Middle Fork Coyote Ck., middle and lower third, Coe State Park** (Guzzetta 1974: 28); **East Fork Coyote Ck., Coe State Park** (Guzzetta 1974: 28); **Cottonwood Lake**, 8/Apr/1974, electrofishing survey (CDFG, 3 p., 4: 15.0-16.9 in. FL); **Coyote Ck., Berryessa Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 20: 3.0-11.0 in. FL); **Coyote Ck., San Jose Municipal Golf Course, Oakland Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., 4: 4.0-8.0 in. FL); **Cottonwood Lake**, 16/Oct/1975, electrofishing survey (CDFG, 2 p., 1: 10.4 in. FL); **Coyote Ck., 1) mouth of Penitencia Ck., 2) Tennant Rd., 3) upstream from Metcalf rd., 4) Riverside Golf Course, 5) above percolation ponds, 2 km below Anderson Reservoir, 6) below Anderson Reservoir, 7) below Coyote Reservoir, 8) Gilroy Hot Springs, 9) Middle Fork Coyote Ck., Coe State Park, 1972-1977** (Scoppettone and Smith 1978: 63); **Anderson Reservoir**, 28/Apr/1976, electrofishing survey summary dated 20/May/1976 (CDFG, 5 p., 8: 10.8-15.8 in. FL); **Coyote Reservoir**, 29/Apr/1976, electrofishing survey (CDFG, 8 p., 1: 8.4 in. FL); **Coyote Ck., downstream from confluence of Upper Penitencia Ck.**, 19/May/1977, visual survey (CDFG, numerous); **Coyote Ck., Dunne Ave., inflow to Anderson Lake**, Oct/1977, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote downstream from Coyote Canal input**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., below Anderson Dam outlet**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., opposite Miramonte Ave.**, Jun/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Metcalf Rd.**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tully Rd.**, Dec/1977 and Jun/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Anderson Reservoir**, 10/Jun/1978, electrofishing survey (CDFG, 3 p., 30: 5.9-18.2 in. FL); **Coyote Ck., near Coyote Rd. gage**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Capitol Expressway**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Bernal Rd. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tennant Ave. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Riverside Rd. at golf course and Coyote Canal diversion**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sycamore Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Burnett Ave.**, Jun and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Cochran Rd.**, Jun and Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., Gilroy Hot Springs, 14.4 km upstream from Coyote Reservoir Dam**, 6/1977 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at mouth**, Jun/1978, Sept/1979, Apr/1980 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at stream gage**, Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Coyote Ck., Gilroy Hot Springs, 8.3 km upstream from Coyote Reservoir Dam**, Jul/1980, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Anderson Reservoir**, 7-8/ Jul/1980, electrofishing survey (CDFG, 5 p., 40: 6.3-16.7 in. FL); **Coyote Reservoir**, 9-10/Jul/1980, electrofishing survey (CDFG, 4 p., 84: 11.8-15.3 in. FL); **Coyote Ck., 6.12 mi. E. on Gilroy Hot Springs Rd. from intersection with Canada Rd.**, 5/Sept/1981, R. Leidy and P. Fiedler, 3: 27-37 mm FL; **Fisher Ck., immediately upstream from Bailey Rd. crossing**, 5/Sept/1981, R. Leidy and P. Fiedler, 10: 62-132 mm FL; **Fisher Ck., 20 m upstream from Santa Teresa Blvd. crossing**, 5/Sept/1981, R. Leidy and P. Fiedler, 4: 47-67 mm FL;
- GUADALUPE RIVER WATERSHED (Santa Clara): "San Jose, 0.3 km. From Guadalupe River, Santa Clara Co."**, A.D. 700-1300, archaeological site SCL-690 (Gobalet 1992: 76-77); **Guadalupe Ck.** (Snyder 1905); **Guadalupe Ck., San Jose**, 30/Sep/1922, C. L. Hubbs (UMMZ 63401, 21: 35-61 mm SL); **Guadalupe Ck., in the hills about two miles north of the town of Almaden**, 1926-1927, D. H. Fry (Fry 1936: 67); **Calero Ck., at outlet from Calero Reservoir**, 13/Sep/1937, L. Shapovalov, visual survey (CDFG, 2 pg., as "suckers"..."hundreds of dead fish in outlet..."); **Calero Reservoir**, 24/Nov/1937, L. Shapovalov, field notes (CDFG,

1 p., states that "...numerous suckers in Calero Reservoir came from Almaden Reservoir through canal. Perhaps some also came upstream."); **Calero Ck., tributary to Guadalupe Ck.**, 8/Jul/1938, A.C. Taft and L. Shapovalov (CAS 14206, 49); **Guadalupe Ck.** (Murphy 1948: 8); **Los Gatos Ck., 7 mi. reach upstream from Jones dam including Williams Reservoir**, 26/May/1950, rough fish removal proposal (CDFG, 2 p., states that "suckers and minnows" and "...large numbers of desirable trout" occur in this reach); **Arroyo Calero, McKean Rd. crossing in T.8S., R. 2.E., Sec. 31**, 24/Jul/1953, T.J. Merkel field notes, seine survey (CAS 20976, 1, also as CDFG, 1 p., notes that "One...taken."); **Guadalupe Ck., Coleman Rd. crossing, in T.8S., R.1E., Sec. 30**, 24/Jul/1953, field notes, T.J. Merkel, seine survey (CAS 20966, also as CDFG, 2 p., present); **Guadalupe Ck.**, 24/Jul/1953, T. J. Merkel (CAS 20966, 5); **Almaden Reservoir**, 24/Aug/1956, visual survey (CDFG, 6 p., common: 3.0-8.0 in TL); **Guadalupe Ck., upstream from Kelsey Pond**, Oct/1956 (SJSU, GD-5); **Guadalupe Ck., Hicks Rd.**, 29/Oct/1957 (SJSU, GD-28); **Calero Reservoir**, 30/Dec/1960, reservoir management letter (CDFG, 2 p., present); **Guadalupe Reservoir**, 30/Jul/1964, seining survey (CDFG, 1 p., 5: 8.0-10.0 in. TL); **Calero Reservoir**, 28/Jul/1966, fish kill (CDFG, 1 p., "suckers": no number or size); **Lexington Reservoir**, 10/Jun/1970, electrofishing survey (CDFG, 3 p., 4: no size); **Almaden Reservoir**, 27/Oct/1970, gill net survey (CDFG, 2 p., 10: no size); **Almaden Reservoir**, 5/Jun/1973, gill net survey (CDFG, 2 p., 1: 7.8 in. FL); **Guadalupe Ck., two stations along Hicks Rd., 1) approximately 2 mi. downstream from Guadalupe Dam, 2) approximately 3 mi. downstream from Guadalupe Dam, Secs. 19 & 30, T8S, R1E**, 14/Nov/1975, electrofishing survey (USFWS, 1 p., numerous: mostly from 7.0-10.0 in. TL); **Vasona Reservoir**, 20/Jul/1976, electrofishing survey (CDFG, 7 p., 36 (sample): 8.9-19.5 in. FL); **Lexington Reservoir**, 27/Sep/1978, electrofishing survey (CDFG, 4 p., 1: 6.4 in. FL); **Vasona Reservoir**, 29/Sep/1978, electrofishing survey (CDFG, 1 p., observed: no numbers or size); **Lexington Reservoir**, 13/Jun/1979, electrofishing survey (CDFG, 4 p., 5: 7.7-10.0 in. FL); **Los Gatos Ck., at Lack Ave. bridge off Hwy 17**, 25/Aug/1981, R. Leidy and P. Fiedler, 6: 42-321 mm FL; **Guadalupe R., at Camden Ave.**, 26/Aug/1981, R. Leidy and P. Fiedler, 3: 57-92 mm FL; **Guadalupe R., at USGS gauging sta. at Hicks Rd.**, 26/Aug/1981, R. Leidy and P. Fiedler, 2: 47-52 mm FL; **Guadalupe R., 50 m downstream from Guadalupe**

**Dam**, 26/Aug/1981, R. Leidy and P. Fiedler, 2: 33-79 mm FL; **Alamitos Ck., junction of Graystone Lane off Camden Ave.**, 3/Sept/1981, R. Leidy and P. Fiedler, 5: 30-62 mm FL; **SARATOGA CREEK WATERSHED (Santa Clara): Campbell [Saratoga] Ck.** (Snyder 1905, 331); **Campbell Ck.** (Murphy 1948: 8); **Campbell (Saratoga) Ck., at town of Saratoga**, 1/Jul/1953, field notes (CDFG, 5 p., as "suckers" present); **Saratoga Ck., at Crestbrook Dr. (off Saratoga Ave.)**, 21/Aug/1981, R. Leidy and P. Fiedler, 50: 45-78 mm FL; **Alamitos Ck., at junction of Graystone Ln. off Camden Ave.**, 3/Sept/1981, R. Leidy and P. Fiedler, 5: 30-62 mm FL; **STEVENS CREEK WATERSHED (Santa Clara): Stevens Ck.** (Snyder 1905, 331); **Campbell Ck.** (Murphy 1948: 8); **Stevens Ck., from Stevens Ck. Reservoir downstream to Whisman Slough (12.6 mi.)**, 25, 28/Jul/1975, visual survey (CDFG, 8 p., present: no numbers or size); **Stevens Ck., Stevens Ck. Rd. bridge nearest Stevens Canyon Rd.**, 8/May/1978 (CDFG, 7: 5.0-7.0 in. FL); **Stevens Ck., at Homestead Rd.**, 19/Aug/1981, R. Leidy and P. Fiedler, 7: 51-84 mm FL; **Stevens Ck., from Stevens Ck. Rd. bridge downstream 25 m**, 19/Aug/1981, R. Leidy and P. Fiedler, 4: 62-123 mm FL; **Stevens Ck., from Stevens Ck. Rd. bridge upstream 25 m**, 19/Aug/1981, R. Leidy and P. Fiedler, 1: 149 mm FL; **Stevens Ck., at Stevens Ck. County Park, 100 m upstream from gaging station**, 19/Aug/1981, R. Leidy and P. Fiedler, 13: 92-340 mm FL; **Stevens Ck., 20 m downstream from 1<sup>st</sup> bridge above Eden Rd.**, 20/Aug/1981, R. Leidy and P. Fiedler, 2: 48-49 mm FL; **PERMANENTE CREEK WATERSHED (Santa Clara): Permanente Ck., downstream from Foothill Expressway crossing**, 20/Aug/1981, R. Leidy and P. Fiedler, 53: 32-48 mm FL; **Permanente Ck., approx. 20 m downstream from Portland Ave. crossing**, 20/Aug/1981, R. Leidy and P. Fiedler, 150+: 50 at 51-98 mm, 1 at 162 mm FL; **Permanente Ck., approx. 20 m upstream from Fwy 280 crossing**, 7/Sept/1981, R. Leidy and P. Fiedler, 75: 32-137 mm, 1: 137 mm FL; **ADOBE CREEK WATERSHED (Santa Clara): San Antonio [Adobe] Ck.** (Snyder 1905, 331); **San Antonio Ck.** (Murphy 1948: 8); **MATADERO CREEK WATERSHED (Santa Clara): Madera [Matadero] Ck.** (Snyder 1905, 331); **Campbell Ck.** (Murphy 1948: 8); **SAN FRANCISQUITO CREEK WATERSHED (Santa Clara): San Francisco [Francisquito] Ck.**, 1/Jan/1890, E. Hughes

(SU 37015, 16); **"Stanford University Cal"**, 9/Feb/1904, C. F. Baker (USNM 51230, 2); **San Francisquito Ck.** (Snyder 1905, 331); **San Francisquito Ck., near Palo Alto**, 12/1938, A. J. Calhoun (NRM 24302, 9); **Campbell Ck.** (Murphy 1948: 8); **San Francisquito Ck.**, 16/Nov/1953 (CDFG, 1 p., present); **Lake Lagunita, Stanford University**, 2/Jun/1954, G. S. Meyers (CAS 159840, 2); **Bear Ck., immediately upstream and downstream from Sand Hill Rd. bridge**, 3/Jul/1974, electrofishing survey (CDFG, 7 p., 2: 2.0-3.9 in. FL); **San Francisquito Ck., from confluence of Corte Madera and Bear cks., downstream to San Francisco Bay**, 1, 2 and 5/Jul/1976, visual survey (CDFG, 6 p., present); **San Francisquito Ck., immediately above and below Junipero Serra Blvd. crossing**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 2: 4.0-8.0 in. FL); **San Francisquito Ck., immediately above and below Lake Lagunita Diversion Dam**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 2: 10.0-10.4 in. FL); **San Francisquito Ck., bedrock pools about 75 yds. downstream from Junipero Serra Fwy. 280**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 1: 11.8 in. FL); **Bear Ck., 400 yd. reach above Sand Hill Rd. crossing**, 15/Jul/1976, electrofishing survey (CDFG, 4 p., 12: 4.9-8.3 in. FL); **Los Trancos Ck., downstream from Felt Lake Diversion dam**, 7/Aug/1976, visual survey (CDFG, common); **Bear Ck. 400 yd. reach immediately upstream from Sand Hill Rd. crossing**, 29/Jun/1978, electrofishing survey (CDFG, 3 p., common, 10 (sample): 1.0-3.0 in. FL); **San Francisquito Ck., from Sand Hill Rd. crossing on Bear Gulch Ck. downstream to the end of Alma Rd. just downstream of El Camino Real**, 30/Jun/1981, visual survey (CDFG, 5 p., observed); **San Francisquito Ck., 20 m downstream from Willow Rd. crossing**, 16/Aug/1981, R. Leidy and P. Fiedler, 3: 221-222 mm FL;

**MISCELLANEOUS SANTA CLARA COUNTY LOCATIONS:** **Santa Cruz Mtns., W. of Saratoga, near Saratoga Ck. (site M-1219)**, Plio-Pleistocene (Blancan) age, as *Catostomus* (Casteel 1978, 296);

**SAN MATEO CREEK WATERSHED (San Mateo): San Mateo Ck., approximately 0.6 km upstream from intersection of Crystal Springs and Polhemus rds.**, 17/Aug/1981, R. Leidy and P. Fiedler, 1: 102 mm FL;

**CORTE MADERA CREEK WATERSHED (Marin): San Anselmo Ck., San Anselmo**, 1926-1927, D. H. Fry (Fry 1936: 67-68); **Corte Madera Ck., from bay to confluence of San Anselmo and Sleepy Hollow cks. (6 mi.)**, 24-25/Jul/1968, visual survey (CDFG, 2 p., 75 fish/100 ft. of stream,

2.0-7.0 in. TL); **Corte Madera Ck., at Ross, upstream from bridge**, 7/Oct/1968 (San Francisco State College, 1: 104 mm SL); **San Anselmo Ck., Pastori Ave. bridge**, 14/Aug/1969 (CDFG, 9 p., 6); **Corte Madera Ck., downstream from Lagunitas Dr. bridge**, 11/Sept/1969 (CDFG, 9 p., 9); **Corte Madera Ck., bridge at Ross firehouse**, 17/Oct/1969 (San Francisco State College, 9: 32-60 mm SL); **Corte Madera Ck., bridge near Ross fire house** off Sir Francis Drake Blvd., 24/Sept/1973 (San Francisco State College, 7); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (directly upstream from bridge)**, 16/Oct/1974 (San Francisco State College, 12: 38-54 mm SL); **Corte Madera Ck.**, 1976, environmental assessment (Madrone Associates, Table 9); **Corte Madera Ck., immediately downstream from Madrone Dr. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 17: 28-124 mm, 1 at 302 mm FL;

**NOVATO CREEK WATERSHED (Marin): Novato Ck., at Sutro Ave. bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 50+: 24-63 mm FL; **Novato Ck., at 7<sup>th</sup> St., bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 20: 47-162 mm FL; **Warner Ck., at McClay Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 5: 23-59 mm FL; **Warner Ck., at Diablo Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 1: 53 mm FL; **PETALUMA RIVER WATERSHED (Sonoma/Marin): Lichau Ck., from mouth to headwaters (9 mi.)**, 17-18/Jul/1968, visual survey (CDFG, observed in lower section of stream, approximately 20 fish/100 ft. of stream, 2.0-5.0 in TL); **Willow Brook Ck., Penngrove**, 1981 (J.D. Hopkirk, SNSU, personal communication);

**SONOMA CREEK WATERSHED (Sonoma): Rodgers Ck., at intersection of Arnold Rd. and Hwy. 104 (Stage Gulch Rd.)**, 28/Oct/1958, visual survey (CDFG, 1 p., noted as "present"); **Rodgers Ck., lower 1.6 mi. above mouth**, 24/Jun/1966, visual survey (CDFG, 2 p., noted as "abundant"); **Calabazas Ck.**, 12/Sept/1975, visual survey (CDFG, present); **Sonoma Ck., 0.5 mi. along Warm Springs Rd. from junction with Hwy. 12 (Kenwood)**, 14/Sept/1981, R. Leidy and P. Fiedler, 5: 42-72 mm FL; **Sonoma Ck., at West Watmaugh Rd. bridge**, 15/Sept/1981, R. Leidy and P. Fiedler, 75+: 24-172 mm FL;

**NAPA RIVER WATERSHED (Napa): Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 3 individuals); **Napa River, near the confluence of Tulucay Ck.**, archaeological site



CA-NAP-39, no date, (J. Quinn 2002, unpublished data, minimum number of individuals: 2); **Saint Helena, Calif.**, 16/Mar/1895 (CAS 128791, 1); **"Conn Crk., Napa Co., Cal"**, [possibly recorded in 1897 by C. H. Gilbert and party?]; (USNM 58268, 11); **Conn Ck.** (Snyder 1908a: 158, [possibly recorded in 1897 by C. H. Gilbert and party?]; **Napa River, Calistoga** (Snyder 1908a: 158, [possibly recorded in 1897 by C. H. Gilbert and party?]; **Napa River, Rutherford** (Snyder 1908a: 158, [possibly recorded in 1897 by C. H. Gilbert and party?]; **Soda Ck., upper Monticello-Rutherford Rd. crossing**, 25/Jun/1940, visual survey (CDFG, abundant: no size); **Milliken Lake and Milliken Creek, at inlet to Lake Milliken** (Shapovalov 1940: 5, "school of suckers of this season's hatch: 2.0-2.5 in.); **Conn Ck., from B.B. Ranch, downstream 3 mi.**, 31/Jul/1945, (Curtis 1945a, 4, 2 specimens: juveniles); **Chiles Ck., about one mile above junction with Sage Ck., just above stone winery**, 9/Aug/1945 (Curtis 1945b, 5, 1 specimen: juvenile); **Conn Ck., pool one mile above junction with Sage Ck. Near old ranch house**, 10/Aug/1945 (Curtis 1945b, 5, 1 specimen: juvenile); **Chiles Ck., 0.7 mi. above bridge at "Whiskey Xing", in canyon**, 18/Aug/1947, B. Curtis, visual survey (CDFG, 1 p., noted as "1-12 in. sucker[s]."); **Chiles Ck., 1 mi. above mouth of Moore Ck.**, 15/Jun/1948, G. Murphy, visual survey (CDFG, 2 p., noted as "a few suckers seen"); **Conn Valley Reservoir and its tributaries** (Murphy 1949, 4); **Sage Ck., tributary to Hennessey Reservoir**, 2/Mar/1956, B. Curtis, field note (CDFG, 1 p., noted as "spawning run of [rainbow] trout was noticed this early spring in Sage Creek..."); **Chiles Ck., middle flowing section, 0.5 mi. upstream from mouth upstream to confluence of west and east branches**, 7/Aug/1956, visual survey (CDFG, 3 p., noted as "suckers...were common..."); **Sage Ck., middle section, 3.4 mi. below headwaters**, 7/Aug/1956, visual survey (CDFG, 3 p., noted as "Also common were suckers up to 1 foot long."); **Creek near Yountville, in old soldiers [veterans] home, tributary to Napa River**, 31/Aug/1958, E.W. Kirschbaum, T. Boud, and D. Rentz (CAS, Acc. 1958-VIII: 4); **Bear Canyon Ck., 0.5 mi. upstream from Hwy. 29**, 19/Oct/1958, visual survey (CDFG, 4 p. + field notes, approximately 40: averaging 4.0 in. TL); **Napa River, mouth of Tulucay Creek**, 4/May/1959, P. R. Needham and party (CAS 23825, 4: 25-110 mm SL, also as CAS 9); **Napa River, 1 mi. north of Calistoga downstream to Bale Lane (5.5 mi.)**, 22-23/Jun/1961, visual survey (CDFG, 3 p., noted as "...extremely

successful."); **Napa River, at southern city limits of Napa**, 26/May/1965, J. Hopkirk, J. Shimizu and D. Evans (CAS 75196, 7, also as CAS, Acc. 1966-VI: 20, 9: 25.2-32.2 mm SL); **Redwood Ck., below junction of Dry Ck. and Redwood rds.**, 8-10/Jun/1966, visual survey (CDFG, 4 p. 500 fish/100 ft. of stream: 1.0-6.0 in. TL); **Outfall from storm drain 100 yds. E. of Hwy. 29 bridge to confluence with Napa River**, 15/Jun/1967, fish kill (CDFG, 100: 1.2-11.4 in. FL); **Napa River, 200 yds downstream from Hwy 20(12) xing, at SE edge of Napa**, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15179, 54; 65487, 62, many juveniles); **Bell Canyon Ck., from spillway of Bell Canyon Dam downstream to confluence with the Napa River (2 mi.)**, 20/Jun/1969, visual survey (CDFG, 4 p., 15 fish/100 ft. of stream: 1.0-2.5 in. TL); **Napa River, Zinfandel Lane bridge**, 29/Jul/1969, electrofishing (CDFG, 4 p., 676: no size); **Napa River, Berry Ave., Bale Ln., Pratt Ave., Pope St., Zinfandel Ln., Hwy. 128, Yountville Cross Rd. bridges**, 28/Jul/1969-8/Aug/1969, electrofishing (CDFG, 4 p., among "...most abundant species..."); **Garnett Ck., 1.5 mi. upstream from Hwy. 29 bridge to mouth (3.5 mi.)**, 16/Jun/1970, visual survey (CDFG, 4 p., 50-75 fish/100 ft. in "downstream section": 0.75-4.0 in., averaging 3.0 in. TL); **Jericho Canyon Ck., from confluence with Garnett Ck., upstream 2.0 mi.**, 1/Jul/1970, visual survey (CDFG, 3 p., no abundance estimate: 1.5-7.0 in. TL); **Napa River, Yount Mill Rd.**, 20/Oct/1972, P.B. Moyle (UCDPM 72-24, 2); **Napa River, 0.5 mi. section upstream from the Lincoln Ave. bridge, Napa**, 1/Nov/1973, electrofishing survey (CDFG, 2 p., 8: 224.0-488.0 mm FL); **Napa River marshes, Dutchman Slough (N-1), below bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 6 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 3 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 15 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 12 specimens total: no size); **York Ck., below Hwy. 29**, 13/Jun/1974,

visual survey (CDFG, 3 p., noted as "...present..."); **Hinman Reservoir**, 22/Nov/1974, P. Baker (LACM 25010, 7: no size); **Hinman Reservoir**, 26/Nov/1974, gill nets (CDFG, 3 p., 6: 10.8-12.0 in. FL); **Hinman Reservoir**, 13/Jan/1975, drained and Pro-noxfish application (CDFG, 2 p., 40: 10-13 in. TL); **Napa River, from Deer Park Rd. to about one-third mi. below the Pope St. bridge**, 16-17/Oct/1979, fish kill (CDFG, 1 p., 1700: average 12 in. TL); **Milliken Ck., Sta. 2, mouth of Milliken Canyon, downstream from Sta. 1**, 30/Apr, 6, 13, 15/May/1980, electrofishing (CDFG, 3 p. + notes, 1: 475 mm FL); **Milliken Ck., Sta. 6, Trancas Rd. bridge**, 30/Apr, 6, 13, 15/May/1980, electrofishing (CDFG, 3 p. as "numerous sucker fry."); **Milliken Ck., mouth to above Atlas Pk. Rd.**, 26/Jun/1981, visual survey (CDFG, 2 p., as 'a few roach observed'); **Napa River, at Dunaweal Ln., opposite sewage treatment plant downstream from Calistoga**, 9/Sept/1981, R. Leidy and P. Fiedler, 3: 36-62 mm FL; **Conn Ck., 1.5 mi. upstream from Lake Hennessy**, 9/Sept/1981, R. Leidy and P. Fiedler, 4: 34-52 mm FL; **Napa River, at Yountville Cross Rd. bridge, upstream at CDFG Ecological Reserve**, 10/Sept/1981, R. Leidy and P. Fiedler, 40+: 1: 310 mm, 3: 171-185, 2: 80-83 mm FL; 52-112 mm FL; **Redwood Ck., on Redwood Rd. 0.25 mi. before junction with Browns Valley Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 11: 45-105 mm FL; **Chiles Ck., immediately downstream from junction of Lower Chiles Valley and Chiles-Pope Valley rds.**, 10/Sept/1981, R. Leidy and P. Fiedler, 4: 104-117 mm FL; **Napa Ck., at Jefferson St. bridge, Napa**, 12/Sept/1981, R. Leidy and P. Fiedler, 5: 32-70 mm FL; **Tulucay Ck., 50 m upstream from Suscol Ave. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 7: 40-78 mm, 3: 163-197 mm FL; **Milliken Ck., immediately upstream from West Trancas Rd. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 3: 72-145 mm FL; **Sarco Ck., immediately upstream from Hwy. 121 bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 2: 52-98 mm FL;

**GREEN VALLEY CREEK WATERSHED (Solano): Green Valley Ck., 300 ft. upstream from Via Palo Linda bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 1: 18.8 in. TL); **Green Valley Ck., near Hwy. 80**, 10/Jan/1979, electrofishing survey (CDFG, 2 p., 1: 125.5 mm SL, also as LACM 25163); **Green Valley Ck., immediately upstream from Mason Rd. bridge**, 2/Oct/1981, R.A. and G.R. Leidy, 1: 378 mm FL;

**SUISUN CREEK WATERSHED (Solano): Lake Curry and Gordon Valley Creek at foot of spillway** (Shapovalov

1940: 13); **Suisun Ck. watershed**, 23-24/May/1956, chemical and visual survey (CDFG, 3 p., present: no numbers or size); **Suisun Ck., upper end of Suisun Valley near Mankas Corner**, 2/Apr/1964, visual survey (CDFG, states that "Large schools of small suckers...were noted."); **Wooden Valley Ck. in canyon below Wooden Valley**, 2/Apr/1964, visual survey (CDFG, states that "Large schools of small cyprinids and suckers present."); **Suisun Ck., downstream from Wooden Valley Ck.**, 2/Apr/1972, electrofishing survey (CDFG, 1 p., states that "...suckers...were numerous."); **Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater**, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys (CDFG, 4 p., notes "...fry abundant, adults up to 18 in. present in deeper pools."); **Suisun Ck., at Lakeside Rd. gate to Lake Curry**, 2/Oct/1981, R.A. and G.R. Leidy, 1: 162 mm FL;

#### OSMERIDAE (SMELTS)

##### *Hypomesus transpacificus* (Delta smelt)

**NAPA RIVER WATERSHED (NAPA): Napa River marshes, Dutchman Slough (N-1), below bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 2 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 15 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 9 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 20 specimens total: no size);

##### *Spirinchus thaleichthys* (longfin smelt)

**SAN FRANCISCO BAY: San Pablo Bay**, 1891, C.H. Townsend (USNM 67323: 9); **San Francisco Market**, circa 1890s, D. S. Jordan (USNM 74836: 2); **San Francisco Bay**, 2/Dec/1932, P. Bonnot (UWFC S-91-32, 3, adult); **San Francisco Bay off Alameda**, 3/Nov/1932, C. L. Hubbs (UWFC S-92-32, 10, adult);

**NAPA RIVER WATERSHED (NAPA): Napa River marshes,**

**Dutchman Slough (N-1), below bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 74 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 23 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 38 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 4 specimens total: no size);

#### SALMONIDAE (SALMON AND TROUT)

##### ***Oncorhynchus* sp. (unidentified spp.)**

**SAN FRANCISCO (San Francisco): San Francisco**, 1857, T. G. Cary, (MCZ 25978, 1); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 7079, 2); **San Francisco [likely collected from the Sacramento River during 9/1872]**(MCZ 22792, 1; 22793, 1);

**SAN FRANCISCO BAY: San Francisco Bay**, 18-19/Nov/1872, as "salt-water trout" (Stone 1873, 209, three specimens); **"Saucelito [Sauselito], Marin County"**, as "salmon" (Hallock 1877: 13);

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck.**, B.C. 1000-A.D. 500, archaeological sites CCO-132, -268, -269, -270, -271, probably *O. kisutch* or *O. tshawytscha* (Gobalet 1990a: 237-241); **San Pablo Ck.**, A.D. 500- A.D. 1100, archaeological sites CCO-600, -601 (Gobalet 1994: 125-126);

**WILDCAT CREEK WATERSHED (Contra Costa): Wildcat Ck.**, 1000 B.C.-500 A.D., archaeological site CCO-275, probably *O. kisutch* or *O. tshawytscha* (Gobalet 1990a: 237-241);

**GUADALUPE RIVER WATERSHED (Santa Clara): Guadalupe River watershed, including Los Gatos Ck.**, documented and reported accountings of trout and salmon by historians and longtime local residents and fisherman in the Guadalupe River system, respectively, documented historical accounts from the 1700s-1800s, reported accountings mostly from the 1920s to 1970s, (compiled by Lawrence Johmann, Guadalupe-Coyote

Resource Conservation District, 2002a,b,);

**SAN MATEO CREEK WATERSHED (San Mateo): San Andrea [Andreas] Reservoir, lower reservoir**, 20/Aug/1872, as "silver trout", probably *O. mykiss*, *O. kisutch* or *O. tshawytscha* (Stone 1873, 201, one specimen reported 26 in. in length);

**CORTE MADERA CREEK WATERSHED (Marin): Mouth of San Rafael Ck.**, 18/Mar/1926, E. C. Scofield (CAS 159662, 10); **Corte Madera Ck., at fishway downstream from Lagunitas Rd.**, Feb/1976 (CDFG, 2 p., as "a few salmonids were reported (Warden Albert) to have migrated passed the fishway...");

**NAPA RIVER WATERSHED (Napa): Napa River, near the confluence of Tulucay Ck.**, archaeological site CA-NAP-39, no date, either *O. kisutch* or *O. tshawytscha* (J. Quinn 2002: unpublished data);

##### ***Oncorhynchus kisutch* (silver salmon)**

See Leidy et al. (2005a).

**SAN FRANCISCO: "San Francisco"**, 1856-1862, T. G. Cary (MCZ 7123, 4); **"San Francisco, Cal."**, 1880, D. S. Jordan (USNM 27222, 1); "San Francisco, northward to Kamchatka and Japan" (Jordan and Evermann 1896: 480);

**SAN FRANCISCO BAY: San Francisco Bay**, Mar/1875 (USNM 15069, 1; USNM 15071,1); **San Francisco Bay, near south end of Sausalito**, 30/Oct/1922, C. L. Hubbs and fisherman (UMMZ 92620, 1: 325 mm SL); **San Francisco Bay**, Dec/1941, J Rainey and B. Halstead (CAS 18672, 4: young); **San Pablo Bay, vicinity of San Pablo Creek marsh**, Apr/1974 (Nakaji 1975, 1: 38 mm FL)

**WALNUT CREEK WATERSHED (Contra Costa): Arroyo del Cerro Ck., stream mi. 2.4 to stream mi. 0.5 at north gate to Mt. Diablo State Park (1.9 mi.)**, 16-17/Aug/1977, visual survey (CDFG, 3 p., noted as "...a steelhead and silver salmon stream..." historically); **Pine Ck. (upper reach), from Castle Rock Park upstream to Pine Ck. Flood Control Dam (2.1 mi.)**, 16/Aug/1977, visual survey (CDFG, 3 p., states that "Ronald Ford, proprietor of Castle Rock Park...reported that rainbow trout, steelhead, and silver salmon were all common on the creek in the 1950's, but became rare in the late 1960's.");

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck.**, prior to 1957, "like nearby San Pablo Creek, originally had runs of both steelhead and silver salmon" (Needham and Gard 1959: 40, based on letter to P.R. Needham, University of California, Berkeley, from W.A.

Evans, CDFG, dated 21/Feb/1957, 1 p.);

**STRAWBERRY CREEK WATERSHED (Alameda): Strawberry Ck.,** Jul/1939, L. Shapovalov, field note (CDFG, 1 p., states that "In July, 1939 R.S. Croker told me [L. Shapovalov] that W.I. Follett of Oakland had reported that at one time this stream, which is the one that runs through the University of California campus, had supported a run of Silver Salmon.");

**SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa): Lake Chabot,** Sept/1877 (United States Commission on Fish and Fisheries 1877, 1: 900 gram female); **San Leandro Ck.,** prior to 1957, likely in the late-1920s and early 1930s, "He [i.e., CDFG Warden George Smalley] reports that runs of steelhead and silver salmon did occur in San Leandro Creek in the early days" (W.A. Evans' letter to P. R. Needham, 21/Feb/1957, p. 1, referenced also in Needham and Gard 1959: 40);

**ALAMEDA CREEK WATERSHED (Alameda): Alameda Ck. watershed, including Calaveras, San Antonio, Indian, La Costa, Arroyo de la Luguna, Arroyo del Valle, Arroyo las Positas, Arroyo Mocho, and Alamo cks.,** prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Alameda Ck. watershed, including lower San Antonio, lower Arroyo de la Luguna, and lower Arroyo del Valle cks.,** ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Alameda Ck., Niles Canyon, along concrete wall on Old Pottery Rd.,** 11/Feb/1964 (H. Janssen, photo of two adult *O. kisutch* caught by angler, from Alameda Creek Alliance 2002); **Alameda Ck.,** 1938 or 1939, by L. Shapovalov (J.D. Hopkirk, Sonoma State University, Emeritus, personal communication);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck. watershed, mouth to headwaters in Henry Coe State Park, San Felipe Ck., and Silver Ck.,** prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Coyote Ck.,** into the 1950s (L. J. Hendricks, Emeritus, San Jose State University, personal communication, as cited in Smith 1998); **Coyote, downstream from Anderson Reservoir, Silver Ck., and Upper Penitencia Ck.,** ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams);

**GUADALUPE RIVER WATERSHED (Santa Clara): Guadalupe Ck.,** notes that "Early written documents

record the local presence of migrating salmon in the 'Rio Guadalupe' dating as far back as the 1700s...", including citations from valley residents and fisherman reporting the local presence of *O. kisutch* until the 1970s (SCBWM 2001, p.7-131); **Guadalupe River watershed, including Los Gatos Ck.,** reported accountings of *O. kisutch* by longtime local residents and fisherman in the Guadalupe River system, accounts mostly from the 1920s to 1960s, (compiled by Lawrence Johmann 2002b, Guadalupe-Coyote Resource Conservation District, 4 p.); **Guadalupe River watershed, mouth to headwaters, Guadalupe Ck., Los Gatos Ck., Alamitos Ck., and Calero Ck.,** prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Guadalupe River watershed, mouth to Guadalupe Reservoir, Los Gatos Ck. to Lexington Reservoir, and lower Alamitos Ck.,** ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams);

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara): San Francisquito Ck.,** reported accounting of *O. kisutch* by longtime local resident and fisherman, 1930s and 1940s, (compiled by Lawrence Johmann 2002b, Guadalupe-Coyote Resource Conservation District, 4 p.); **San Francisquito Ck. watershed, mouth to headwaters, Corte Madera Ck., and West Union Ck.,** prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **San Francisquito Ck. watershed, mouth to Searsville Lake, Los Trancos, and West Union Ck.** ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams);

**SAN MATEO CREEK WATERSHED (San Mateo): San Mateo Ck.,** 1860, A. Agassiz (MCZ 68471: 4 and MCZ 7123: 4); San Andrea's [San Andreas] lower reservoir, 1873, (Stone 1873: 201, describes juvenile and adult *Oncorhynchus*, possibly *O. kisutch*, as "silvery" or "silver trout" with "no colored spots", observing that the fish "very much resembles [a] salmon smolt."); **"San Andreas" [Reservoir],** "chiefly [filled] with silver salmon of generally moderate size" (Hallock 1877: 15);

**ARROYO CORTE MADERA DEL PRESIDIO WATERSHED (Marin): Arroyo Corte Madera del Presidio and Old Mill cks.** (Shapovalov 1946); **Arroyo Corte Madera del Presidio,** 16/Jul/1963, visual survey (CDFG, 4 p., stated as "...considered of importance in maintaining a steelhead and possibly (or at least at one time) [a coho] salmon run");



**Arroyo Corte Madera del Presidio** (Hallock and Fry 1967: 15); **Arroyo Corte Madera del Presidio, at Locust Rd. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 2: 176-197 mm FL; **Arroyo Corte Madera del Presidio, at crossing with W. Blithedale Ave., 0.125 mi. upstream from Lee St. crossing**, 18/Sept/1981, R. Leidy and P. Fiedler, 5: 56-101 mm FL;

**CORTE MADERA CREEK WATERSHED (Marin): "Mouth of San Rafael Creek"**, 18/Mar/1926, E.C. Snyder (SU 59662: 10: juveniles); **San Anselmo Ck., San Anselmo**, 1926-1927, D.H. Fry (Fry 1936: 67-68); **Corte Madera Ck.** (Hallock and Fry 1967: 15); **Corte Madera Ck.** (Trout Unlimited letter to CDFG, dated 29/Nov/1980, 2 p., states "As late as 1965, annual runs of silver salmon were seen far upstream into Fairfax in their spawning runs."); **Corte Madera Ck., Laginitas Rd. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 2: 64 mm FL;

**SONOMA CREEK WATERSHED (Sonoma): Sonoma Ck. watershed, mouth to headwaters, Carriger Ck., Rodgers Ck., and Calabazas Ck.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Sonoma Ck. watershed, mouth to headwaters, Carriger Ck., and Calabazas Ck.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams);

**NAPA RIVER WATERSHED (Napa): Napa River watershed, headwaters to mouth, including Napa, Redwood, Mill, Dry, Sulphur, Conn, Moore, Sage, Rector, Soda, and Milliken cks.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Napa River watershed, headwaters to mouth, including Napa, Redwood, Mill, Dry, Conn (from mouth to Conn Dam-Lake Hennessey), lower Rector, Soda, and Milliken (to below Milliken Reservoir) cks.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, heavily used streams); **Napa River watershed**, 21/Oct/1968, analysis of steelhead trout production, data collected during May/1966 (CDFG, 22 p., states that "...the annual run of steelhead trout has been reduced from an estimated 8,000 fish [historically] to about 1,000 fish and a silver salmon run of an estimated 4,000 fish has been eliminated" (p. 1);

**SAN FRANCISCO:** San Francisco, 1859 or 1860, A. Agassiz (MCZ 7154, 1); **"San Francisco, Cal."**, 1880, D. S. Jordan (USNM 27113, 1, ovaries, supposed to be hermaphrodite); **Presidio Beach**, 1/Apr/1897, J. P. Babcock (CAS 105573, 1); **San Francisco, likely collected from Sacramento River** by the Hassler Expedition in 1874, F. Steindachner (MCZ 22789, 1; 22792, 1; 22793, 1; NRM 44755, 1);

**SAN FRANCISCO BAY: "...Young taken at Mare Island"** (Eigenmann 1890: 60); **Brothers Lt.**, S. 22 deg. W., Rt. Tang. Sisters, S. 62.5 deg. W., Pt. Pinole, N. 71.5 deg. E., Hydrographic sta. 5106, 30/Apr/1912, U.S. Fisheries Commission, Steamer Albatross (CAS 12981, 1); **San Pablo Bay, vicinity of San Pablo Creek marsh**, Apr/1974 (Nakaji 1975, 4: 35-53 mm FL);

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 75-77);

**WALNUT CREEK WATERSHED (Contra Costa): "Tice [Creek] Valley, Rossmore, Walnut Creek, Contra Costa Co."**, A.D. 1400-1500, archaeological site CCO-309 (Gobalet 1992: 75-77, 80-81);

**SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa): San Leandro Ck. and Lake Chabot**, as *Salmo quinnat* (Calif. Comm. Fish. 1878: 5-6??);

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Alameda Ck., just north of the confluence of Dry Ck., Union City**, 1 A.D. – 600 A.D., archaeological site ALA-453 (Schulz 1986: 3, 5);

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., downstream from the Coyote Canal Diversion Dam**, Mar/1978, fish kill (CDFG, 1 p., notes that "...there was a fill of 14 in. to 16 in. trout and salmon [chinook?].");

**GUADALUPE RIVER WATERSHED (Santa Clara): Guadalupe River watershed, including Los Gatos Ck.**, reported accountings of *O. tshawytscha* by longtime local residents and fisherman in the Guadalupe River system, accounts mostly from the 1920s to 1970s, (compiled by Lawrence Johmann 2002b, Guadalupe-Coyote Resource Conservation District, 4 p.);

**SAN MATEO CREEK (San Mateo): San Mateo Ck. and San Andreas Reservoir**, as *Salmo quinnat* (Fish. Comm. Calif. 1878: 5-6??);

***Oncorhynchus tshawytscha* (chinook salmon)**

***Oncorhynchus keta* (chum salmon)**

**SAN FRANCISCO:** "All streams from San Francisco to Bering Straits" (Jordan and Gilbert 1881: 40); **San Francisco** (Jordan and Jouy 1881: 14); "Said to be abundant in the fall, from Sacramento northward" (Eigenmann 1890:60); "San Francisco to Kamchatka, ascending all streams in the fall and spawning at no great distance from the sea (Jordan and Evermann 1896: 478);

**SAN FRANCISCO BAY:** **Fort Baker Beach, Marin Co.,** 15/May/1913, U. S. Fisheries Commission, Steamer Albatross (CAS 12979, 5);

***Oncorhynchus gorbuscha* (pink salmon)**

**SAN FRANCISCO (San Francisco):** **San Francisco,** likely collected in 1873 during Hassler Expedition from Sacramento River, F. Steindachner (22788, 1);

***Oncorhynchus mykiss* (rainbow trout/steelhead)**

**SAN FRANCISCO (San Francisco):** "Chico Creek, Cal.", 1855, J. S. Newberry (USNM 1, considered a possible type specimen by R. R. Miller, see remarks at USNM, also listed as *Salar iridea* from "Chico Creek, San Francisco" (?), in Girard 1857: 33, 1858: 321, and in Suckley 1873, 131); **San Francisco**, 11/Feb/1892 (BNMH 1892.2.11.202-206: 5 specimens); **San Francisco**, circa 1861, as *S. rivularis*, W.O. Ayres (Suckley 1873, 131); **San Francisco**, 1856-1862, T. G. Cary (MCZ 7012, 1; 7027, 12); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 7152, 1; 7155, 2); **Lake Merced**, described as "...stocked with salmon and trout" (Hallock 1877: 15); **San Francisco market**, likely circa 1890s, D.S. Jordan (CAS 110496-110497: 2 specimens total); **Lake Merced (North Lake)**, 8/Jul/1956, R. Fleming (CAS 15343, 4); **Lake Merced, South Lake**, 29/Jul/1957, C. K. Fisher (CAS 23364, 2: 90-91 mm SL); **Lake Merced**, likely 1950s, former Freihofer material (CAS 79793, 1: head only); **San Francisco**, collection date unknown, F. Steindachner (MCZ 22794, 4); **Lake Merced, North Lake**, 23/Jun/1962, R.F. Fleming (CAS Acc. 1962-VI:9); **North Lake Merced**, 12/Apr/1979, electrofishing survey (CDFG, 2 p., 5: 13.0-19.0 in. FL); **Lake Merced**, 7/1969, D. Eimoto (CAS 79793, 1);

**SAN FRANCISCO BAY:** "California, Sausalito", 24/Aug/1913, J. C. Thompson (USNM 134932, 1); **Oakland market**, 28/Jan/1928, W. I. Follett (CAS 25769: 1); **San**

**Francisco Bay, Coyote Point, San Mateo Co.,** 20/Apr/1974, Hassan (CAS 80590, 1);

**MT. DIABLO CREEK WATERSHED (Contra Costa):** "Back of Martinez, toward the foot of Monte Diablo", as *Salmo rivularis*, 16/Apr/1855 (Ayres 1854-1862: 43, author's note: possibly Mt. Diablo Ck. or Walnut Ck. watersheds, see below); **Mt. Diablo Ck., near Mt. Diablo Country Club golf course**, 1960s to 1970s (golf course staff, personal observations of *O. mykiss* spawning runs, in Leidy et al. 2003); **Mt. Diablo Ck., and tributaries Donner, Mitchell, and Irish Canyon cks., near Clayton**, 16/Nov/1977, visual survey, streams dry at time of survey, (CDFG, 4 p., Donner, Mitchell, Irish Canyon, and Mt. Diablo cks. Noted as "fair, poor-fair, poor and good" potential for anadromous salmonids, respectively.);

**WALNUT CREEK WATERSHED (Contra Costa):** "Back of Martinez, toward the foot of Monte Diablo", as *Salmo rivularis*, 16/Apr/1855 (Ayres 1854-1862: 43); **Pine Ck., below Pine Ck., Flood Control Dam**, 19/Apr/1956, visual survey (CDFG, 2 p., notes that dam construction workers "...reported seeing a few steelhead during January, 1956 below the dam."); **Tice Ck., upstream from the Walnut Ck. confluence**, 12/Jul/1976, visual survey (CDFG, notes that Tice Ck. probably supported a steelhead population prior to the construction of downstream migration barriers on Walnut Ck.); **Pine Ck. (lower), from mouth upstream 7.0 mi.**, 28/Jul/1977, visual survey (CDFG, 4 p., states that "Channelization has eliminated suitable spawning and nursery habitat for salmonids."); **Arroyo del Cerro Ck., stream mi. 2.4 to stream mi. 0.5 at north gate to Mt. Diablo State Park (1.9 mi.)**, 16-17/Aug/1977, visual survey (CDFG, 3 p., noted as "...a steelhead and silver salmon stream..." historically); **Pine Ck. (upper reach), from Castle Rock Park upstream to Pine Ck. Flood Control Dam (2.1 mi.)**, 16/Aug/1977, visual survey (CDFG, 3 p., states that "Ronald Ford, proprietor of Castle Rock Park... reported that rainbow trout, steelhead, and silver salmon were all common on the creek in the 1950's, but became rare in the late 1960's." Also states that upper Pine Ck. could "... provide access to Little Pine and Arroyo del Cerro Creeks, both of which provide fair to excellent steelhead and silver salmon habitat."); **Little Pine Ck., from confluence with Pine Ck. upstream 2.4 mi.**, 16/Aug/1977, visual survey, stream dry during survey (CDFG, 3 p., states that "Little Pine Creek has a good anadromous fishery potential" and "fair to excellent steelhead and silver salmon habitat."); **Green**

**Valley Ck. and smaller unnamed tributary to Green Valley Ck.**, 1977, observation by long-time resident (CDFG, file note, states that historically "trout even occurred in both these streams."); **Walnut Ck., downstream from lowermost drop structure near Willow Pass Rd.**, 1960s to early-1980s, steelhead assessment (USFWS 1983, states that a small number of steelhead enter the Walnut Ck. basin each year, except for the 1976-1977 drought period);

**PINOLE CREEK WATERSHED (Contra Costa): Pinole Ck., 1.5 mi. reach from Hwy. 80 downstream**, 23/Apr/1975, fish kill (CDFG, 3 p., 69: 1.5-2.5 in., 29: 5.1-8.2 in., 3: 10.8-12.0 in. FL); **Pinole Ck., downstream from natural barrier located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.**, 5-6/May/1976, visual survey (CDFG, 4 p., noted as "...several juvenile steelhead...observed..."); **Pinole Ck., immediately downstream from bedrock falls located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.**, 4/Jun/1976, electrofishing survey (CDFG, 5 p., 14: 4.6-8.4 in. FL); **Pinole Ck.**, 6/Apr/1979, fish stocking record (CDFG, 1 p., 3,152 yearling steelhead at 9.7 fish/lb.); **SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck.**, B.C. 1000 – A. D. 500, archaeological site CCO-269 (Gobalet 1994: 125-126); **"San Pablo Creek"**, described as "In both [*i.e.*, Wildcat and San Pablo creeks] they will be rewarded by good catches [of trout]" (Hallock 1877: 17); **San Pablo Ck.**, 19/Nov/1942, G. Murphy and Dalques (CAS Cat. No. 38-10-1-n, 1: 82.8 mm SL); **Bear Ck., tributary S.E. side of San Pablo Reservoir, 4.5 mi. from Orinda junction**, 1/May/1943, G. Murphy (CAS 7); **San Pablo Ck., west fork near the east slope of the Berkeley Hills in the vicinity of the Broadway Tunnel (State Route 24)**, likely collected circa 1952 (Needham and Gard 1959, 30: 96-217 mm SL); **San Pablo Ck., at east end of San Pablo Reservoir**, 31/Mar/1952, S. Weitzman (USNM 238547, 3); **San Pablo Ck., upstream from reservoir**, 31/Mar/1952, P.R. Needham and S.H. Weitzman (CAS Cat. No. 38-10-1-l, 4: 95-110 mm); **San Pablo Ck., upstream from reservoir**, 19/Jun/1953, W.C. Freihofer (CAS, 4); **San Pablo Ck.**, 30/Jun/1953, P.R. Needham and W.C. Freihofer (CAS 210180, 9; 209294, 27); **San Pablo Ck., 2<sup>nd</sup> culvert tunnel east of [Broadway] low level tunnel**, 30/Jun/1953, W. C. Freihofer and P. R. Needham (CAS 209356, 50); **Tributary to San Pablo Ck.**, 1/Feb/1953, W. C. Freihofer (CAS 209295, 4); **San Pablo Ck., about 0.25 mile upstream from headwater**

**of San Pablo Reservoir**, 14/Feb/1953, P. R. Needham, W. C. Freihofer and R. Gard (CAS 210136, 8); **West branch of San Pablo Ck., about 1 mile east of Broadway low level tunnel**, 16/May/1953, W. C. Freihofer and M. Brink (CAS 209394, 3); **San Pablo Ck.**, 22/Mar/1954, notes in preparation for field trip to San Pablo Ck. (P. Needham, U.C. Berkeley, Zoology 138 class, 1 p., states that "Lower San Pablo Creek has a fine population of ...trout..."); **San Pablo Ck.**, 1950-1959, S. Weitzman (USNM 326786, 2); **San Pablo Ck., south fork and below San Pablo Dam**, circa 1950s (Needham and Gard 1959: 39); **Bear Ck., from mouth at San Pablo Reservoir upstream 5 mi.**, 13/Sept/1960, visual survey (CDFG, 5 p., noted as "A few rainbow trout... were found in some of the pools."); **San Pablo Ck., San Pablo Reservoir (R.M. 0.0) upstream to R.M. 0.35**, 2/Jun/1981, kick net survey (CDFG, 7 p. + notes, 1: 10.0 in. TL); **San Pablo Ck., from San Pablo Reservoir upstream to the Bear Ck. Rd. barrier**, 3-5/Nov/1981, visual survey (Kelley 1981, p. 14, 10: large); **San Pablo Ck., reach btw. San Pablo Reservoir upstream 0.35 mi.**, 29/Jul/1981 (CDFG, 1: 254 mm FL); **San Pablo Ck., from Bear Ck. Rd. drop structure downstream to San Pablo Reservoir**, Nov/1981 (Kelly 1981, notes that surveyors observed about ten large trout);

**WILDCAT CREEK WATERSHED (Alameda/Contra Costa): "Wild-Cat Creek"**, described as "They will find some excellent sport [*i.e.*, trout fishing] here." (Hallock 1877: 17);

**STRAWBERRY CREEK WATERSHED (Alameda): Strawberry Ck.**, Jul/1939, L. Shapovalov, field note (CDFG, 1p., states that "In July, 1939, R.S. Croker told me that W.I. Follett of Oakland [also Curator, Emeritus, California Academy of Sciences, Ichthyology Department] has reported that at one time this stream, which is the one that runs through the University of California campus, had supported a run of Silver Salmon."); **Strawberry Ck., on the [U.C.] Berkeley Campus**, prior to the 1950s (Needham and Gard 1959: 39);

**TEMESCAL CREEK WATERSHED (Alameda): "Temescal [Temescal] Creek"**, Donations to the Cabinet, D. E. Hough, as *Salmo rivularis* (Ayres 1854-1857, 101); **Lake Temescal**, 3/Dec/1957, seine sampling (P. Needham, U. C. Berkeley, Zoology 116 class field notes, 1: about 12 in. TL);

**ALAMEDA COUNTY NEAR EAST SIDE OF SAN FRANCISCO BAY:** Vicinity of Oak Knoll Naval Hospital, Oakland, 37°45'45" N., 122°8'22"W., early Pleistocene

(Irvingtonian land mammal) age, as *Salmo* (?) sp. (Casteel and Adam 1977, 209);

**SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa): San Leandro Ck.**, 1855, Mr. Nevins, as *Salmo iridia*, (Gibbons 1855: 35, type locality, three specimens, young); **"San Leandro [Ck.], a short distance above the water-works"** (Hallock 1877: 16); **San Leandro Creek near Alameda**, as *Salmo irideus* (Jordan 1907: 83); **San Leandro Ck., above San Leandro Reservoir near Moraga**, 6/ Apr/1953, P. R. Needham, W. C. Freihofer, et al. (CAS 63853, 3, see also Needham and Gard 1959, 40-41, for description of specimens); **San Leandro Ck.**, circa 1950s (Needham and Gard 1959: 39); **San Leandro Ck.**, prior to 1957, "originally had runs of both steelhead and silver salmon...in the early days" (W.A. Evans' letter to P. R. Needham, 21/Feb/1957, p. 1, referenced in Needham and Gard 1959: 40); **San Leandro Ck. watershed** (Skinner 1962: 130-131); **San Leandro Ck.**, 1) mouth of stream, foot of Pinehurst Trail, 2) culvert across Canyon Rd., intersection of Pinehurst and Canyon rds., 3) culvert across Canyon Rd., 0.25 mi. below Canyon School, 28/Apr-2/Jun/1973 (Arnold 1973, present); **Redwood Ck.**, 1) mouth of stream (Tanner Trail), 2) culvert at intersection of Pinehurst and Redwood rds., 3) below ranger station on Redwood Rd., 21/Apr-3/Jun/1973 (Arnold 1973, present); **San Leandro Ck., from Lake Chabot downstream to approximately 100 yds. downstream from Interstate 580**, 12/Aug/1975, visual survey (CDFG, 4 p., states "...numerous 2 to 3-inch juvenile steelhead trout were observed."); **Redwood Ck., pool immediately below masonry bridge, Redwood Regional Park**, 28/ Mar/1978, electrofishing survey (CDFG, 1 p., 5: 13.8-15.7 in. FL); **Redwood Ck., 50 yds. downstream from Redwood Canyon Fire Station**, 6/Jun/1978, electrofishing survey (CDFG, 3 p., 38: 1.0-2.5 in. FL); **Redwood Ck., opposite Redwood Ck. Fire Station**, 6/Jun/1978, electrofishing survey (CDFG, 3 p., 64: 0.9-6.5 in. FL); **Redwood Ck.**, 5/Mar/1979, electrofishing survey (CDFG, 4 p., **1) pool immediately below masonry bridge, Redwood Regional Park**, 3: 2.3-15.7 in. FL, **2) pool below bridge crossing into Redwood Regional Park**, 2: 3.1-3.2 in. FL, **3) 100 yd. reach upstream from bridge into Redwood Regional Park**, 20: 2.8-5.0 in. FL, **4) small pool on West Fork, approximately 0.5 mi. upstream from Piedmont Stables**, notes "several yearling RT were observed.", **5) 20 yd. reach on West Fork, approximately 0.5 mi. downstream from Piedmont Stables**, 4: 13.6-16.6 in. FL,

**6) 150 yd. reach in front of fire station**, 5: 7.9-17.5 in. FL, **7) 25 yd. reach approximately 1 mi. above masonry bridge, Redwood Regional Park**, notes "Several yearling RT observed, no measurements taken."); **Redwood Ck., from culvert under Pinehurst and Redwood rds. downstream approximately 475 yds.**, 10/Apr/1979, electrofishing survey (EBRPD, 2 p., 71: 2.0-15.9 in. FL); **Redwood Ck.**, 21/Mar/1980, electrofishing survey (CDFG, 2 p., **1) 100 yd. reach upstream from Redwood Park bridge**, 68: 3.0-17.2 in. FL, **2) 100 yd. reach downstream from masonry bridge in Redwood Regional Park**, 4: 4.1-5.8 in. FL, **3) 100 yd. reach above and below fire station on Redwood Rd.**, 20: 3.2-12.7 in. FL, **4) 100 yd. reach upstream from MacDonald Trail, west branch of Redwood Ck.**, 12: 3.3-9.5 in. FL, **5) pool below culvert crossing immediately upstream from MacDonald Trail**, 13: 4.5-17.2 in. FL); **Redwood Ck.**, 1/Apr/1981, electrofishing survey (EBRPD, 5 p., **1) West (North) Fk. from masonry bridge to confluence with Redwood Ck.**, 33: 3.0-15.0 in. FL, **2) from Pinehurst Rd. upstream to confluence with West Fk.**, 108, 100 at 2.6-16.4 in. FL, **3) West Fk., adjacent to Redwood Rd. near Big Bear Springs**, 17: 3.7-15.0 in. FL); **San Leandro Ck., approximately 30 m downstream from spillway structure below Chabot Dam**, 22/Jul/1981, R. Leidy and P. Fiedler, 7: 42-106 mm, plus 1 at 311 mm FL; **San Leandro Ck., approximately 0.45 mi. upstream from Canyon Post Office**, 4/Aug/1981, R. Leidy and P. Fiedler, 27: 40-68 mm FL; **San Leandro Ck., 0.5 mi. upstream from Upper San Leandro Reservoir**, 4/Aug/1981, R. Leidy and P. Fiedler, 12: 33-72 mm, plus 1 at 212 mm FL; **Indian Ck., approximately 20 m upstream from confluence with San Leandro Ck.**, 4/Aug/1981, R. Leidy and P. Fiedler, 2: 140-172 mm FL; **Redwood Ck., approximately 0.6 km downstream from junction of Redwood and Pinehurst rds.**, 5/Aug/1981, R. Leidy and P. Fiedler, 14: 41-127 mm FL; **Redwood Ck., at 2<sup>nd</sup> bridge crossing within main entrance to Redwood Regional Park (pool immediately below bridge)**, 5/Aug/1981, R. Leidy and P. Fiedler, 46: 22-62 mm, plus 2: 146 mm FL; **Redwood Ck., Redwood Canyon (N. Fk.) at 1<sup>st</sup> upstream crossing above Redwood Regional Park entrance (pool downstream from bridge)**, 5/Aug/1981, R. Leidy and P. Fiedler, 16: 40-130 mm FL; **Redwood Creek, at McDonald Trail entrance immediately upstream from parking lot bridge (S. Fk.)**, 5/Aug/1981, R. Leidy and P. Fiedler, 27: 35-76 mm FL; **Redwood Creek,**



**McDonald Trail branch (S. Fk.), approximately 0.25 mi. upstream from confluence of two creek branches near Redwood Rd.,** 5/Aug/1981, R. Leidy and P. Fiedler, 3: 40-56 mm FL; **Redwood Ck., approximately 1.35 km downstream from junction of Skyline and Redwood rds. at bridge with culvert,** 5/Aug/1981, R. Leidy and P. Fiedler, 10: 42-80 mm FL;

**SAN LORENZO CREEK WATERSHED (Alameda): "Near Hayward's, in Palmyrus [Palomares] Creek"** (Hallock 1877: 16); **San Lorenzo Ck., 0.5 mi. above tide gates (5 ft. elevation),** 23/Apr/1946, L. Shapovalov, field note (CDFG, 2 p., states that fishes present include "two steelhead...seen, one just above tide gates and one just below."); **San Lorenzo Ck., E. 14<sup>th</sup> St. crossing,** 23/Apr/1946, L. Shapovalov, field note (CDFG, 2 p., states that "Clarence E. Wilson, sportsman, stated that in 1941 or 1942 400 sea-run steelhead had been seen in one day trying to ascend the concrete apron under the bridge on E. 14<sup>th</sup> St. and that about 100 of these made it over. He estimated that the steelhead in the stream average 5 to 8 pounds in weight."); **San Lorenzo Ck., B St. bridge, RM 7.77 (185 ft. elevation),** 23/Apr/1946, L. Shapovalov, field note (CDFG, 2 p., states that "Steelhead 1.25-1.50 in. long abundant in shallow gravel areas in this vicinity."); **Crow Ck., from mouth to headwaters (5.5 mi.),** 16/Jun/1960, visual survey (CDFG, 4 p., states that "...local residents report 6-8 inch trout (RT-SH) have been caught early in the trout season in previous years in the lower reaches of the stream."); **Palomares Ck., from confluence with San Lorenzo Ck. to headwaters (5 mi.),** 18/Jun/1960, visual survey (CDFG, 4 p., quite numerous, 10-20 fish/100 ft. of stream in pools in lower section: 1.5-3.5 in. TL); **Cull Ck.,** 20/Jul/1960, visual survey (CDFG, 3 p., states that "...lower end is used as a spawning and nursing area for SH" [steelhead], "...a few steelhead are reported [by local residents] to sometimes travel a moderate distance upstream during the winter period."); **San Lorenzo Ck. watershed, including San Lorenzo, Crow, Cull, and Palomares cks.,** 9/Jun/1961, fisheries resource assessment (CDFG, 5 p., states that "In general, the San Lorenzo Creek drainage appears at the present time, to support a minor steelhead run."); **San Lorenzo Ck. watershed, mouth to headwaters, including Cull and Crow cks.,** prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **San Lorenzo Ck. watershed, mouth to Cull and Crow**

**cks. Downstream from reservoirs,** ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Crow Canyon Ck., E. of 4821 Crow Canyon Rd., Hayward,** 8/Jul/1975, fish kill (CDFG, 1 p., 1: 17.0 in. TL); **San Lorenzo Ck.,** 4-5/Aug/1975, visual survey (CDFG, 5 p., states that "The stream is a historic steelhead stream."); **Crow Ck., upper reaches,** 4-5/Aug/1975, visual survey (CDFG, 5 p., states that as "Crow Creek supports a resident RT population in its upper reaches."); **Crow Ck., upstream from confluence of Bolinas Ck.,** 5-6/Aug/1975, visual survey (CDFG, 5 p., 6: about 9.0 in. TL size range); **Don Castro Reservoir,** 27/Aug/1975, fishery resource assessment (CDFG, 1 p., present: no abundance or size);

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Alameda Ck.,** described as "some trout...early in the season" (Hallock 1877: 16); **"Stony Brook [Stoneybrook Ck.], near Niles"** (Hallock 1877: 16); **Santa Isabel Ck., Mt. Hamilton,** listed as 20/Jul/1898, J. O. Snyder (CAS 116872, 31); **Alameda Ck.,** 1800s, "Ran year round with steelhead trout, salmon" (Amador-Livermore valley Historical Society Newsletter, October 1989, from Alameda Creek Alliance 2002); **Indian Joe Ck.,** early-1900s, local resident accounts (EBRPD files, notes that local ranchers observed anadromous salmonids spawning in Indian Joe Ck. and that the fish were captured by early residents for food); **Arroyo Honda, Smith, and Isabel cks.,** as *Salmo irideus* (Snyder 1905, 337); **Arroyo Valle Ck. headwaters/Valpe Ck.,** 4/Sept/1910, "Full of fish", 30", 7.5 lb. "trout" caught (Livermore Herald article 4/Sept/1910, from Alameda Creek Alliance 2002, also cited in Memorandum from R. Hanson, Hanson Environmental, Inc., dated 19/Nov/2002); **Trout Ck.,** 1910 (Memorandum from R. Hanson, Hanson Environmental, Inc., dated 19/Nov/2002, notes steelhead 34 in. TL, approximately 10 lbs., reportedly caught); **Lacoste [La Costa] Ck.,** 1910 (Memorandum from R. Hanson, Hanson Environmental, Inc., dated 19/Nov/2002, notes trout approximately 30 in., weighing 7.25 lbs., reportedly caught); **Alameda Ck., immediately below dam in Niles Canyon,** 24/Jul/1927, W.I. Follett (CAS Acc. 1927: 1, large young); **Upper Alameda Ck. watershed, possibly Calaveras Ck.,** ca. 1935, historical photo of pipeline workers with 10 medium to large *O. mykiss* (EBRPD); **Arroyo Hondo Ck.,** 19/May/1937, memo to L. Shapovalov and C.E. Holladay (CDFG, 1 p., 2: each 5 yrs. of age); **Alameda Ck.,** 19/May/1938, L. Shapovalov (CAS Acc. 1952-

X: 30, 26: 21-45 mm SL); **Alameda Ck., second railroad bridge below Sunol, Niles Canyon (Silver Springs Camp)**, 19/May/1938, L. Shapovalov, field note (CDFG, 1 p., states that "Steelhead are reported to have trouble in getting over an 18-20 ft. dam at the second R.R. bridge below Sunol, in Niles Canyon...[Calaveras Diversion Dam workers] had seen steelhead jumping at the dam."); **Alameda Ck., below "Green Bridge" in Sunol Water Temple to Calaveras Ck. reach (T4S, R1E)**, 19/May/1938, states that "...caught 20 steelhead (all large, about 12 in. long...)"; **Calaveras Ck., 50 ft. above confluence with Alameda Ck. (T5S, R1E, S13, 475 ft. elevation)**, 19/May/1938, L. Shapovalov, visual survey (CDFG, 2 p., states that "Trout first emerged from gravel to 1.5 and even 2 in. length, abundant here and in Alameda Cr. just above junction with Calaveras Cr."); **La Costa Ck., Myron Harris place (T4S, R2E, S20)**, 19/May/1938, L. Shapovalov, visual survey (CDFG, 2 p., noted as "Trout to 3 in. common."); **Trout Ck., tributary to Arroyo del Valle, T5S, R3E**, 20/Jun/1938, fish stocking record (CDFG, 1 p., 1,300 at 13 fish/oz., from Brookdale Hatchery); **Sulphur Ck., tributary to Smith Ck. (T7S, R3E)**, 14/Feb/1940, L. Shapovalov (CDFG, 2 p., states that "Warden C.H. Holladay reports excellent natural reproduction in this stream."); **Smith Ck., 8 mi. reach (T6S, R3E)**, 14/Feb/1940, L. Shapovalov (CDFG, 2 p., states that "Warden C.H. Holladay reports very good natural reproduction in one section of this stream."); **Arroyo Hondo Ck., from Calaveras Reservoir upstream to natural falls**, 25/Feb/1942, memo from L. Shapovalov to files (CDFG, 1 p., present); **Bear Ck., 3 miles length (T5S, R2E, S23)**, 8/Jul/1942, B. Curtis (CDFG, 2 p., states that "...never dries up, has trout in it."); **Calaveras Reservoir**, 11/May/1943, C. E. Holladay (CAS 20925, 5); **Arroyo Mocho, T3,4,5S, R2,3,4E, 2800 ft. elevation**, 18/Nov/1944, L. Shapovalov, visual survey (CDFG, 1 p., noted as "rainbow" present, reportedly stocked); **Trout Ck., tributary to Arroyo del Valle, T5S, R3E**, 1944, visual survey (CDFG, 1 p., present: no size); **Sinbad Ck.**, 1940s, historical photograph by local resident (EBRPD files, authors note: photographs depict five *O. mykiss* caught by anglers that appear to be steelhead based on large size, coloration and appearance, also from Alameda Creek Alliance 2002); **Isabel Ck., reach beginning seven miles downstream from Isabel Reservoir**, 10/May/1948, L. Shapovalov, field note (CDFG, 2 p. notes several miles of "good" trout habitat in this reach); **Alameda Ck.**, 1950s-1960s, photographs by local resident, courtesy of Hal Janssen (1 p., photographs depict large steelhead caught in 12/Oct/1954, 1956, Jan/1959, and 1961, from Alameda Creek Alliance 2002); **Sinbad Ck.**, spring 1953, historical photograph of two steelhead caught (Alameda Creek Alliance 2002); **Arroyo del Valle**, 1953 (Memorandum from R. Hanson, Hanson Environmental, Inc., dated 19/Nov/2002, as trout 22 in. TL reportedly caught); **Smith Ck., Mt. Hamilton area**, 2/Jul/1953, field note (CDFG, 3 p., notes "RT fry ups to 6 in... Native reproduction keeps stream fairly stocked...RT fingerlings planted in 1952."); **Isabel Ck., 6 mi. accessible from Mt. Hamilton Springs resort**, 2/Jul/1953, field notes (CDFG, 4 p., states that "This is excellent for RT..."); **Arroyo del Valle**, 3/Ju/1973, historical photograph of 22 in. steelhead (Livermore Herald, 3/Jul/1953, from Alameda Creek Alliance 2002); **Indian Ck.**, 28/Jul/1953, steelhead rescue (CDFG, 1 p., states that "We found large numbers of stranded steelhead, ranging in size from three to six inches...3000 4-5 in. fish [in] area of concentration."); **Arroyo Hondo Ck., road crossing just above Calaveras Reservoir**, 30/Sep/1953, W. Evans field note (CDFG, 1 p., noted as "Trout of various sizes were seen..."); **San Antonio Ck.**, 30/Sep/1954, W. Evans visual survey (CDFG, 1 p., states that "A light steelhead run is reported to occur each year."); **Stoneybrook Canyon, ca. 1.5 mi. above junction with Alameda Ck.**, elev. 600 ft., lat. 67°, 36', 56", long. 121°, 56', 30", 13-14/Oct/1955, W.I. Follett and G.M. Peckham (CAS Acc. 1955-X: 31, 20, 3-7 in. TL); **Stoneybrook Canyon, ca. 1.2 mi. above junction with Alameda Ck.**, 31/Oct/1955, W.I. Follett and G. M. Peckham (CAS Acc. 1955-X: 31, 5, 2 in. TL); **Alameda Ck. [Arroyo Hondo], above Calaveras Reservoir**, 16/May/1957, visual survey (CDFG, 5 p., noted as "...trout up to an estimated 9 inches were seen. In several places 1.5 to 2-inch trout were observed in considerable numbers."); **Alameda Ck., opposite Niles nursery (Calif. Nursery Co.)**, 25/Mar/1957, W.I. Follett and G.M. Peckham (CAS, 3 half grown); **Stoneybrook Creek, Chrysler property**, 9/Jul/1959, migration barrier notification (CDFG, 1 p., noted as "...dam on Stoneybrook Creek...that blocks steelhead migrants in both upstream and downstream directions."); **Alameda Ck.**, 1961, "Steelhead trout ascend Alameda Cr. normally each year." (CDFG letter dated 26/Apr/1961, from Alameda Creek Alliance 2002); **Alameda Ck. watershed, including Calaveras, San Antonio, Indian, La Costa, Arroyo de la Luguna, Arroyo del Valle, Arroyo las**

**Positas, Arroyo Mocho, and Alamo cks.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Alameda Ck. watershed, including lower San Antonio, lower Arroyo de la Luguna, and lower Arroyo del Valle cks.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Alameda Ck., at 880 Fwy.**, 1963 (historical photographs of steelhead from Stuart Maestas, from Alameda Creek Alliance 2002); **Alameda Ck., Stanley Bridge, Old Canyon Rd., Niles**, 21/Apr/1967, U.C. Berkeley Zoology 166 class, G. Barlow, one adult); **Calaveras Reservoir**, Apr-Sept/1973, five electrofishing and gill net surveys (CDFG, 26: 244-546 mm FL); **Lake Del Valle**, stocked hatchery fish (California Department of Water Resources 1974: 24); **Alameda Ck., Niles Canyon area**, 17/Jul/1973, creel census (CDFG, 2 p., 42: caught); **Lower Alameda Ck.**, several locations, various dates from 1973 and Feb., Mar., and Jul/1974 (various numbers of RT/SH observed and/or caught, Alameda County water District EIR, March 1974, and CDFG memorandum dated 20/Jul/1974, from Alameda Creek Alliance 2002); **Alameda Ck., Niles Canyon reach**, 9-10/Aug/1974, creel census (CDFG, 3 p., 31 caught: no size); **Isabel Ck., Kincaid Rd. bridge**, 2/Jun/1975 (CDFG, 5: 6.0-8.5 in. FL); **Alameda Ck., from the Alameda County Water District seasonal water percolation dam at Mission Blvd., upstream to the USGS gauging station 0.5 mi. W. of Sunol**, 3/Jun/1975, creel census (CDFG, 2 p., 38 caught: no size); **Alameda Ck., Niles Canyon near Kaiser Quarry (T4S, R1W, S12)**, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., 1: 6.0 in. TL); **Arroyo Mocho Ck., Lawrence Laboratory pumping station** (NE0.25 of S.8, T4S, R3E), 3/Feb/1976, electrofishing survey (CDFG, 2 p., 12: 68-172 mm FL); **Arroyo Mocho Ck., Cedar Brook Ranch** (SW0.25 of S.14, T4S, R3E), 3/Feb/1976, electrofishing survey (CDFG, 2 p., 10: 67-318 mm FL); **Arroyo Mocho Ck., on Mines Rd. approximately 0.5 mi. upstream from crossing of Del Valle Rd.** (NW0.25 of S6, T4S, R3E), 3/Feb/1976, electrofishing survey (CDFG, 2 p., 5: 165-233 mm FL); **Stonybrook Canyon Ck., 150 yds. upstream from confluence with Alameda Ck.**, 8/Apr/1976, electrofishing survey (CDFG, Stream Survey Files, Yountville, 1 p., 1: 10 in. FL); **Isabel Ck., Kincaid Rd.**, 1972-1977 (Scoppettone and Smith 1979: 63); **Smith Ck., Mt. Hamilton Rd.**, 1972-1977 (Scoppettone and Smith 1979: 63); **Arroyo Hondo, Arroyo Hondo Rd.**, 1972-1977

(Scoppettone and Smith 1979: 63); **Alameda Ck., 1) mile post 5, Ohlone Camp Rd., 2) 0.5 km upstream from junction with Calaveras Ck.**, 1972-1977 (Scoppettone and Smith 1979: 64); **Arroyo Mocho, 1) Lawrence Laboratory pumping station, 2) 1 km above Del Valle Rd.**, 1972-1977 (Scoppettone and Smith 1979: 64); **Smith Ck., at Mt. Hamilton Rd. crossing**, 13/Aug/1981, R. Leidy and P. Fiedler, 9: 40-210 mm FL; **Isabel Ck., at junction with Kincaid Rd. (T6S, R3E, S32)**, 13/Aug/1981, R. Leidy and P. Fiedler, 10: 99-397 mm FL; **Colorado Ck., 0.5 mi. upstream from Mines rd. crossing (T6S, R4E, S11)**, R. Leidy and P. Fiedler, 49: 48-282 mm FL;

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck. and San Jose**, "trout" (Hallock 1877: 15, 17); **Coyote Ck.**, likely collected 1898, J.O. Snyder (SU 23657, 43); **"Coyote Cr., Santa Clara Co., Cal."**, likely collected in 1898, J. O. Snyder (USNM 75314, 20+); **Coyote Ck., Gilroy Hot Springs**, likely circa 1898, as *Salmo irideus*, J.O. Snyder (SCAS 123657, 43); **Coyote Ck., near mouth and San Jose**, as *Salmo irideus* (Snyder 1905, 337-338); **Upper Coyote Ck., in canyon east of the town of Madrone**, 1926-1927, as *Salmo irideus*, D. H. Fry (Fry 1936: 66-67); **Coyote Reservoir**, 1936, L. Shapovalov, 1937 memorandum to the Santa Clara Valley Water District (CDFG, notes fish kills, including *O. mykiss* above and downstream from Coyote Dam); **Coyote Reservoir**, 1938-1942, L. Shapovalov, field notes (CDFG, Jun/1938: documents planting of more than 1000 steelhead rescued from Uvas Ck., into Coyote Reservoir, Jan/1939: 16 steelhead: 343-445 mm FL rescued when reservoir was drained, Jul/1940: trout as large as 330 mm caught in reservoir, May/1941: 4: 200-345 mm FL, summer/1942: 1,500 steelhead rescued from Uvas Ck. plated in Coyote Reservoir); **Canada de los Osos Ck.**, Jun/1940, fish planting record (CDFG, 1 p., notes that 6,000-10,000 *O. mykiss* fingerlings rescued from Uvas Ck., were plated in Canada de los Osos); **Canada de los Osos, 2.7 mi. above mouth by rd. G. Milias place**, 17/Jul/1940, L. Shapovalov, visual survey (CDFG, 2 p., notes "Rescued trout from Uvas Cr. planted here [3,000 fingerlings] and above...doing well."); **Penitencia Ck.**, 3/May/1942 (San Jose Mercury Herald, Sportsman's Corner, states that "Penitencia Creek yielded near limits of fish from 6 to 10 inches..."); **Soda Springs Canyon Ck.**, 14/Jul/1943, fish rescue planting (CDFG, 1 p., 300: steelhead fingerlings, rescued from Uvas Ck.); **Soda Springs Canyon Ck.**, 1944, fish rescue planting (CDFG, 1 p., 400: steelhead fingerlings,

rescued from Uvas Ck.); **Coyote River, junction of Cochran Road and Malaguira Road, east between Madrone and Morgan Hill**, Sta. No. 15, 24/Aug/1945, D. A. and Helen Simpson (CAS 13269, 1: half-grown); **Coyote River, Hwy. 101, 1.5 miles north of Coyote at concrete dam**, 24/Aug/1945, D. A. and H. Simpson (CAS 13277, 1: one-third grown, 92 mm SL); **Coyote River watershed**, 4/Sep/1946, L. Shapovalov, memorandum (CDFG, 1 p., states that "A run of steelhead still enters Coyote River. These fish also ascend and spawn in Penitencia Creek, a tributary."); **Upper Coyote Ck., upstream from Coyote Reservoir**, 8/Apr/1953, field notes (CDFG, 1 p., states that "...the best [trout fishing] stream will probably be the upper portion of Coyote Creek."); **Coyote Ck., 0.4 mi. by rd. downstream from junction of Gilroy Hot Springs and Canada rds. in T.10S., R4E., Sec. 12**, 23/Jul/1953, seine survey (CDFG, 1 p., notes "Two fingerling RT were caught and released."); **Penitencia Ck., Alum Rock Park**, 17/Nov/1954, field notes (CDFG, 1 p., states that "A few wild trout are present in the stream..."); **San Felipe Ck., Coe Ranch, in Sec. 5, T8S, R3E**, 5, 9/Jan/1961, field notes (CDFG, 1 p., states, "Leroy Anderson dam and dams of the Coyote percolation basin below prevent steelhead from using the creek as they formerly did...Mr. Coe reported that there are normally no fish in the creek but that there was a small run of steelhead several years ago."); **Coyote Ck. watershed, mouth to headwaters in Henry Coe State Park, San Felipe Ck., Upper Penitencia Ck., and Silver Ck.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Coyote, downstream from Anderson Reservoir, Silver Ck., and Upper Penitencia Ck.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Coyote Ck., from Coyote Reservoir upstream 8.2 mi. to center of Sec. 24 of T9S, R4E**, 18/Mar/1965, visual survey, (CDFG, 3 p., 2: 5.0-6.0 in. TL); **Coyote Ck.**, 7/Mar/1972, field notes (J. L. Hendricks, SJSU, as trout, steelhead?); **Coyote Ck.** (lat. 37°, 10', long. 121°, 38', elevation 116 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 1: 201 mm FL); **Cottonwood Lake**, 8/Apr/1974, electrofishing survey (CDFG, 3 p., 7: 13.0-17.0 in. FL); **Middle Fork Coyote Ck., upper, middle and lower third, Coe State Park** (Guzzetta 1974: 28); **East Fork and Little Coyote Ck., Coe State Park** (Guzzetta 1974: 28); **Coyote Ck., lower half, Coe State Park** (Guzzetta 1974: 28); **Coyote Ck., Coe State Park**, 1972-1977 (Scoppettone and Smith 1978: 63); **Arroyo Aguague Ck., 1 km upstream from mouth**, 1972-1977 (Scoppettone and Smith 1978: 63); **Penitencia Ck., Alum Rock Park**, 1972-1977 (Scoppettone and Smith 1978: 63); **Upper Penitencia Ck., approximately 0.75 to 1.0 mi. downstream from spillway at Cherry Flat Reservoir**, 12, 13, 17/Jun/1975, visual survey (CDFG, 12 p., 1: 7 in. TL); **Upper Penitencia Ck., at confluence with Arroyo Aguague Ck., downstream through central Alum Rock Park, near the western park boundary**, 12, 13, 17/Jun/1975, visual survey (CDFG, 12 p. 50-60 fish/100 ft. of stream in some areas: averaged 1.5 in. TL); **Coyote Ck., mouth to Hellyer Park (18.6 mi.)**, 8-10/Sep/1975, visual survey (CDFG, 4 p., states that "Coyote Creek was historically a steelhead stream...Upper Penitencia Creek, a principal tributary to lower Coyote Creek may be used by steelhead in wet years (?). The upper reaches of Coyote Creek are known to support populations of rainbow trout."); **Arroyo Aguague Ck., from headwaters downstream to confluence with Upper Penitencia Ck. (6 mi.)**, 16-17/Sep/1975, visual and electrofishing survey (CDFG, 6 p., notes that "Rainbow trout/steelhead trout were present above and below the natural falls...", near the mouth, 63: 1.5-approximately 7.0 in. FL); **Coyote Reservoir**, 29/Apr/1976, electrofishing survey (CDFG, 8 p., 12: 6.3-11.9 in. FL); **Coyote Ck., downstream from the Coyote Canal Diversion Dam**, Mar/1978, fish kill (CDFG, 1 p., notes that "...there was a fill of 14 in. to 16 in. trout and salmon."); **Coyote Ck., Gilroy Hot Springs, 14.4 km upstream from Coyote Reservoir Dam**, 6/1977 and Jul/1980 (Pitt and Bozeman 1982, p. 73); **Cottonwood Lake**, 17, 19/Apr/1979, beach seine (SJSU, Zoology 150 class, 10 p., 13: 100-235 mm TL); **Upper Penitencia Ck., below falls**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at Mineral Springs**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at stream gage**, Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Coyote Reservoir**, 9-10/Ju/1980, electrofishing survey (CDFG, 4 p., 2: 8.9-9.5 in. FL); **Upper Penitencia Ck., at water percolation ponds outlet near Linda Vista Rd.**, 11/Aug/1981, R. Leidy and P. Fiedler, 1: 147 mm FL; **San Felipe Ck., at San Felipe Valley Rd. bridge**, 5/Sept/1981, R. Leidy and P. Fiedler, 23: 30-80 mm FL; **Penitencia Ck., lower boundary of Alum Rock Park**, 1982 (J. Smith, SJSU, personal communication, approximately 200 young);



**GUADALUPE RIVER WATERSHED (Santa Clara): "San Jose, 0.3 km. From Guadalupe River, Santa Clara Co."**, A.D. 700-1300, archaeological site SCL-690, as 'steelhead' (Gobalet 1992: 76-77); **Guadalupe Ck.**, notes that "Early written documents record the local presence of migrating salmon in the 'Rio Guadalupe' dating as far back as the 1700s..." (SCBWWI 2001, p.7-131); **Guadalupe Ck.** (Hallock 1877: 15); **Los Gatos Ck.** (Hallock 1877: 15); **Guadalupe Ck.**, as *Salmo irideus* (Snyder 1905, 337); **Guadalupe Ck., T6S, R1W**, 1938-1939, steelhead stocking record (CDFG, 1 p., 1) 27/May/1938, 8,000 fish at 30 fish/oz. from Big Ck. Hatchery, 2) 24/Jun/1938, 5,000 fish at 30 fish/oz. from Big Ck. Hatchery, 3) 21/Jun/1939, 3,000 fish at 60 fish/oz, Brookdale Hatchery); **Los Gatos Ck.**, 8/Jul/1938, fish stocking record (CDFG, 1 p., 10,000 steelhead 38 fish/oz., from Brookdale Hatchery); **Los Gatos Ck., fishway at Page Dam**, 19/Oct/1948, L. Shapovalov, memorandum (CDFG, 1 p., states that "...trout migrating upstream are liable to occur in Los Gatos Creek in the vicinity of Page Dam in sufficient numbers to warrant immediate remedial measures at the fishway."); **Los Gatos Ck. watershed**, 1952, file memorandum (CDFG, 2 p., states that "In the early days the stream [i.e., Los Gatos Ck.] maintained a surface flow throughout its entire length and a good steelhead run was supported...No steelhead run of any consequence has been noted since 1937...Resident trout populations have remained in the portions maintaining permanent flow."); **Los Gatos Ck., at base of Ryland Dam**, 22/Apr/1953, field notes (CDFG, 1 p., states that "Large numbers of RT were seen congregated at the base of the dam and at a pool below the ladder...all the pools were noted choked with trout and lots of redds were also seen."); **Los Gatos Ck., at base of Ryland Dam**, 8/May/1953, field notes (CDFG, 1 p. states that "We found 6 fish [rainbow trout] in the ladder, 2 in the top step...Thousands of rainbow trout were seen milling in the large pool at the bottom of the dam trying to find a way to get over the dam. Trout were also seen milling around the fish ladder."); **Los Gatos Ck., above Lexington Dam**, 1/Jul/1953, field notes (CDFG, 5 p., states "One mile of trout water to Ryland dam...RT...good trout water..."); **Los Gatos Ck., below Lexington Dam**, 1/Jul/1953, field notes (CDFG, 5 p., states "Two miles of fair trout water below Lexington...RT and native minnows...typical trout water."); **Los Gatos Ck.**, 1/Jul/1953, field notes (CDFG, 1 p., states that "SH fingerlings planted...sea-run SH still ascend the creek."); **Guadalupe Ck., from 0.2 to 0.5**

**mi. by rd. downstream from Hicks and Shannon rds. junction, in T8S, R1E, S19**, 24/Jul/1953, T.J. Merkel (CDFG, 2 p., present); **Guadalupe Ck., 1.4 to 1.5 mi. by rd. upstream from junction of Hicks and Shannon rds., in T.8S., R.1E., Sec. 30**, 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present); **Guadalupe Ck., 0.3 mi. by rd. upstream from junction of Hicks and Shannon rds., in T.8S., R.1E., Sec. 30**, 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present as "salmonids"); **Guadalupe Ck., from bridge crossing at Hicks Rd. and Coleman Ave. upstream to dam**, 18/Jul/1956, visual survey (CDFG, 2 p., notes that "a great number of steelhead young observed in the pools..."); **Hicks Ck., upstream from rd. crossing at pool below cement barrier**, 18/Jul/1956, visual survey (CDFG, 2 p., notes that "Numerous young RT-SH were observed in pool (2"-3") below barrier."); **Hicks Ck., from barrier upstream 0.5 mi., series of pools**, 18/Jul/1956, visual survey (CDFG, 2 p., notes that "In almost every pool and riffle RT-SH (2"-3") were observed."); **Pheasant Ck., 0.25 mi. section approximately 1 mi. upstream from confluence with Guadalupe Ck.**, 18/Jul/1956, visual survey (CDFG, 2 p., noted that "...numerous young steelhead were observed..."); **Almaden Reservoir**, 24/Aug/1956, visual survey (CDFG, 6 p., abundant: 6.0-14.0 in TL); **Guadalupe Ck. watershed**, 29/Oct/1957, small watershed project assessment dated 17/Apr/1958 (CDFG, 2 p., states that "A steelhead fishery of minor importance, and apparently intermittent nature, now exists in subject region...Pheasant and Hicks Creeks tributary to Guadalupe Creek...are occasionally used as spawning streams by steelhead..."); **Guadalupe River, from Guadalupe Dam to a point 3 mi. downstream**, 22/Oct/1959, visual survey (CDFG, 1 p., notes that "Warden Holladay indicated that resident rainbow trout were found in this section of the stream."); **Los Gatos Ck.**, 9/Jun/1961, seining survey (CDFG, 4 p. + notes, states that "Historically Los Gatos Creek is a steelhead spawning and nursery tributary of Guadalupe Creek...The drainage below Vasona Reservoir still receives some use by steelhead."); **Vasona Reservoir**, 9/Jun/1961, seining survey (CDFG, 4 p. + notes, 2: 8.5-9.0 in. TL); **Los Gatos Ck., 0.25 mi. reach in headwaters off Loma Prieta Rd., upstream from Williams Reservoir and below the forks**, 24/May/1962, visual survey (CDFG, 2 p., 8: 4.0-8.0 in. TL); **Guadalupe River watershed, mouth to headwaters, Guadalupe Ck., Los Gatos Ck., Alamitos Ck., and Calero Ck.**, prior to 1962 (Skinner 1962,

Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Guadalupe River watershed, mouth to Guadalupe Reservoir, Los Gatos Ck. to Lexington Reservoir, and lower Alamos Ck.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Alamos Ck., 0.5 mi. reach immediately above Almaden Reservoir**, 4/Nov/1970, chemical treatment (CDFG, 1 p., 3: no size); **Guadalupe Ck., two stations along Hicks Rd., 1) approximately 2 mi. downstream from Guadalupe Dam, 2) approximately 3 mi. downstream from Guadalupe Dam, Secs. 19 & 30, T8S, R1E**, 14/Nov/1975, electrofishing survey (USFWS, 1 p., present, 2.0-13.0 in. TL, y.o.y. numerous); **Almaden Reservoir**, 5/Jun/1973, gill net survey (CDFG, 2 p., 8: 8.3-12.8 in. FL); **Guadalupe R., at USGS gauging sta. at Hicks Rd.**, 26/Aug/1981, R. Leidy and P. Fiedler, 4: 96-167 mm FL; **Rincon Ck., 50 m upstream from confluence with Guadalupe R.**, 26/Aug/1981, R. Leidy and P. Fiedler, 6: 60-72 mm FL; **Hooker Gulch Ck., immediately upstream from confluence with Los Gatos Ck. on Aldercroft Rd.**, 6/Sept/1981, R. Leidy and P. Fiedler, 11: 37-72 mm FL; **Los Gatos Ck., 20 m upstream from Wrights Station Rd. crossing, 2 km S. of Wrights site**, 6/Sept/1981, R. Leidy and P. Fiedler, 3: 57-203 mm FL; **Unnamed tributary to Los Gatos, entering from the S.E. approximately 0.5 km upstream from Wrights site, Wrights Station Rd.** (50 m upstream on tributary from confluence with Los Gatos Ck.), 6/Sept/1981, R. Leidy and P. Fiedler, 2: 56-58 mm FL; **Austrian Gulch, approx. 25 m upstream from bridge over ck., which flows into N.E. arm of Lake Elman**, 6/Sept/1981, R. Leidy and P. Fiedler, 200+ observed: 75 at 32-60 mm FL;

**CONGRESS HALL CREEK WATERSHED (Santa Clara): Congress Hall Ck.** (Hallock 1877:15);

**SARATOGA CREEK WATERSHED (Santa Clara): "Saratoga Cr., Calif."**, likely circa 1895 based on adjacent SU record numbers and dates, as *Salmo irideus*, E.Z. Hughes (SU 4726, 6); **Campbell [Saratoga] Ck.** (Snyder 1905, 337); **Campbell (Saratoga) Ck.**, 1938-1939, fish stocking record (CDFG, 1 p., 6/Jul/1938, 5,000 fish at 35 fish/oz., from Brookdale Hatchery, 21/Jun/1939, 3,000 fish at 60 fish/oz., from Brookdale Hatchery); **Saratoga Ck., dam adjacent to Hwy. 9, 2 mi. W. of Saratoga**, 26/Mar/1953, field notes (CDFG, 1 p., states that "The County men at the quarry report that there have been no SH in Campbell Creek for at least 15 years."); **Campbell (Saratoga) Ck., at town**

**of Saratoga**, 1/Jul/1953, field notes (CDFG, 5 p., states that there is "...approximately 3 to 5 miles of trout water in early part of season...SH fingerlings or RT... This is a SH stream...SH and RT fingerlings planted. Years ago SH ascended. No sizeable runs have occurred for past 8 or 10 years."); **Saratoga Ck., 0.4 km upstream from junction with Booker Ck.**, 21/Aug/1981, R. Leidy and P. Fiedler, 6: 46-62 mm FL; **McElroy/Bonjetti cks., 0.3 km above junction with Saratoga Ck.**, 21/Aug/1981, R. Leidy and P. Fiedler, 3: 32-59 mm FL; **McElroy Ck., branch to S. (S.E. branch under road), 0.3 km upstream from Saratoga Ck.**, 21/Aug/1981, R. Leidy and P. Fiedler, 4: 37-56 mm FL; **Saratoga Ck., at Fourth St. in Town of Saratoga (Wildwood Park)**, 21/Aug/1981, R. Leidy and P. Fiedler, 15: 61-170 mm FL; **Saratoga Ck., at Crestbrook Dr. (off Saratoga Ave.)**, 21/Aug/1981, R. Leidy and P. Fiedler, 4: 56-226 mm FL; **Saratoga Ck., unnamed branch along Sanborn Rd. (last bridge overcrossing approx. 2.7 km upstream from junction of Sanborn Rd. and Hwy 9, under bridge)**, 7/Sept/1981, R. Leidy and P. Fiedler, 1: 178 mm FL;

**STEVENS CREEK WATERSHED (Santa Clara): Stevens Ck.** (Hallock 1877: 15); **Stevens Ck.**, likely circa 1895 based on adjacent SU record numbers and dates, W.W. Thoburn, (SU 4758, 6); **Stevens Ck.**, as *Salmo irideus* (Snyder 1905, 337); **Stevens Ck. Reservoir**, 22/Nov/1937, L. Shapovalov, visual survey (CDFG, 2 p., states that "...some [rainbow trout] of good size, 10 or 12 in. or more..."); **Stevens Ck., base of Stevens Ck. Reservoir dam**, 9/Mar/1938, L. Shapovalov, field notes (CDFG, 2 p., observes that at 2:50 p.m. "Trout approx. 12 to 15 inches long seen to jump straight up in air in west box of outlet – fish fairly well colored.", observes at 2:55 p.m. that "This may be same fish-now appears approx. 10-13 in long. Well colored.", observed at 3:36 p.m. that "Two fish jumped. One rather silvery, 12 to 14 in. long; another 9 to 12 in. long.", at 3:45 p.m. notes "One female caught in dip net while jumping; quite silvery...ripe eggs flowing out freely...Length 292 mm or 11.5 in.", between 3:35 p.m. and 4:50 p.m. noted that 9 fish jumped, between 8-13 in. TL); **Stevens Ck., Mt. View railroad bridge spillway**, 18/Mar/1938, L. Shapovalov, field notes (CDFG, 1 p., states that "One fish [steelhead] approximately 7 or 8 inches jumped at Mt. View R.R. bridge...Another jumped...approximately 8 or 9 inches long."); **Stevens Ck., outlet boxes below Stevens Ck. Reservoir**, 18/Mar/1938, L. Shapovalov, field notes (CDFG,

2 p., states "One fish [rainbow trout] approx. 9 inches long jumped in outlet box..."); **Stevens Ck., outlet boxes below Stevens Ck. Reservoir**, 18/Mar/1938, L. Shapovalov, field notes (CDFG, 2 p., states "...one fish [rainbow trout] broke water in one of the outlet boxes..."); **Stevens Ck. and Stevens Ck. Reservoir**, 1/May/1938, creel census of steelhead (Dill 1938, 1) gauging station to dam, 36: avg. size 294 mm FL, 2) lake, 44: avg. 301 mm FL, 2) picnic grounds at head of lake, 8: avg. 210 mm FL); **Stevens Ck.**, 24/Jun/1938, steelhead stocking record (CDFG, 1 p., 5000 fish at 30 fish/oz., Big Ck. Hatchery); **Stevens Ck., at first rd. crossing above reservoir**, 16/Nov/1938, L. Shapovalov, field notes (CDFG, 1 p., states that "One 3.5 in. trout seen."); **Stevens Ck., outlet box below dam**, 16/Nov/1938, L. Shapovalov, field notes (CDFG, 2 p., states that "One badly fungused fish (probably trout) dead..."); **Stevens Ck. Reservoir**, 2/Jan/1939, L. Shapovalov, visual survey (CDFG, 2 p., states that "Trout 6 to 10 inches long...near dam."); **Stevens Ck. Reservoir**, 19/May/1939, L. Shapovalov, visual survey (CDFG, 2 p., 3 fish observed caught by fisherman); **Stevens Ck. Reservoir**, 1/May/1941, field note (CDFG, 1 p., estimated 6000 trout caught); **Stevens Ck., from dam to 2 mi. downstream**, 16/May/1941, L. Shapovalov, field notes (CDFG, 1 p., States that "Many fish of the season were present in this section last year [i.e., 1940], according to Warden Holladay. Only one trout of the season, 1.25 in. long, was seen, below the dam at the junction of the stream bed from the spillway and the stream from the outlet gates...about 10 trout 8 to 14 in. long were in the pool at the foot of the spillway."); **Stevens Ck., at picnic grounds 0.25 mi. above large culvert and rd. crossing at head of reservoir**, 16/May/1941, L. Shapovalov, field notes (CDFG, 1 p., states that "Trout fish of the season present but only occasional and very small, mostly just hatched, 1.25 in. long. One about 1.75 in. long was seen; probably most of the fish have not emerged yet. One chunky trout about 2 in. long was seen here, too; it was probably a fall spawning Rainbow Trout planted recently from Brookdale hatchery."); 2/Jul/1941, L. Shapovalov, field notes (CDFG, 1 p., states that "steelhead fish of season 1.5 to 3.0 in. common."); **Stevens Ck., at picnic grounds 0.25 mi. above large culvert and rd. crossing at head of reservoir**, 25/Oct/1941, L. Shapovalov, field notes (CDFG, 1 p., states that "Trout 2.5 to 5 in. common to abundant in all pools; 30 to 50 even in fairly small pools over gravel areas... There appear to be differences in these fish; some are likely

to be naturally spawned and some planted Mt. Whitney Rainbows. Same abundance/observed from culvert to 0.75 mi. above..."); **Stevens Ck. and Stevens Ck. Reservoir**, 1, 2, 5/May/1942, creel census (Shapovalov 1944a, 16 p., 1) stream above reservoir, 69: 3.9-13.5 in. FL, 2) reservoir, 37: 7.7-13.8 in. FL, 3) stream below reservoir, 17: 5.0-9.8 in. FL); **Stevens Ck. Reservoir**, 10/Aug/1942, L. Shapovalov, seining survey (CDFG, 3 p., notes "...one trout."); **Stevens Ck. and Stevens Ck. Reservoir**, 1/May/1943, creel census (Shapovalov 1944b, 16 p., 1) stream above reservoir, 22: 4.0-10.5 in. FL, 2) reservoir, 14: 7.25-12.75 in. FL.); **Stevens Ck. and Stevens Ck. Reservoir**, 1/May/1944, creel census (Shapovalov 1944c, 23 p., 1) stream above reservoir, 28: 3.75-7.5 in. FL, 2) reservoir, 50: 6.75-9.5 in. FL.); **Stevens Ck., pool #1**, 2/Oct/1944, CDFG (CAS Acc. 1952-X:30, 45: 56-126 mm SL); **Stevens Ck., pool #2**, 2/Oct/1944, CDFG (CAS Acc. 1952-X:30, 22: 63-124 mm SL); **Stevens Ck., pool # 4**, 2/Oct/1944, CDFG (CAS Acc. 1952-X:30, 7: 69-106 mm); **Stevens Ck. and Stevens Ck. Reservoir**, 1/May/1945, creel census (Shapovalov 1945, 23 p., 1) stream above reservoir, 22: 5.0-9.0 in. FL, 2) reservoir, 55: 5.75-9.75 in. FL.); **Stevens Ck. and Stevens Ck. Reservoir**, 1/May/1945, creel census (Shapovalov 1946, 41 p., 1) stream above reservoir, 51: 4.5-10.75 in. FL, 2) reservoir, 330: 6.5-13.5 in. FL.); **Upper Stevens Ck., on the George Morrell ranch**, 17/Jun/1946, L. Shapovalov, visual survey (CDFG, 2 p., states that "...naturally propagated rainbow-steelhead of the season's hatch, 1 to 1.25 inches long, were fairly common..., but trout 4 to 6 inches long were only occasional and no larger trout were seen."); **Stevens Ck., 25 ft. above entrance of Gold Ck. to entrance of Indian Ck.**, 17/Jun/1946, L. Shapovalov, visual survey (CDFG, 2 p., notes "...RT fry recently emerged from gravel, 1 to 1.25 in. long, were fairly common and 4-6 in. RT were occasional..."); **Stevens Ck. Reservoir**, 1/May/1949, L. Shapovalov, field notes (CDFG, 1 p., 16 trout caught by anglers); **Stevens Ck. Reservoir**, 29/Apr/1950, L. Shapovalov, creel observations (CDFG, 1 p., about 30+: estimated 6.0-16.0 in. TL); **Stevens Ck. Reservoir**, 29/Apr/1951, creel check (CDFG, 2 p., 25: 7.5-13.0 in. TL); **Stevens Ck., from reservoir upstream 2 mi.**, 6/Aug/1951, visual survey (CDFG, 1 p., notes that "... just about every pool inspected had small numbers of fingerling trout in it..."); **Stevens Ck., 6 mi. reach above reservoir**, 1/Jul/1953, visual survey, field notes (CDFG, 2 p. states "Native RT, SH, native minnows" present."); **Stevens Ck. Reservoir**, 2/May/1954, field notes on anglers (CDFG, 2

p., notes that 120 were checked, 7 at 5.7-9.1 in. FL); **Stevens Ck., mouth above reservoir downstream 100 yds. into dry reservoir**, 20/Jul/1954, fish mortality inspection (CDFG, 2 p., states that "A count of the dead fish revealed 17 catchable RT..."); **Stevens Ck. watershed, mouth to headwaters**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Stevens Ck. watershed, mouth to Stevens Ck. Reservoir**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Stevens Ck., downstream from the reservoir**, circa 3/1975, observation (letter from Northern California Council of Fly Fishing Clubs to CDFG, 2 p., notes "...observed an 18 inch steelhead..."); **Stevens Ck., Stevens Ck. Rd. bridge nearest Stevens Canyon Rd.**, 8/May/1975, (CDFG, 6: 3.5-5.0 in. FL); **Stevens Ck.**, 6/Feb/1976, steelhead restoration assessment (CDFG, 2 p., states that "Historically, the stream supported annual runs of steelhead trout..."); **Stevens Ck., from Stevens Ck. Rd. bridge downstream 25 m**, 19/Aug/1981, R. Leidy and P. Fiedler, 4: 65-110 mm FL; **Stevens Ck., at Stevens Ck. County Park, 100 m upstream from gaging station**, 19/Aug/1981, R. Leidy and P. Fiedler, 2: 60-192 mm FL; **Stevens Ck., 20 m downstream from 1<sup>st</sup> bridge above Eden Rd.**, 20/Aug/1981, R. Leidy and P. Fiedler, 2: 48-58 mm FL; **Stevens Ck., at bridge 5.9 mi. upstream from Stevens Ck. Reservoir**, 20/Aug/1981, R. Leidy and P. Fiedler, 15: 58-72 mm FL;

**PERMANENTE CREEK WATERSHED (Santa Clara): Permanente Ck., Los Altos-Stevens Ck. Rd. crossing at Loyola Corners**, 29/Aug/1940, L. Shapovalov, field notes (CDFG, 2 p., states that "The storekeeper at Loyola Corners reports that this use to be a fine trout stream, with large trout caught in it.");

**ADOBE CREEK WATERSHED (Santa Clara): Adobe Ck.** (Hallock 1877: 15); **San Antonio [Adobe] Ck.**, as *Salmo irideus* (Snyder 1905, 337);

**MATADERO CREEK WATERSHED (Santa Clara): Madera [Matadero] Ck.**, as *Salmo irideus* (Snyder 1905, 337); **Deer Ck.**, T6S, R4W, S17, 1500 ft. elevation, 26 /Jul/1942, L. Shapovalov (CAS Acc. 1952-X: 30, 1: 36 mm SL); **Matadero Ck.**, 1/May/1945, L. Shapovalov, field note (CDFG, 1 p., notes that "...large (sea-run) Steelhead were present in Matadero Creek, Santa Clara County, two years ago...");

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/ San Mateo): San Francisquito Ck.**, 1855 (Girard 1857,

83); **San Francisquita [Francisquito]** (Hallock 1877: 15); **San Francisquito Ck.**, ca. 1896-1898, E.Z. Hughes (SU 4729, 2); **"Vicinity of Palo Alto**, likely circa early-1890s based on adjacent SU records and dates, Zoology Club (CAS 110869-110872, 4 specimens total); **San Francisquito Creek**, as *Salmo irideus* (Snyder 1905, 337); **San Francisquito Creek**, as *Salmo irideus* (Jordan 1907: 83); **San Francisquito Ck.**, Palo Alto, at El Camino Real and S.P. railroad bridge, 13/May/1938, L. Shapovalov (CAS 119203, 23 or 27); **San Francisquito Ck., upstream to the Searsville Dam adjacent to the Stanford University Campus**, circa 1950s (Needham and Gard 1959: 39); **San Francisquito Ck.**, 16/Nov/1953 (CDFG, 1 p., present); **San Francisquito Ck.**, 5/Dec/1961, letter from CDFG to California Division of Highways (CDFG, 1 p., states that "San Francisquito Creek sustains a small run of steelhead most winters."); **San Francisquito Ck. watershed, mouth to headwaters, Corte Madera Ck., and West Union Ck.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **San Francisquito Ck. watershed, mouth to Searsville Lake, Los Trancos, and West Union Ck.** ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Bear Ck., immediately upstream and downstream from Sand Hill Rd. bridge**, 3/Jul/1974, electrofishing survey (CDFG, 7 p., 48: 2.0-4.2 in. FL); **Bear Ck., 50 yd. reach downstream from Fox Hollow Rd. bridge**, 3/Jul/1974, electrofishing survey (CDFG, 7 p., 13: 2.3-3.8 in. FL); **Bear Ck., Mountain Home Rd. bridge**, 3/Jul/1974, electrofishing survey (CDFG, 7 p., 35: 2.8-8.3 in. FL); **West Union Ck., at confluence with Bear Gulch, 300 ft. reach downstream from Woodside rd. bridge**, 3/Jul/1974, electrofishing survey (CDFG, 7 p., 27: 1.9-6.8 in. FL); **McGarvey Gulch Ck., 300 ft. reach downstream from Woodside Rd. bridge**, 3/Ju/1974, electrofishing survey (CDFG, 7 p., 27: 1.9p6.8 in. FL); **Bear Ck., 50 yd. reach downstream from Fox Hollow Rd. bridge**, 15/Jul/1974, electrofishing survey (CDFG, 7 p., 29: 2.4-5.7 in. FL); **Bear Ck., confluence with West Union and Bear Gulch downstream to confluence with San Francisquito Ck.**, 24/Jun/1976, visual survey (CDFG, 4 p., approximately 150 observed: fingerlings."); **West Union Ck., pool approximately 400 yds. downstream from the confluence of McGarvey Gulch**, 29/Jun/1976, visual survey (CDFG, 4 p., 1: 8.0 in. TL); **West Union Ck., pools approximately 75 yds. above Kings Mtn. Rd.**



to confluence with Bear Ck., 29/Jun/1976, visual survey (CDFG, 4 p., present: age 1 and 2 steelhead trout); **West Union Ck., 150 yds. downstream from Kings Mtn. Rd to confluence with Bear Ck.,** 29/Jun/1976, visual survey (CDFG, 4 p., observed: y-o-y); **San Francisquito Ck., from confluence of Corte Madera and Bear cks., downstream to San Francisco Bay,** 1, 2 and 5/Jul/1976, visual survey (CDFG, 6 p., present); **San Francisquito Ck., immediately above and below Junipero Serra Blvd. crossing,** 13/Jul/1976, electrofishing survey (CDFG, 5 p., 1: 1.9 in. FL); **San Francisquito Ck., bedrock pools about 75 yds. downstream from Junipero Serra Fwy. 280,** 13/Jul/1976, electrofishing survey (CDFG, 5 p., 7: 1.7-5.8 in. FL); **West Union Ck., pools at twin falls and approximately 1000 ft. downstream from falls, above Huddart Park,** 13/Jul/1976, electrofishing survey (CDFG, 3 p., 4: 6.5-9.0 in. FL); **West Union Ck., three pools near lowermost boundary of Huddart Park,** 14/Jul/1976, electrofishing survey (CDFG, 3 p., 1: 6.0 in. FL); **West Union Ck., 125 yds. above and 75 yds. below Kings Mtn. Rd. crossing,** 14/Jul/1976, 28: 1.7-8.8 in. FL); **Los Trancos Ck., 1000 ft. reach upstream from the lowermost Los Trancos Rd. crossing,** 14/Jul/1976, electrofishing survey (CDFG, 4 p., 26: 1.6-8.1 in. FL, age 0 SH/RT numerous); **Los Trancos Ck., 100 yd. reach above pvt. Rd. that enters Alpine Rd. immediately below the Alpine Hills tennis and swimming Club,** 14/Jul/1976, electrofishing survey (CDFG, 4 p., 20: 1.5-9.3 in. FL, age 0 SH/RT numerous); **Bear Ck., 400 yd. reach above Sand Hill Rd. crossing,** 15/Jul/1976, electrofishing survey (CDFG, 4 p., 3: 6.8-8.3 in. FL); **Bear Ck., 500 yd. reach above Mountain Home Rd. crossing,** 15/Jul/1976, electrofishing survey (CDFG, 4 p., 33: 1.6-8.3 in. FL); **Los Trancos Ck., upstream from Felt Lake diversion dam,** 7/Aug/1976, visual survey (CDFG, several); **Los Trancos Ck., plunge pools of fish passage weirs located under the Hwy. 280 bridge,** 12-13/Jun/1978, electrofishing survey (CDFG, 1 p., 412: y-o-y); **Los Trancos Ck., private bridge crossing 0.1 mi. from intersection of Alpine and Los Trancos rds,** 12-13/Jun/1978, electrofishing survey (CDFG, 1 p., 2: 3.4-3.9 in. FL); **Bear Ck. 400 yd. reach immediately upstream from Sand Hill Rd. crossing,** 29/Jun/1978, electrofishing survey (CDFG, 3 p., 3: approximately 5.0 in. FL); **Bear Ck. 500 yd. reach upstream from Mountain Home Rd. crossing,** 29/Jun/1978, electrofishing survey (CDFG, 3 p., 2: 3.2-3.8 in. FL, + 50-75 y-o-y observed); **Bear Ck., 100 ft. reach**

**immediately upstream and under Mountain Home Rd. bridge, Woodside,** 9/Aug/1979, electrofishing survey (CDFG, 2 p., 85: 2.0-8.5 in. FL); **San Francisquito Ck., from Sand Hill Rd. crossing on Bear Gulch Ck. downstream to the end of Alma Rd. just downstream of El Camino Real,** 30/Jun/1981, visual survey (CDFG, 5 p., observed, more common in the upper reaches); **San Francisquito Ck., crossing at 1<sup>st</sup> rt. Turn off of Alpine Rd., off Hwy 280 (rd. to hospital and quarry),** 16/Aug/1981, R. Leidy and P. Fiedler, 2: 51-73 mm FL; **Los Trancos Ck., 25 m downstream from Arastradero Rd. crossing,** 16/Aug/1981, R. Leidy and P. Fiedler, 5: 48-92 mm, 2: 190-335 mm FL; **Bear Ck., rd. crossing 0.3 km downstream from Adobe Corner,** 22/Aug/1981, R. Leidy and P. Fiedler, 5: 69-111 mm FL; **Bear Gulch branch of Bear Ck., at La Honda Rd. crossing,** 22/Aug/1981, R. Leidy and P. Fiedler, 3: 140-245 mm FL; **West Union Ck., at confluence with Bear Ck. at Kings Mtn. Rd.,** 22/Aug/1981, R. Leidy and P. Fiedler, 16: 51-162 mm FL; **Alambique Ck., at La Honda Rd. crossing,** 22/Aug/1981, R. Leidy and P. Fiedler, 2: 25-52 mm FL; **Corte Madera Ck., a Willowbrook Rd. crossing,** 7/Sept/1981, R. Leidy and P. Fiedler, 52: 35-86 mm FL; **Corte Madera Ck., at Alpine Rd. and lower Coal Ck. confluence,** 7/Sept/1981, R. Leidy and P. Fiedler, 26: 32-62 mm, 2: 98-137 mm FL;

**SAN MATEO CREEK WATERSHED (San Mateo): "San Matteo [Mateo] Creek",** 1855, as *Salar iridea*, R.D. Cutts (Girard 1856a, 1859, 323: 6); **"Head of San Mateo Creek",** as *Salar iridea* (Girard 1858: 321); **San Mateo Ck.,** 6/Jan/1860, T. G. Cary (MCZ 7021, 3); **San Mateo Ck.,** 1860, A. Agassiz (MCZ 7083, 24); **San Mateo Ck.,** 1860, A. Agassiz (MCZ 52008, 39); **"San Mateo Cr., Cal.",** circa 1861, as *Salmo iridea*, R.D. Cutts (Suckley 1873, 130-131, "half a dozen specimens"); **"San Mateo Creek",** described as "good trout fishing" (Hallock 1877: 15); **"Hd. of San Matteo [Mateo] Cr",** likely collected mid-1800s, [R. D.] Cutts (USNM 597); **"San Andreas, Lower Res.",** 17/Aug/1872 (USNM 15548, 1); **Lower Crystal Springs Lake, near San Mateo,** 23/Apr/1893, as *Salmo gairdnerii irideus*, Wm. C. Murdock (CAS 110962-110963, 2 specimens total); **San Mateo Ck., at Sierra Dr. crossing (near Crystal Springs School),** 17/Aug/1981, R. Leidy and P. Fiedler, 7: 50-131 mm FL; **San Mateo Ck., at B.M. 108, 1 km downstream from junction of Crystal Springs and Polhemus rds.,** 17/Aug/1981, R. Leidy and P. Fiedler, 1: 108 mm FL; **San Mateo Ck., at intersection of Crystal**

**Springs and Polhemus rds., near B.M. 125**, 17/Aug/1981, R. Leidy and P. Fiedler, 2: 91-106 mm FL; **Polhemus Ck., 0.5 km upstream from intersection of Crystal Springs and Polhemus rds.**, 17/Aug/1981, R. Leidy and P. Fiedler, (upper pool) 7: 196-322 mm, (lower pool) 9: 72-122 mm FL; **MILLS CREEK WATERSHED (San Mateo): Mills Ck., mouth to 2 mi. upstream**, 26/Sept/1958, visual survey (CDFG, young);

**ARROYO CORTE MADERA DEL PRESIDIO CREEK WATERSHED (Marin): Arroyo Corte Madera del Presidio and Old Mill cks.** (Shapovalov 1946); **Arroyo Corte Madera del Presidio, Monford Ave.** (approximately 50 ft. elevation), 29/Jan/1946, L. Shapovalov (CDFG, 2 p., as "Steelhead-Rainbow"); **Arroyo Corte Madera del Presidio, under Park Ave. bridge**, 29/Jan/1946, L. Shapovalov (CDFG, 2 p., 2: dead, 4.0-5.0 in TL); **Arroyo Corte Madera del Presidio, near Sunnyside Ave., about 200 ft. above entrance of Old Mill Ck.** (approximately 110 ft. elevation), 29/Jan/1946, L. Shapovalov (CDFG, 2 p., as "Steelhead-Rainbow"); **Old Mill Ck., about 200 ft. upstream from the confluence of Old Mill Ck. and Arroyo Corte Madera del Presidio**, 29/Jan/1946, L. Shapovalov (CDFG, 2 p., as "Steelhead-Rainbow"); **Old Mill Ck., at Cascade Dr.**, 29/Jan/1946, L. Shapovalov (CDFG, 2 p., as "Steelhead-Rainbow"); **San Anselmo, Fairfax, Ross, and Sleepy Hollow cks.**, 15, 18/Jan/1960, visual survey (CDFG, 4 reports, 3-4 p. each, local residents report the following: "moderate size steelhead runs...approximately every other year" (San Anselmo Ck.); "steelhead utilize the stream for a spawning area..." (Fairfax Ck.); "...utilized as a spawning area by steelhead in some years" (Ross Ck.); "receives moderate use as a steelhead spawning and nursery area" (Sleepy Hollow Ck.); **Arroyo Corte Madera del Presidio, Cascade, Mill, and Warner cks., from Richardson Bay to headwaters (5 mi.)**, 16/Jul/1963, visual survey (CDFG, 4 p., as "fingerling and yearling steelhead", 10 fish/100 ft. of stream: 2.0-6.0 in. TL); **Arroyo Corte Madera del Presidio, mouth to headwaters (3.27 mi)**, 10/Aug/1965, visual survey (CDFG, 4 p., as "steelhead trout", 75-100 fish/100 ft. of stream, 20 at 1.8-2.8 in. TL); **Arroyo Corte Madera del Presidio, on Cascade Dr. 0.5 mi. S. from Lowell Ave. crossing**, 18/Sept/1981, R. Leidy and P. Fiedler, 15: 62-116, 1at 174 mm FL; **Arroyo Corte Madera del Presidio at Cascade Dr., 0.12 mi. upstream from Josephine St. crossing**, 18/Sept/1981, R. Leidy and P. Fiedler, 7: 50-71 mm FL; **Arroyo**

**Corte Madera del Presidio, at Locust Rd. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 11: 52-109 mm FL; **CORTE MADERA CREEK WATERSHED (Marin): San Anselmo Ck., San Anselmo**, 1926-1927, as *Salmo irideus*, D. H. Fry (Fry 1936: 67-68); **Corte Madera Ck., to confluence with San Anselmo Ck. (4 mi.)**, 15, 18/Jan/1960, visual survey (CDFG, 2 p., as "...local residents fair size steelhead run occurs each winter...The size of the run is estimated to be 500 to 1000 fish each year."); **Corte Madera Ck., at Lagunitas Rd. bridge, just W. of Ross City Hall** (37°, 57', 45" N., 122°, 33', 15" W.), 1/Nov/1963 (San Francisco State College, 29: fry); **Corte Madera Ck., between San Anselmo and Ross, at bridge near firehouse in Ross**, 15/May/1965 (San Francisco State College, 36); **Corte Madera Ck., bridge at Ross**, 9/Oct/1967 (San Francisco State College, 3: 81-98 mm SL); **Corte Madera Ck., from bay to confluence of San Anselmo and Sleepy Hollow cks. (6 mi.)**, 24-25/Jul/1968, visual survey (CDFG, 2 p., 5 fish/100 ft. of stream, 2.0-4.0 in. TL); **Corte Madera Ck., at Ross, upstream from bridge**, 7/Oct/1968 (San Francisco State College, 8: 47-80 mm SL); **Corte Madera Ck., at Ross, downstream from bridge**, 7/Oct/1968 (San Francisco State College, 27 or 35: 44-133 mm SL); **Ross Ck., near Ross Ck. Park**, 13/Aug/1969, electrofishing survey (CDFG, 9 p., 109: 1.4-3.0 in. FL); **San Anselmo Ck., Pastori Ave. bridge**, 14/Aug/1969 (CDFG, 9 p., 183: 1.6-5.5 in. TL); **Tamalpais Ck., upstream from Evergreen St. bridge**, 14/Aug/1969, electrofishing survey (CDFG, 9 p., 21: 2.4-3.6 in. FL); **Sleepy Hollow Ck., Butterfield Rd. bridge**, 11/Sept/1969 (CDFG, 9 p., 36: 2.0-7.5 in. TL); **Cascade Ck., near Cascade Falls**, 11/Sept/1969, visual estimate (CDFG, 9 p., 98 fish/100 ft. of stream, estimated at 1,293 fish within 0.25 mi. reach from Casacde Dam downstream); **Corte Madera Ck., bridge at Ross firehouse**, 17/Oct/1969 (San Francisco State College, 3: 64-81 mm SL); **Corte Madera Ck., Lagunitas Rd. bridge in Ross**, 27/Sept/1971 (San Francisco State College, 72: 38-83 mm SL); **Corte Madera Ck., at bridge near fire station, Ross**, 20/Sept/1972 (San Francisco State College, 19: 50-85 mm SL); **Corte Madera Ck., bridge near Ross fire house** off Sir Francis Drake Blvd., 24/Sept/1973 (San Francisco State College, 10); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (directly downstream from bridge)**, 16/Oct/1974 (San Francisco State College, 5: 64-95 mm SL); **Corte Madera Ck.**, 1976, environmental assessment (Madrone Associates, Table 9); **San Anselmo/**

**Corte Madera cks.**, 15/Aug/1978, proposed planting of Mad River Hatchery steelhead stock (CDFG, 1 p., 10,000 fish); **Corte Madera and San Anselmo cks., middle one-third from Ross to Happersberger Pt. (5.5 mi.)**, 9-10/Sept/1980, visual survey (CDFG, 12 p., noted as "only a few y-o-y steelhead were observed"); **Corte Madera Ck.** (Trout Unlimited letter to CDFG, dated 29/Nov/1980, 2 p., states "Steelhead continue to frequent the stream..."); **Corte Madera Ck., immediately downstream from Madrone Dr. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 2: 58-72 mm FL; **Sleepy Hollow Ck., immediately upstream from Butterfield Dr. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 7: 58-97 mm FL; **Old Mill Ck., along Cascade Dr. 0.5 mi. S. of junction with Lovell Ave.**, 18/Sept/1981, R. Leidy and P. Fiedler, 15: 62-116 mm, 1: 174 mm FL; **Old Mill Ck., at junction with Cascade Dr. 0.125 mi. upstream from Josephine St.**, 18/Sept/1981, R. Leidy and P. Fiedler, 7: 50-71 mm FL; **Larkspur Ck., at end of Water Way off Madrone Ave., Larkspur**, 18/Sept/1981, R. Leidy and P. Fiedler, 2: 51-121 mm FL;

**MILLER CREEK WATERSHED (Marin): Miller Ck., 50 m upstream on Lucas Valley Rd. from junction with Sequeira Rd.**, 17/Sept/1981, R. Leidy and P. Fiedler, 50+: 38-86 mm FL; **Miller Ck., at Gallinas Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 7: 48-162 mm FL;

**ARROYO DE SAN JOSE CREEK WATERSHED (Marin): Arroyo de San Jose**, 17/Sept/1981, R. Leidy and P. Fiedler, 3: 61-161 mm FL;

**NOVATO CREEK WATERSHED (Marin): Novato Ck.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Bowman Canyon Ck., immediately upstream from Hicks Valley Rd. (Novato Blvd.) bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 3: 61-86 mm FL;

**PETALUMA RIVER WATERSHED (Sonoma): "Petaluma"**, [1855], E. Samuels (USNM 6999, 2); **"Petaluma"**, as *Salar iridea* (Girard 1856a, 1857, 541); **"Petaluma Creek"**, as *Salar iridea* (Girard 1858, 1859, 323: 2); **Petaluma River watershed, mouth to headwaters, San Antonio Ck., Adobe Ck., and Lichau Ck.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Petaluma River watershed, mouth to headwaters, Adobe Ck., and Lichau Ck.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Lynch Ck.**, 11/Jul/1968, visual survey (CDFG, 3 p., as "small run of

steelhead"); **Adobe Ck., from mouth to headwaters (7 mi.)**, 11/Jul/1968, visual survey (CDFG, 3 p., noted as resident rainbow trout, about 150 fish/100 ft. of stream: 1-6 in., avg. 3.5 in. TL); **Lichau Ck., from mouth to headwaters (9 mi.)**, 17-18/Jul/1968, visual survey (CDFG, 3 p., observed in two small pools in headwater area, approximately 10 fish: 2.0-7.0 in TL); **Lynch Ck., from mouth to headwaters**, 17-18/Jul/1968, visual survey (CDFG, 3 p., states that local residents report a small run of steelhead in the stream); **SONOMA CREEK WATERSHED (Sonoma): "Yountville"**, as "good trout in all the streams" (Hallock 1877: 14); **Graham Canyon Ck.**, 1878, noted as "In the shallow ponds adjoining the hatching house they have now seventy thousand fine young trout..." raised from eggs of spawning fish taken in Graham Canyon and Sonoma cks. (Munro-Fraser 1880, p. 463-464); **Graham Canyon and Sonoma cks.**, 1880, noted as "...famous trout streams...some years back great numbers of the spotted beauties could be taken..." (Munro-Fraser 1880, p. 463-464); **Sonoma Ck.**, 19/Sept/1938, planting from Prairie Ck. Hatchery steelhead stock, fish stocking record (CDFG, 1 p., 5,200 fish, 22/oz. size); **Sonoma Ck.**, 26/May/1938, planting from Ft. Seward Hatchery steelhead stock, fish stocking record (CDFG, 1 p., 5,000 fish, 110/oz. size); **Caliente [Agua Caliente] Ck.**, 4/Apr/1946, interview with resident (CDFG, 3 p., states that "...adult steelhead...run up Caliente Creek to spawn."); **Sonoma Ck., 2.2 mi. by rd. above State Hwy. 12, 0.6 mi. by rd. above Golden Bear Lodge where rd. crosses ck. at locked gate (T.7N., R.6W., S. 21)**, 14/Aug/1946, L. Shapovalov and R. Bruer (CDFG, 2 p., noted as "occasional 4.5 in. trout seen...stream is well stocked with small trout."); **Bear Ck.**, 14/Aug/1946, L. Shapovalov and R. Bruer (CDFG, 2 p., noted as "sea-run steelhead...ascend Sonoma Cr...and also spawn in Bear Cr."); **Graham Ck., mouth to headwaters (3 mi.)**, 30/Aug/1946, B. Curtis, visual survey (CDFG, 2 p., notes that "Local men say SH come up this far", [i.e., to dam barrier 1 mi. above mouth]); **Sonoma Ck., mouth at Hwy. 37 (12) bridge upstream to headwaters north of Kenwood**, 4/Feb/1957, visual survey (CDFG, 4 p., noted as "Steelhead fingerling[s] averaging 2-3 in. in length are quite common along entire stream section."); **Graham Ck., mouth to headwaters, 2 mi.**, 4/Dec/1959, (CDFG, 4 p., "rainbow trout ranging from 2"-8" were observed; however they were extremely few in number..."); **Graham Ck., 100 yds. below Glen Ellen Water Company dam**, 9/Feb/1960, visual survey (CDFG, 3 p., "Observed one pair of

steelhead spawning on riffle below a log jam..."); **Graham Ck., Warm Springs Ck. Rd. upstream to Glen Ellen Water Company dam**, 26/Apr/1960, (CDFG, 3 p., "Juvenile steelhead (fish of the year-1.5-2.0 in. in length) were observed to be present in fair numbers at the stream locations checked."); **Calabazas Ck., mouth to headwaters, 3 mi.**, 16, 18/Jun/1961, visual and seining survey (CDFG, 3 p., 9: 3.0-7.0 in. FL, notes that the most suitable steelhead spawning areas appear to be from Dunbar Rd. upstream 1.5 mi.); **Sonoma Ck. watershed, mouth to headwaters, Carriger Ck., Rodgers Ck., and Calabazas Ck.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Sonoma Ck. watershed, mouth to headwaters, Carriger Ck., and Calabazas Ck.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Sonoma Ck., from confluence of Calabazas Ck. downstream for approximately 300 yds.**, 17/May/1965, fish kill (CDFG, 1 p., 271: 1.0-3.0 in. TL; **Sonoma Ck.**, 6/Jul/1965, visual survey (CDFG, 2 p., "We can therefore judge that the steelhead run in Sonoma Creek is probably sizable—500 fish or more."); **Sonoma Ck., above falls in Sugarloaf State Park**, 6/Jul/1965 (CDFG, 2 p., 3: fingerlings); **Nathanson Ck., upper reaches**, 6/Jul/1965, visual survey (CDFG, 2 p., as "Small steelhead present but not abundant."); **Carriger Ck., under 1<sup>st</sup> bridge on Grove St.**, 6/Jul/1965, visual survey (CDFG, 2 p., as "small steelhead present..."); **Unnamed tributary to Carriger Ck., downstream from 1<sup>st</sup> bridge on Grove St.**, 6/Jul/1965, visual survey (CDFG, 2 p., as "... abundant, small steelhead population."); **Rogers Ck., above the dairy upstream from Temelec, Inc. development**, 6/Jul/1965, visual survey (CDFG, 2 p., as "... large numbers of small steelhead present."); **Agua Caliente Ck., end of Lomita Ave.**, 6/Jul/1965, visual survey (CDFG, 2 p., as "...young steelhead present."); **Agua Caliente Ck., mouth to headwaters (7.5 mi.)**, 24/Aug/1965, visual survey (CDFG, 3 p., states that "Juvenile steelhead, approximately 25 fish per 100-foot section of stream...Length-one to 3 inches...is a good spawning and rearing stream."); **Sonoma Ck. and tributaries**, 15/Oct/1965, steelhead assessment (CDFG, 4 p., notes that watershed supports a "fair" run of steelhead trout, estimated at 500 individuals [adult spawners] or more, also presents survey results from 6/Jul/1965 surveys of Sonoma, Nathanson, Carriger, Rodgers, and Agua Caliente cks.,

presented above); **Upper Sonoma and Bear cks.**, 15/Oct/1965, steelhead assessment (CDFG, 4 p., notes that upper Sonoma Ck, including Bear Ck., supports about five miles of steelhead nursery area and that y-o-y steelhead are abundant); **Carriger Ck., about 3.5 mi. W. of Sonoma**, 12/Apr/1966, fish barrier investigation (CDFG, 1 p., states that "Adult Steelhead were able to migrate above the old dam. At present, numerous young 'swim up' steelhead were observed above and below the structure. Warden Nelson found two RT/SH of about 6 to 8 inches dead and wedged in the rocks on the lower side of the dam."); **Rodgers Ck., proposed diversion 1.9 mi. upstream from mouth at confluence of Fowler Ck.**, 23/Jun/1966, assessment for proposed diversion (CDFG, 2 p., "Rodgers Creek is a fair steelhead stream, with good to excellent nursery areas from 1.6 miles above the mouth to the headwaters...For 0.3 miles directly below the diversion site, however, there is excellent nursery areas with good canopy and RT/SH young-of-the-year present in 10-20 [fish]/100' [of stream] frequencies."); **Sonoma Ck. mainstem**, Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., notes that "The upper 13 miles from Glen Ellen to the headwaters is a cold water stream with RT/SH being the predominant species and ranging from 15-60 [fish] per 100 feet of stream." estimates that 31 mi. of stream is used by anadromous fish "It [Sonoma Ck.] supports an estimated run of 500 SH per year although it varies greatly from year to year. It also supports a fair resident trout population in the upper ten miles."); **Calabazas Ck., T6N, R6W, S16, 5.25 mi. in length**, Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 3.5 mi. of stream are used by anadromous fish. "RT/SH young of the year were observed throughout the stream with frequencies ranging from 5-40 [fish]/ 100 ft. [of stream]. The upper reaches of stream has a good resident rainbow trout population...one of the better steelhead spawning and nursery tributaries to Sonoma Creek"; **Stuart Ck., T6N, R6W, S16, 4.5 mi. in length**, Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 2.2 mi. of stream is used by anadromous fish. Pool below flashboard dam 1.25 mi. upstream from mouth : 15 RT/SH: 4.0-6.0 in. TL and 20-30 RT/SH y-o-y, "Stewart Creek has a good population of resident trout,



with frequencies of 5-20 RT [at] 4 in.-10 in. per pool. RT/SH young-of-the-year were also observed in frequencies ranging from 10-30 [fish]/100 ft. [of stream]"; **Schell Ck. and tributaries (Arroyo Seco, Nathanson, Flyer, and Haraszthy cks.), T5N, R5W**, Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 15 mi. of these streams is used by anadromous fish. "A few RT/SH young-of-the-year were observed, but according to local residents, the steelhead run is poor in these tributaries. RT/SH young-of-the-year were found in the upper sections of Nathanson and Arroyo Seco Creeks. None were observed on the other creeks"; **Agua Caliente Ck., T5N, R6W, S2**, Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 4.5 mi. of stream is used by anadromous fish. "None observed in the lower 1.5 miles. RT/SH young-of-the-year present farther upstream"; **Carriger (Fowler) Ck.**, 13/Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 3.0 mi. (mi. 5.5 to mi. 8.5) of stream is used by anadromous fish. "RT/SH young-of-the-year were present 20-40 [fish]/100 ft. [of stream]. RT 4 in. -6 in. were also present [at] 1-4 [fish] per pool"; **Graham Ck.**, 14/Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 2 mi. of stream is used by anadromous fish. "RT/SH young-of-the-year were observed below the barriers (5-10 [fish]/100 ft. [of stream]. Resident trout (4 in.-8 in.) were observed above the barriers"; **Rodgers Ck.**, 13/Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 7 mi. of stream is used by anadromous fish. "RT/SH young-of-the-year were observed below the dam in frequencies of 10-20 [fish]/100 ft. [of stream]. Above the dam there was a resident trout population. Sizes ranged from 4 in.-10 in. with one or two [fish] in each pool"; **Asbury Ck.**, 14/Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 1.5 mi. of stream is used by anadromous fish. "RT/SH young-of-the-year were rare, 1-5 [fish]/100 ft. [of stream]"; **Yulupa Ck.**, 14Jul/1966, K. Rockwood, water project reconnaissance report, including steelhead habitat assessment (CDFG, 29 p., estimates that 0.75 mi. of stream is used by anadromous fish. "RT/SH young-of-the-year were present 5-10 [fish]/100

[ft. of stream]"; **Calabazas Ck.**, 19/Sep/1973, letter to law firm (CDFG, 1 p., notes presence of steelhead run in creek); **Calabazas Ck.**, 7/Jun/1974, review of water diversion (CDFG, 1 p., states that "...Calabazas Creek...to be one of the more important steelhead spawning and rearing areas within the Sonoma Creek drainage. A good population of juvenile steelhead are present...Steelhead spawning and rearing areas appear to be above average for the drainage as a whole."); **Nathanson Ck., tributary to Schell Ck., pool below 60 ft. falls**, 12/Sept/1974, (CDFG, 20: 2.0-7.0 in. FL); **Rodgers Ck., 1/8 mi. from mouth to 2.25 mi. downstream from headwaters**, 29/Jul/1975, visual survey (CDFG, 3p., uppermost section above Sonoma Valley, 25-50 fish/100 ft. of stream: 2.0-7.0 in. TL, noted as excellent spawning and nursery habitat); **Calabazas Ck., middle and headwater reaches**, 12/Sept/1975, visual survey (CDFG, 3 p., notes that "Resident trout were observed in the headwater area in numbers of 20 per 100 feet of stream. Steelhead were observed in the middle section in numbers of 100 per 100 feet of stream."); **Stuart Ck., mouth to 0.9 mi. below headwaters (3.1 mi.)**, 17/Oct/1975, visual survey (CDFG, 5 p., 1) upstream from 50-ft. falls barrier (1.9 mi. above mouth), RT, 10 fish/100 ft. of stream: 2.0-10.0 in. TL, 2) downstream from falls barrier to mouth, RT/SH, 1fish/100 ft. of stream: 4.0-6.0 in. TL, noted as poor steelhead spawning stream, but important resident rainbow trout stream); **Carriger Ck., headwaters to mouth, 8 mi.**, 25/Mar/1976, visual survey (CDFG, 4 p., 1) section 1, headwaters, 10-15 fish/100 ft. of stream: 1.0-5.0 in. TL, plus 1 dead: 22 in. FL, 2) section 2, middle reach, 15-40 fish/100 ft. of stream: 2.0-7.0 in. TL, 3) section 3, lower reach, 5-15 fish/100 ft. of stream: 2.0-8.0 in. TL); **Carriger Ck., Grove St. crossing, W. of Sonoma**, 2/Apr/1976, barrier identification (CDFG, 1 p., notes that culvert under Grove St. impedes the migration of adult spawning steelhead); **Sonoma Ck., Arroyo Seco Ck., 1.5 mi. upstream from mouth**, 15/Jun/1976, visual survey (CDFG, 1); **Schell Ck., mouth to headwaters (3.4 mi.)**, 24/Jun/1976, visual survey (CDFG, 3 p., noted as corridor for upstream and downstream migrating steelhead using Arroyo Seco and Nathanson cks.); **Bear Ck., pools up to 0.2 mi. above mouth**, 15/Jul/1976, visual survey (CDFG, 3 p., states that "Few juvenile steelhead were observed except in the vicinity of the mouth. Yearling steelhead, about 4 to 5 inches in length, occupied pools up to 0.2 mile above the mouth. Their numbers were low, averaging 20

fish per 100 feet of stream...Bear Creek is one of the few tributaries in the Sonoma Creek drainage providing good steelhead spawning and rearing habitat."); **Yulupa Ck., mouth to headwaters (2.7 mi.)**, 23/Jul/1976, visual survey (CDFG, 3 p., notes that "Steelhead trout inhabited pools below the flashboard dam in the left fork [near mouth] and below the barrier in the right fork. The size of these fish ranged from four inches to 11 inches. Numbers were low, averaging less than 10 fish per 100 feet of stream."); **Graham Ck., mouth to headwaters (2.25 mi.)**, 13/Aug/1976, visual survey (CDFG, 4 p., juvenile steelhead: 50 fish/100 ft. of stream near Sonoma Ck., notes that "Numbers dropped off sharply above the first dam [0.3 mi. above Sonoma Ck.]. Mostly yearlings, trout up to 8 inches were present above this dam. Trout were present upstream to the bedrock falls."); **Sonoma Ck., Madrone Bridge to mouth of Hooker Ck.**, 1, 7/Apr/1977, field note, visual survey (CDFG, 2 p., a total of five steelhead redds observed 100-150 yds. downstream from bridge); **Wilson Ck., mouth to headwaters (1.43 mi.)**, visual survey (CDFG, 3 p., notes that "...may be useful as [steelhead] rearing habitat when normal flows keep the stream running."); **Hooker Ck., mouth to headwaters (5.03 mi.)**, 14/Apr/1977, visual survey (CDFG, 5 p., "Residents reported 'trout' in years past, but not within last two years...This stream was probably a fair steelhead stream at one time."); **Unnamed tributary to Sonoma Ck., along Lawndale and Pythian rds.**, 25, 31/May/1977, visual survey (CDFG, 4 p., residents observed steelhead migrating and spawning in ck. near 7700 Sonoma Hwy. during the past 30 yrs. (until 1972); **Haraszthy Ck., mouth to just above Thornsberry Rd. (2.9 mi.)**, 16/Jun/1977, visual survey (CDFG, 4 p., "It is possible that steelhead used [until 1971] the lower portions of Haraszthy Creel also."); **Sonoma Ck. watershed**, Aug/1977, (CDFG 1977, p. 39, states that "...Sonoma Creek has a small annual steelhead run of approximately 1,200 adult fish."); **Dowdall Ck., mouth to headwaters (3.9 mi.)**, 25/Aug/1977, visual survey (CDFG, 3 p., states that "Prior to construction of the diversion [under Riverside Dr.], steelhead used the stream."); **Sonoma Ck.**, 15/Aug/1978, proposed planting of Mad River Hatchery steelhead stock, stocking record (CDFG, 1 p., 10,000 fish, 130-140 fish/lb.); **Sonoma Ck., 0.5 mi. along Warm Springs Rd. from junction with Hwy. 12 (Kenwood)**, 14/Sept/1981, R. Leidy and P. Fiedler, 17: 71-143 mm FL; **Sonoma Ck., on Adobe Canyon Rd. immediately downstream from entrance of Sugarloaf**

**Ridge State Park (below falls)**, 14/Sept/1981, R. Leidy and P. Fiedler, 5: 44-75 mm FL; **Yulupa Ck., 0.25 mi. upstream on Bennett Valley Rd. from junction with Warm Springs Rd.**, 14/Sept/1981, R. Leidy and P. Fiedler, 3: 72-173 mm FL; **Graham Ck., approximately 0.5 mi. upstream on Sonoma Mtn. Rd. from junction with Warm Springs Rd.**, 14/Sept/1981, R. Leidy and P. Fiedler, 5: 59-132 mm FL; **Carriger Ck. (Rd.), 0.5 mi. S. of junction with Canyon Rd.**, 14/Sept/1981, R. Leidy and P. Fiedler, 3: 58-149 mm FL;

**NAPA RIVER WATERSHED (Napa): "Calistoga, Napa County"**, "brook and salmon trout" (Hallock 1877: 13); **Napa River**, circa 1895 based on adjacent SU record numbers and dates, G. B. Culver (CAS 104684, 1, also as SU 4684); **Napa Ck., Calistoga**, as *O. m. gairdnerii*, 31/May/1897, C. H. Gilbert and Party (CAS 154910, 26); **Conn Ck., Napa**, 26/May/1897 (CAS 160339, 42); **Camp Ck., tributary to W. side of Lake Milliken**, 24/Jun/1940, L. Shapovalov (CDFG, 2 p., noted as "...steelhead fish of the season that were 2 to 2.5 inches in length."); **Sage Ck., 2.2 mi. by rd. below turnoff to Monticello, above Chiles Valley store (T7N, R5W, S1)**, 25/Jun/1940, L. Shapovalov, visual survey (CDFG, 2 p., noted as "Steelhead 4 to 5 in. (probably fish of season) quite common); **Unnamed tributary to Soda Ck., at Rutherford-Monticello Rd. crossing (T8N, R4W)**, 25/Jun/1940, L. Shapovalov, visual survey (CDFG, 2 p., noted as "Trout 2 to 3 in. long present..."); **Soda Ck., upper Monticello Rd -Rutherford Rd. crossing**, 25/Jun/1940, visual survey (CDFG, a few: 3.0-4.0 in. TL); **Lake Milliken, Upper Milliken Ck., and an unnamed tributary which enters the reservoir from the west side** (Shapovalov 1940, 4-5); **Napa River and its tributaries** (Shapovalov 1940: 10, "fair to good runs of sea-run steelhead"); **Camp Ck., tributary to W. side of Lake Milliken**, 6/Feb/1941, L. Shapovalov (CDFG, 2 p., noted as "steelhead trout"); **York Ck., middle reach above dam (300 ft. elevation)**, 23/Aug/1941, B. Curtis, visual survey (CDFG, 2 p., noted as landowner "...has seen trout in that fork."); **Sulphur Springs Ck., upper reach on McLure Kelly Ranch (1000 ft. elevation)**, 23/Aug/1941, B. Curtis, visual survey (CDFG, 2 p., noted as "Steelhead reported to run up here."); **Napa River**, 27/Jul/1945, B. Curtis (CAS 20936, 4); **Chiles Ck., in canyon above mouth of Moore Ck.**, 27/Jul/1945, B. Curtis (CAS 20936, 4: juveniles, see also Curtis 1945a, 4); **Sage Ck., at bridge about four miles above junction with Chiles**

**Ck.**, 27/Jul/1945 (Curtis 1945a, 2, as "only trout of year found"); **Moore Ck., Greenfield Ranch, 1.5 mi. upstream from confluence with Chiles Ck.**, 30/Jul/1945 (Curtis, 1945a, 2, as "trout of year and other fish collected."); **Chiles Ck., about one mile above junction with Sage Ck., just above stone winery**, 9/Aug/1945 (Curtis 1945b, 5, 7 specimens: 1 adult and 6 juveniles); **Sage Ck., pool at "Jack London"**, 9/Aug/1945 (Curtis 1945b, 6, 13 specimens: juveniles); **Moore Ck., pools one-fifth mi. above mouth and on Greenfield Ranch**, 10/Aug/1945, B. Curtis (CAS 20941, 6: 52-143 mm SL, see also Curtis 1945b, 5, 6 specimens: adults and juveniles); **Chiles Ck., in canyon above mouth of Moore Ck.**, 27/Aug/1945, B. Curtis (CAS 20936, 4); **Conn Ck.**, 10/Sept/1945, B. Curtis (CAS Acc. 1952-X:30, 2: 79-173 mm); **Chiles Ck., upstream from Conn Reservoir**, 19/Apr/1947, collected (CDFG, 3 p. + notes, 5.8-12.6 in FL); **Chiles Ck., just below mill dam below junction**, 18/Aug/1947, B. Curtis, visual survey (CDFG, 1 p., noted as rainbow trout: 1.0-6.0 in. TL, "...but no fingerlings"); **Chiles Ck., pool below bridge at "Whiskey Xing", in canyon**, 18/Aug/1947, B. Curtis, visual survey (CDFG, 1 p., noted as "a few 6-10 in. [rainbow] trout...but no fingerlings."); **Chiles Ck., 0.3 mi. downstream from pool below bridge at "Whiskey Xing", in canyon**, 18/Aug/1947, B. Curtis, visual survey (CDFG, 1 p., noted as "a few trout fingerlings, yellow"); **Chiles Ck., 0.7 mi. downstream from pool below bridge at "Whiskey Xing", in canyon**, 18/Aug/1947, B. Curtis, visual survey (CDFG, 1 p., noted as "a few yellow trout fingerlings."); **Sage Ck., about 2 mi. up from mouth**, 18/Aug/1947, B. Curtis, visual survey (CDFG, 1 p., noted as "RT fingerlings fairly plentiful..."); **Sage Ck., 1.12 mi. above the mouth**, 15/Jun/1948, G. Murphy, visual survey (CDFG, 2 p., noted as "a few RT 4-6 in. long seen"); **Chiles Ck., 1 mi. above mouth of Moore Ck.**, 15/Jun/1948, G. Murphy, visual survey (CDFG, 2 p., noted as "one RT of the year seen"); **Suscol Ck.**, 6/Jun/1949, letter to CDFG (CDFG, 1 p., as "...steel-head go up this little creek to spawn."); **Chiles Ck., about 2 mi. above mouth, in the large pool just below Whiskey Crossing**, 11/Jul/1949, G. Murphy, visual survey (CDFG, 1 p., noted as "a few 6-10 inch trout were seen..."); **Conn Valley Reservoir and its tributaries** (Murphy 1949, 4); **Sage Ck.**, 15/Jul/1950, H. E. Pintler (CAS 23085, 21); **Chiles Ck.**, 15/Jul/1950, H. E. Pintler (CAS 23088, 1: 101 mm SL); **Chiles Ck., about 0.5 mi. above Conn Reservoir**, circa 1952, P.R. Needham and Zool. 139 class (CAS Cat. No.:

38-10-1-I, Acc. 1964-XI:13, 4: 37-45 mm SL); **Suscol Ck., upstream and downstream from Hwy. 12**, 28/Jan/1955, visual survey (CDFG, 2 p., noted the presence of steelhead-rainbow trout); **Bell Canyon (Howell) Ck.**, 19/May/1955, visual survey (CDFG, Yountville, 1 p. map with notes, "RT/SH" observed throughout watershed); **Chiles Ck., middle flowing section, 0.5 mi. upstream from mouth upstream to confluence of west and east branches**, 7/Aug/1956, visual survey (CDFG, 3 p., noted as "a very few rainbow trout were seen..."); **Sage Ck., middle section, 3.4 mi. below headwaters**, 7/Aug/1956, visual survey (CDFG, 3 p., noted as "RT ranging from 5 to 10 inches in length were common..."); **Dry Ck., mouth to headwaters**, 22/Oct/1956, visual survey (CDFG, present); **Bell Canyon Ck. (Howell Ck.), mouth to 3.5 mi. upstream**, 6/Feb/1957, visual survey (CDFG, 3 p. + notes, noted as "...local residents...have observed many small steelhead in the mid- and lower extreme sections in the early part of the year."); **Kimball Canyon Ck., from Calistoga Municipal Water District Reservoir (Kimball Canyon Dam) downstream to Tubbs Ln. (5.5 mi.)**, 16/May/1957, visual survey (CDFG, 2 p., as "a few fingerling steelhead approximately 1 to 1.5 in. size were observed."); **Redwood Ck., outfall from storm drain 100 yds. E. of Hwy. 29 bridge to confluence with Napa River**, 15/Jun/1957, fish kill (CDFG, 2500: 1.7-6.8 in FL); **Sulphur Ck., from Hwy. 29 bridge just south of St. Helena upstream 1.5 mi.**, 23/Jun/1957, visual survey (CDFG, Stream Survey Files, 2 p., noted as "...one of the most important steelhead spawning tributaries to the Napa River..."); **Bell Canyon Ck. (Howell Ck.), from headwaters downstream 3 mi. to the Derbfus Ranch (T8N, R6W, S23)**, 14/May/1958, visual survey (CDFG, 2 p., 1) below lowermost falls, "common": 1.5-2.0 in. TL, 2) between lower and upper falls, "very good population": 4.0-6.0 in. TL); **Redwood Ck., below Hwy. 29 bridge (21-56)**, 4/Jun/1958, visual survey (CDFG, common: 1.0-2.0 in. TL); **Ritchie Ck., Hwy. 29 bridge**, 4/Jun/1958, visual survey (CDFG, common: 1.5-2.0 in. TL); **Bear Canyon Ck., mouth to headwaters (6 mi.)**, 19/Oct/1958, visual survey (CDFG, Stream Survey Files, 4 p. plus field notes, noted as "fairly common": averaging 3.0 in. TL in 0.5 mi. section below Inglenook Dam, noted as "quite common": 3.0-6.0 in. TL in 3.0 mi. section above Inglenook Dam); **Sulphur Ck., mouth to headwaters (4.2 mi.)**, 28/Oct/1958, visual survey (CDFG, 3 p. + notes, noted as "...common in the lower section": 3.5-6.0 in. TL, "...scarce in

the upper one-eighth of a mile", "...west tributary few": 3.0-6.0 in TL); **Tulucay Ck., mouth to headwaters (8 mi.)**, 13/Nov/1958, visual survey (CDFG, 2 p., noted as "generally scarce": 3.0-4.0 in. TL); **Redwood Ck., mouth to headwaters (10 mi.)**, 14/Nov/1958, visual survey (CDFG, two rpts., 3 p. and 5 p., noted as containing "...some of the best steelhead spawning and nursery areas in the lower section of the Napa River drainage", rainbow trout-steelhead present in mid-section of drainage, "fairly common": averaging 3.0-6.0 in. TL); **Simmons Ck. (Cougar Canyon), mouth to headwaters (3.5 mi.)**, 14/Nov/1958, visual survey (CDFG, 5 p., noted as "...appears to be of minor importance as a steelhead spawning tributary."); **Carneros Ck., from Cuttings Wharf upstream 6.5 mi.**, 15/Nov/1958, visual survey (CDFG, 3 p., stated as "...small runs of steelhead do utilize this stream for spawning purposes during the winter months...a small resident trout fishery is reported to exist in the headwaters section"); **Dutch Henry Ck., mouth to headwaters (4.5 mi.)**, 16/Nov/1958, visual survey (CDFG, 5 p., noted as "RT-SH averaging 3-5 in. were fairly scarce but were present in the intermittent spring-fed pools in the mid- and upper sections of the drainage."); **Soda Ck., mouth to headwaters (6 mi.)**, **T6N, R4W, S22**, 16/Nov/1958, visual survey (CDFG, 3 p., noted as "...fairly scarce in the section of drainage which had flows on this date": 3.0-4.0 in. TL); **Soda Ck., mouth to headwaters (6 mi.)**, **T6N, R4W, S22**, 17/Nov/1958, steelhead assessment (CDFG, 3 p. + notes, states that "...the lowermost 3 miles of which are utilized by steelhead for spawning purposes...Approximately one mile of this section maintains permanent flows and serves as a good nursery area for juvenile steelhead."); **Dutch Henry Ck., mouth to headwaters (4.5 mi.)**, 17/Nov/1958, steelhead assessment (CDFG, 2 p., noted as "...utilized by small run of steelhead for spawning purposes. There are a total of approximately 4 miles of stream in the drainage all of which are utilized by steelhead"); **Milliken Ck., 6 mi. of stream section below Milliken Reservoir**, 17/Nov/1958 (CDFG, 2 p., noted as "serving as spawning and nursery grounds" for steelhead); **Tulucay Ck.**, 17/Nov/1958, steelhead assessment (CDFG, 3 p., described as "...serving as a spawning and nursery grounds for steelhead"... "upper 3 miles...supports a carry-over of juvenile steelhead."); **Simmons Ck. (Cougar Canyon), middle two mi.**, 17/Nov/1958, steelhead assessment (CDFG, 2 p., noted as "...supports a small steelhead run and trout fishery"); **Napa**

**River, Oaknoll Rd. to Calistoga (25 mi.)**, 20/Jan/1959, visual survey (CDFG, 6 p., noted as "...known to support...a moderate run of steelhead."); **Milliken Ck., from Milliken Lake upstream 2 mi.**, 6/Feb/1959, visual survey (CDFG, 4 p., observed that steelhead "...appear to run up the creek from the lake for spawning purposes during the late fall."); **Conn Ck., from Lake Hennessey upstream 3 mi.**, 6/Feb/1959, visual survey (CDFG, 4 p., noted as "...very minor spawning stream for rainbow trout existent in Lake Hennessey."); **Huichica Ck., headwater tributary btw. Loyal and Carneros valleys to approximately 2.7 mi. downstream**, 8/Jul/1960, visual survey (CDFG, scarce: 3.0-4.0 in. TL); **Napa River, from Bale Lane downstream to Zinfandel Lane (6.0 mi.)**, 9-10/Jun/1961, visual survey (CDFG, 3 p., noted as "Six rainbow trout fish-of-the-year were observed..."); **Napa River, 1 mi. north of Calistoga downstream to Bale Lane (5.5 mi.)**, 22-23/Jun/1961, visual survey (CDFG, 3 p., noted as "...few in numbers with approximately 20 observed measuring to 3 inches."); **York Ck.**, 23/Feb/1962, steelhead barrier report (CDFG, 2 p., noted as "...good steelhead spawning areas with good nursery areas on the upstream sections [upstream from diversion dams]"); **Huichica Ck., downstream from concrete barrier on Hwy. 12**, Feb/1962, visual survey (CDFG, 2: 13.0 in. TL); **Napa River watershed, headwaters to mouth, including Napa, Redwood, Mill, Dry, Sulphur, Conn, Moore, Sage, Rector, Soda, and Milliken cks.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Napa River watershed, headwaters to mouth, including Napa, Redwood, Mill, Dry, Conn (from mouth to Conn Dam-Lake Hennessey), lower Rector, Soda, and Milliken (to below Milliken Reservoir) cks.**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, heavily used streams); **Napa River drainage, including Napa River mainstem, and Huichica, Carneros, Napa (North Branch), Redwood, Dry, Bear Canyon, Sulphur, York, Mill, Ritchie, Kimbal canyon, Palisades, Simmons, Dutch Henry, Conn, Soda, Milliken, Sarco, Tulucay, and Suscol cks.**, 1962-1963, summary of fish resources of Napa River watershed (CDFG, 8 p., stated as "The Napa River [including above tributaries] is the most important steelhead stream in the counties bordering San Francisco Bay."); **Napa River**, 18/Feb/1963, resource inventory (CDFG, 2 p., stated as "the Napa River Drainage supports an important steelhead



run.”); **Huichica Ck.**, 15/Mar/1963, visual survey (CDFG, 2 p., as “present”); **Cyrus Ck., from mouth (Porter Ck.) upstream 1.75 mi.** (btw. City of Calistoga water supply reservoir and proposed site of new reservoir), 17/Jan/1964, visual survey (CDFG, 4 p., 5-8 fish/100 ft. of stream: 2.5-4.0 in. TL); **Ritchie Ck., immediately below diversion dam, 1.25-1.5 mi. upstream from the Napa River, Bothe-Napa State Park**, 29/Jan/1964, fish rescue (CDFG, 3 p., 2: 20.0-26.0 in. TL); **Soda Ck., approximately 2 mi. upstream from the confluence with the Napa River**, 24/Feb/1964, fish rescue (CDFG, 1 p., noted as “A total of ten spawned-out females and four male steelhead were rescued from a small drying pool...”); **Sulphur Ck., Sulphur Canyon Rd.**, NW0.25, S3, T7N, R6W, Jan/1964 (CDFG, 36: 1.3-5.3 in. FL); **Redwood Ck., near the Browns Valley Rd. and Redwood Rd. intersection**, 22/Apr/1965, fish kill (CDFG, 1 p., as “fingerling steelhead”: estimated at 10,000 dead fish along 1.5 mi. reach); **Diamond Mtn. Ck., approximately 1.5 mi. in length**, 1/Jul/1965, visual survey (CDFG, 2 p., 100-200 fingerlings/100 ft. of stream observed); **Mill Ck., Stone Hill Winery downstream to mouth (1.2 mi.)**, 2/Jul/1965, visual survey (CDFG, 2 p., 150-200 fingerlings/100 ft. of stream); **Huichica Ck.**, 21/Mar/1966, memo (CDFG, 1 p., present); **York Ck.**, T8N, R6W, S25, 19/May/1966, visual survey (CDFG, present); **Bear Canyon Ck., 0.5 mi. reach below Inglenook Dam**, 24/May/1966, visual survey (CDFG, 1 p., as “steelhead juveniles”: 15 fish/100 ft. of stream); **Pickle Canyon Ck., confluence with Redwood Ck. upstream 2 mi.**, 7/Jun/1966, visual survey (CDFG, 4 p., 150-200 fish/100 yds. of stream: 1.0-3.0 in. TL); **Redwood Ck., mouth to headwaters**, 8-10/Jun/1966, visual survey (CDFG, 4 p., **1) from junction of Redwood and Mt. Veeder rds. to approximately 1 mi. below Coker Tree Farm**, primarily y-o-y: 750-1000 fish/100 yds. of stream: < 3 in. TL, **2) above junction of Redwood and Mt. Veeder rds.**, 200-300 fish/100 yds. of stream: y-o-y to 9.0 in. TL); **Bell Canyon Ck.**, 9/Feb/1967, steelhead assessment (CDFG, 1 p., states that “In 1958, the City of St. Helena built a dam on Bell canyon Creek, approximately two miles upstream from its confluence with the Napa River. This dam blocked steelhead access to 1.5 miles of spawning and nursery areas.”); **Milliken Ck., immediately below Silverado Country Club dam**, 7/Mar/1967, visual survey (CDFG, 4 p., 1: 20 in. TL); **Redwood Ck., upper drainage**, 10/Mar/1967, visual survey (CDFG, 50: 1.0-3.0 in. TL); **Napa River, 200 yds downstream from Hwy 20(12)**

**xing, at SE edge of Napa**, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15178, 1; 65486, 1); **Redwood Ck.**, 20, 26/Jun/1967 (CDFG, 1 p., **1) “the roughs” above the end of the county rd.**, as “a few young rainbow trout/steelhead were observed”, **2) from “roughs” to approximately 2 mi. downstream**, 25 fish/100 ft. of stream, **3) from previous reach to confluence of Pickle Canyon Ck.**, 50 fish/100 ft. of stream: for all reaches, 50 fish at 1.0-3.0 in. TL); **Pickle Canyon Ck., from confluence with Redwood Ck. to approximately 3 mi. upstream**, 26/Jun/1967, visual survey (CDFG, 1 p., **1) upper survey area**, 1 fish/100 ft. of stream, **2) two miles above confluence with Redwood Ck.**, 30 fish/100 ft. of stream, **3) one mile above confluence with Redwood Ck.**, 25 fish/100 ft. of stream: all fish at 1.0-3.0 in. TL); **Ritchie Ck., mouth to headwaters (3.5 mi.)**, 13/Jul/1967, brail net survey (CDFG, 4 p., **1) 8-ft. diversion dam approximately 1.25 mi. upstream from confluence with Napa River**, 5 fish/100 ft. of stream: 2.0-3.0 in. TL, **2) downstream from 8-ft. diversion dam and upstream from Hwy. 29 bridge**, 10 fish/100 ft. of stream: 2.0-5.5 in. TL, **3) pools near the mouth of Ritchie Ck.**, 25 fish/100 ft. of stream: up to 10 in. TL); **Redwood and Pickle Canyon cks.**, 20/Sept/1967, population estimates based on 8-10/Jun/1966 and 20, 26/Jun/1967 surveys (CDFG, 2 p.); **Murphy Ck., adjacent to 5131 Coombsville Rd.**, 18/Jun/1968, visual survey (CDFG, 20 fish/100 ft. of stream: 1.5-4.0 in. TL); **Napa River watershed**, 21/Oct/1968, analysis of steelhead trout production, data collected during May/1966 (CDFG, 22 p., states that “...the annual run of steelhead trout has been reduced from an estimated 8,000 fish [historically] to about 1,000 fish and a silver salmon run of an estimated 4,000 fish has been eliminated,” importance of steelhead spawning areas rated as follows: **mainstem Napa River**, minor to moderate; **Huichica Ck.**, minor; **Carneros Ck.**, minor; **Browns Valley Ck.**, minor to moderate; **Redwood Ck.**, major; **Dry Ck.**, minor to major; **Bear Canyon Ck.**, moderate; **Sulphur Ck.**, moderate to major; **York Ck.**, minor; **Mill Ck.**, minor to moderate; **Ritchie Ck.**, minor; **Diamond Ck.**, moderate; **Cyrus Ck.**, moderate; **Blossom Ck.**, minor; **Palisades Ck.**, moderate; **Simmons Ck.**, moderate; **Dutch Henry Ck.**, moderate; **Bell Canyon Ck.**, minor to moderate; **Conn Ck.**, minor to moderate; **Soda Ck.**, moderate; **Milliken Ck.**, minor to moderate; **Tulucay Ck.**, moderate; **Suscol Ck.**, moderate, and; **Jamison Ck.**, minor); **Bell Canyon Ck., from spillway of Bell Canyon**

**Dam downstream to confluence with the Napa River (2 mi.),** 20/Jun/1969, visual survey (CDFG, 4 p., 50-100 fish/100 ft. of stream: 1.0-12.0 in. TL); **Bell Canyon Ck., approximately 1 mi. downstream from Bell Canyon Dam within NE0.25 of SW0.25, S13, T8N, R6W,** 18 Jul/1969, electrofishing survey 100 ft. length (CDFG, 2 p., 86 fish/100 ft. of stream: 2.0-3.5 in. FL); **Bell Canyon Ck., 100 ft. upstream from confluence with south fork of Bell Canyon Ck.,** 18 Jul/1969, electrofishing survey 100 ft. length (CDFG, 2 p., 34 fish/100 ft. of stream: 1.5-6.0 in. FL); **Napa River, Zinfandel Lane bridge,** 29/Jul/1969, electrofishing (CDFG, 4 p., 30: 2.7-4.8 in. FL, 39 fish/100 ft. of stream); **Napa River, 0.25 mi. downstream from Kimball Dam,** 8/Aug/1969, electrofishing survey (CDFG, 2 p., 22: 2.7-4.1 in. FL, 24 fish/100 ft. of stream); **Napa River at Pratt Ave., Pope St., Zinfandel Ln. bridges,** 28/Jul/1969-8/Aug/1969, electrofishing (CDFG, 4 p., present); **Ritchie Ck., 100 ft. upstream from State Hwy. 29 bridge,** 7/Aug/1969, electrofishing survey (CDFG, 2 p., 40: 1.7-6.0 in. FL, 52 fish/100 ft. of stream); **Ritchie Ck., 500 ft. upstream from concrete diversion dam,** 7/Aug/1969, electrofishing survey (CDFG, 2 p., 56: 1.8-4.8 in. FL, 71 fish/100 ft. of stream); **Napa River, downstream from Kimball Dam,** 8/Aug/1969 (CDFG, 22: 2.7-4.1 in. FL); **Sulphur Ck., Sulphur Canyon Rd. (NW0.25 of Sec. 3, T7N, R6W),** 12/Aug/1969, electrofishing survey (CDFG, 2 p., 164: 1.3-5.3 in. FL, 170 fish/100 ft. of stream); **Redwood Ck., 1 mi. N.W. of Mont La Salle School, in SE 0.25 of Sec. 22, T6N, R5W,** 1/Oct/1969, electrofishing survey (CDFG, 1 p., 70: 1.5-5.2 in. FL, 75 fish/100 ft. of stream); **Dry Ck., vicinity of Dry Ck. Rd. bridge, in SE 0.25 of Sec 10, T6N, R5W,** 1/Oct/1969, electrofishing survey (CDFG, 1 p., 74: 1.5-3.2 in., 1: 6.7 in. FL, 92 fish/100 ft. of stream); **Huichica Ck. watershed,** winters of 1970-1971, visual survey (Hallett and Lochbaum 1972, p.4-5, steelhead sighted by CDFG biologists); **Bell Canyon Ck.,** 12/May/1970, steelhead assessment for dam construction application (CDFG, 7 p. total, states that "Bell canyon Creek is utilized as spawning and nursery area for steelhead and resident rainbow trout...We estimate that Bell Canyon Creek supports an average annual run of about 40 to 50 adult steelhead...Prior to the construction of Bell Canyon Dam in 1959, we estimate that the average annual steelhead run may have been in the neighborhood of 100 adult fish."); **Garnett Ck., 1.5 mi. upstream from Hwy. 29 bridge to mouth (3.5 mi.),** 16/Jun/1970, visual survey (CDFG, 4 p., 40

fish/100 ft. of stream in "upstream areas" to 10 fish/100 ft. in "downstream areas", averaging 20 fish/100 ft.: 2.0-7.0 in., averaging 2.5 in. TL); **Jericho Canyon Ck., from confluence with Garnett Ck., upstream 2.0 mi.,** 1/Jul/1970, visual survey (CDFG, 3 p., ranged from 10 fish/100 ft. of stream in the "upper sections" to 30 fish/100 ft. in the "middle sections": 2.0-13.0 in., average 3.0 in. TL); **Huichica Ck.,** Winter/1970 and 12/1971, K. Anderson, CDFG, pers. comm.. 1972 (Hallett and Lochbaum 1972, p. 3-4); **Suscol Ck., from confluence with Napa River to headwaters (8 mi.),** 8-9/May/1973, visual survey (CDFG, 3 p., 25-200 fish/100 ft. of stream throughout: 1.0-8.0 in., average 2.5 in. TL); **Napa River, 8284 St. Helena Hwy.,** 26/Jul/1973, fish kill (CDFG, 2 p., noted as "...two dead juvenile steelhead..."); **Dry Ck., T5N, R4W, S25, to a point 8 mi. downstream,** 3, 7-8/Aug/1973, visual survey (CDFG, present); **Ritchie Ck., from dam #1 upstream to dam # 2 (320-350 ft. approximate elevation),** 5/Oct/1973, visual survey (CDFG, 3 p., note as "juvenile steelhead": 15 fish/100 ft. of stream); **Ritchie Ck., from upstream from dam # 3,** 5/Oct/1973, visual survey (CDFG, 3 p., note as "...steelhead (resident trout...": 40 fish/100 ft. of stream); **Napa River marshes, Dutchman Slough (N-1), below bridge,** Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 4 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club,** Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 9 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge,** Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 4 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff,** Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 11 specimens total: no size); **York Ck., between the Spring Mtn. Rd. bridge in St. Helena upstream to the upper reservoir (1.3 mi.),** 13/Jun/1974, visual survey (CDFG, 3 p., noted as "fish of the year", abundant: 100 fish/100 ft. of stream, "yearling steelhead": 20 fish/100 ft. of stream); **Hinman Reservoir,** 13/Jan/1975, drained and Pro-noxfish application (CDFG, 2 p., 25: 2.0-3.0 in. TL); **Hinman Ck., immediately downstream from Hinman Reservoir,** 17/Jan/1975

(CDFG, 2 p., 6: dead); **Bell Canyon Ck., from Bell Canyon Dam to mouth (2 mi.)**, 14, 16/Jul/1975, visual survey (CDFG, 5 p., 25 fish/100 ft. of stream: 0.5-4.0 in. TL); **Milliken Ck., section downstream from 50 ft. falls upstream from Milliken Reservoir**, 15/Jul/1975, visual survey (CDFG, 3 p., 5 fish/100 ft. of stream: 2.0-4.0 in. TL); **York Ck., from the City of St. Helena's Upper Water Diversion Dam to the headwaters (1.9 mi.)**, 5/Aug/1975, hand net (CDFG, 2 p., 20 fish/100 ft. of stream: 1.0-4.0 in. TL); **Bear Canyon Ck., from mouth upstream 3.3 miles**, 12/Sept/1975, visual survey (CDFG, 3 p., 35 fish/100 ft. of stream: 1.0-10.0 in., averaging 3.0-4.0 in. TL); **Milliken Ck., downstream from Milliken Reservoir**, 3/Nov, 5/Dec/1975, visual survey, (CDFG, 4 p., **1) below diversion dam barrier no. 3**, 20 fish/100 ft. of stream: 2.0-10.0 in., averaging 4.0 in. TL, **2) lower section below the canyon**, 20 fish/100 ft. of stream: 2.0-10.0 in., averaging 4.0 in. TL; **Hopper Ck., from Hwy. 12 crossing to headwaters (2.6 mi.)**, 11/Aug/1976, visual survey (CDFG, 3 p., noted as "...providing steelhead spawning and rearing habitat during high water years."); **Carneros Ck., between Cuttings Wharf and Hwy. 121 bridge (3 mi.)**, 6/Dec/1976, visual survey (CDFG, 2 p., noted as "...migration route for juvenile and adult steelhead."); **Huichica Ck., from mouth upstream to Rte. 121 crossing (4.2 mi.)**, 11/Dec/1976, visual survey (CDFG, 2 p., noted as "...provides important passage to more suitable [spawning and rearing] areas upstream."); **Redwood Ck., from 5 mi. upstream from mouth upstream to "roughs" in headwaters**, 13, 14/Apr/1977, visual survey (CDFG, 3 p., 10 fish/100 ft. of stream: 4.0-7.0 in. TL); **Dry Ck., Hwy. 29 to headwaters, 12.2 mi.**, 13-14/Jun/1977, visual survey (CDFG, present); **Bell Canyon Ck., 0.25 mi. reach beginning about 0.25 mi. downstream from Bell Canyon Dam**, 24/Apr/1978, fish kill (CDFG, 5 p., 106 dead y-o-y steelhead: 2.25 in. average TL); **Pickle Canyon Ck., total of four sampling stations located upstream and downstream from confluence of unnamed tributary from the W.**, 10-11/May/1978, electrofishing (CDFG, 3 p., 36: 2.4-3.3 in. FL); **Ritchie Ck., upper portions (upstream from Hwy. 29)**, 27/Jul/1978, visual survey (CDFG, 3 p., note as "Steelhead were observed", 5 fish/100 ft. of stream: 2.0-4.0 in. TL); **Mill Ck., mouth to headwaters (3.2 mi.)**, 3, 7/Aug/1978, visual survey (CDFG, 3 p., 25 fish/100 ft. of stream in lower one-third of creek, 5-10 fish/100 ft. through middle section, 25-50 fish/100 ft. in upper portion: average size 2.0 in. TL);

**Sarco Ck., lower**, 16/Mar/1979 (CDFG, 4 p., noted as "steelhead nursery area"); **Conn Ck., 400 ft. above Linda Falls** (SW 0.25, Sec.8, T8N, R5W), 5/Apr/1979, electrofishing (CDFG, 1 p., 6: 131-192 mm FL); **Conn Ck., behind the Angwin Fire station on College Rd.** (NW 0.25, Sec.5, T8N, R5W), 5/Apr/1979, electrofishing (CDFG, 1 p., 7: 95-157 mm FL, + 5 observed); **Huichica Ck., from Hwy. 121 crossing upstream to headwaters (3.6 mi.)**, 24/Jan/1980, visual survey (CDFG, 3 p., 10 fish/100 ft. of stream: 3.0-6.0 in. TL); **Milliken Ck., above City of Napa diversion dam (Sta. 1)**, 30/Apr, 6, 13, 15/May/1980, electrofishing (CDFG, 3 p. + notes, 5: 115-199 mm FL); **Milliken Ck., Sta. 2, mouth of Milliken Canyon, downstream from Sta. 1**, 30/Apr, 6, 13, 15/May/1980, electrofishing (CDFG, 3 p. + notes, 13: 117-187 mm FL, numerous fry observed); **Soda Ck., from Silverado Trail to headwaters (5.5 mi.)**, 21/May/1980, visual survey (CDFG, 5 p., Sta. 1) approximately 1.2 mi. upstream from confluence with Napa River along Soda Canyon Rd., 7: 52-67 mm FL, Sta. 2) at Loma Vista Dr., 6: 57-69 mm FL, 3) downstream from 15' fall, 37: 60-279 mm FL); **Sulphur Ck., immediately above first rd. crossing upstream from confluence with the Napa R., off Pope St.**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 5: 42-63 mm FL); **Sulphur Ck., immediately upstream from Pope St. bridge**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 1: 39 mm FL); **Sulphur Ck., near elevation 309 ft., adjacent to Sulphur Canyon Rd.**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 2: 57-245 mm FL); **Sulphur Ck., immediately upstream from Sulphur Canyon Rd. crossing, near elevation 800 ft.**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 17: 33-270 mm FL); **Huichica Ck., reach about 0.9 mi. downstream from 6 ft. high concrete dam near 300 ft. elevation**, 8/Jul/1980, visual survey (CDFG, 3 p., noted as "...observed..."); **Napa River, Yountville [Road] crossing**, 25/Apr/ 1981, G. W. Barlow and class (CAS 49122, 5); **Napa River, Tamagni [Road] Bridge**, 25/Apr/ 1981, G. W. Barlow and class (CAS 49111, 8); **Garnett Ck., T9N, R7W, S24**, 21/May/1981, fish rescue (CDFG, 2 p. + notes, 1297 y-o-y steelhead trout, 108 at 41-71 mm FL); **Sulphur Ck., immediately downstream from concrete sill at bridge abutment, T7N, R6W, S1**, 4/Jun/1981, steelhead rescue, electrofishing (CDFG, 6 p., 690 total, 165 at 40-80 mm FL); **Pickle Canyon Ck., three isolated, deep pools**, 15/Jun/1981, visual survey (CDFG, 2 p., as "a few steelhead juveniles"); **Dry Ck., btw. Dry Ck.**

**Rd. and Hwy. 29**, 17/Jun/1981, fish rescue (CDFG, 1183: young of the year); **Tulucay Ck., upper region**, 22/Jun/1981, visual survey (CDFG, 3 p., several: 3.0-8.0 in. TL); **York Ck., from mouth upstream 2.4 mi.**, 22-23/Jun/1981, visual survey (CDFG, 2 p., noted as "Some salmonids observed near the Highway 29 crossing and near the mouth."); **Simmons Canyon Ck., pools below spring 0.5 mi. upstream from mouth**, 23/Jun/1981, fish rescue (CDFG, 2 p., noted as "...some rainbow trout/steelhead juveniles...in pools below spring."); **Hopper Ck., from Hwy. 12 upstream 1.9 mi.**, 30/Jun/1981, visual survey (CDFG, 2 p., stated as "...steelhead were observed."); **Bell Canyon Ck., Bell Canyon Dam downstream to confluence with Napa River (2 mi.)**, 3/Jul/1981, visual survey (CDFG, 2 p., noted as "...steelhead juveniles seen at the Silverado Trail and Glass Mtn. Ln. crossing."); **Garnett Ck.**, 1981, fish rescue (CDFG, 2 p., 1,297: no size); **Sulphur Ck.**, 1981, fish rescue (CDFG, 2 p., 690: no size); **Dry Ck.**, 1981, fish rescue (CDFG, 2 p., 1,182: no size); **Ritchie Ck., at Hwy. 29/128 bridge**, 9/Sept/1981, R. Leidy and P. Fiedler, 15: 37-98 mm FL; **Mill Ck., at Hwy. 128 bridge**, 9/Sept/1981, R. Leidy and P. Fiedler, 5: 42-66 mm FL; **York Ck., approximately 0.25 mi. upstream from dam on Spring Mtn. Rd.**, 9/Sept/1981, R. Leidy and P. Fiedler, 6: 56-117 mm, 1: 208 mm FL; **Sulphur Canyon Ck., 1.7 mi. along Spring St. (White Sulphur Springs Rd.) from junction with Main St., St. Helena**, 9/Sept/1981, R. Leidy and P. Fiedler, 2: 35-47 mm FL; **Conn Ck., immediately upstream from Howell Mtn. Rd. crossing**, 9/Sept/1981, R. Leidy and P. Fiedler, 2: 43-58 mm FL; **Conn Ck., at milepost 8.07 E. on Hwy. 128**, 10/Sept/1981, R. Leidy and P. Fiedler, 1: 73 mm FL; **Napa River, at Yountville Cross Rd. bridge, upstream at CDFG Ecological Reserve**, 10/Sept/1981, R. Leidy and P. Fiedler, 1: 118 mm FL; **Dry Ck., 7.75 mi. upstream on Dry Ck. Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 2: 60-98 mm FL; **Redwood Ck., on Redwood Rd. 0.25 mi. before junction with Browns Valley Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 2: 57-82 mm FL; **Pickle Canyon Ck., at confluence with Redwood Ck., 2.14 mi. upstream along Mt. Veeder Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 5: 72-110mm, 1: 212 mm FL; **Redwood Ck., 6.25 mi. upstream along Redwood Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 4: 30-72 mm FL; **Chiles Ck., immediately downstream from junction of Lower Chiles Valley and Chiles-Pope Valley rds.**, 10/Sept/1981, R. Leidy and P. Fiedler, 2: 78-80 mm FL; **Spencer Ck., at**

**Wildhorse Valley Rd. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 7: 57-72 mm FL; **Murphy Ck., at Shadybrook Ln. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 2: 38-52 mm FL; **Milliken Ck., immediately upstream from West Trancas Rd. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 2: 64-162 mm FL; **Milliken Ck., at Westgate Dr. immediately before Milliken Dr.**, 12/Sept/1981, R. Leidy and P. Fiedler, 7: 61-105 mm FL; **Soda Ck., bridge at milepost 3.15**, 12/Sept/1981, R. Leidy and P. Fiedler, 11: 42-105 mm FL; **Soda Ck., at milepost 2.25**, 12/Sept/1981, R. Leidy and P. Fiedler, 2: 42-57 mm FL; **Huichica Ck., immediately downstream from Hwy 12(121) bridge**, 14/Sept/1981, R. Leidy and P. Fiedler, 2: 79-87 mm FL;

**SULPHUR SPRINGS CREEK WATERSHED (Solano): Sulphur Springs Ck., mouth to headwaters**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Sulphur Springs Ck.**, 30/Jul/1945, (CDFG, 700: 2.0-3.0 in. FL);

**GREEN VALLEY CREEK WATERSHED (Solano): Green Valley Ck., mouth upstream to Lake Frey**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Green Valley Ck., upstream from Via Palo Linda county bridge**, 17/Oct/1974, visual survey (CDFG, 4 p. + field notes, several: juveniles); **Green Valley Ck., 300 ft. upstream from Via Palo Linda bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 39: 2.8-5.1 in. FL); **Green Valley Ck., immediately downstream from Rockville Rd. bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 101-104, 96 at 2.0-6.6 in. FL); **Green Valley Ck., 200 ft. downstream from Via Palo Linda bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 4: 2.0-3.6 in. FL); **Green Valley Ck., approximately 1500 ft. downstream from Via Palo Linda bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 18, 15 at 2.3-6.8 in. FL); **Unnamed tributary to Green Valley Ck., 100 ft. reach within Green Valley Country Club (T5N, R3W, NW0.25 of NW0.25, S26)**, 23/Jun/1976, steelhead rescue, transported to Napa River (CDFG, 1 p., 30: yearling); **Green Valley Ck., near Lake Frey dam**, 10/Jan/1979, electrofishing survey (CDFG, 2 p., 1: 73.5 mm SL, also as LACM 25162);

**SUISUN CREEK WATERSHED (Solano/Napa): Lake Madigan, Lake Frey, and Wildhorse Valley Ck.** (Shapovalov 1940: 11); **Gordon Valley, Wooden Valley,**



and **Suisun cks.**, as "sea-run steelhead" (Shapovalov 1940: 12); **Wooden Valley Ck.**, 23-24/May/1956, chemical and visual survey (CDFG, 3 p., states that "Steelhead fingerlings were found to be abundant in the upper part of the watershed, in Napa County. They were particularly abundant immediately below Wooden Valley..., and were present in the stream to tidewater. No steelhead fingerlings larger than four inches were observed."); **Suisun Ck., mouth to headwaters, including Wooden Valley Ck.**, prior to 1962 (Skinner 1962, Plate IV, noted as historical migration route and probable distribution for silver salmon and/or steelhead); **Suisun Ck., mouth to downstream from Lake Curry**, ca. 1962 (Skinner 1962, Plate VI, noted as silver salmon and/or steelhead, lightly used streams); **Suisun Ck., upper end of Suisun Valley near Mankas Corner**, 2/Apr/1964, visual survey (CDFG, states that "...several 6-inch trout scooted for cover."); **Wooden Valley Ck. in canyon below Wooden Valley**, 2/Apr/1964, visual survey (CDFG, states that "...from 2 to 8 young steelhead or trout could be observed in the deeper pools."); **Wooden Valley Ck., Napa Co.**, 17/May/1965, steelhead assessment (CDFG, 2 p., states that "...this stream is important to salmonid populations..."); **Suisun Ck. watershed**, 22/May/1969, steelhead assessment (CDFG, 2 p., States that "...we estimate that the run [of steelhead] in the entire drainage is less than 50 fish. We have observed during the spring, juvenile steelhead scattered throughout the watershed. The greatest concentration is usually in Wooden Valley Creek."); **Suisun Ck., downstream from Wooden Valley Ck.**, 2/Apr/1972, electrofishing survey (CDFG, 1 p., states that "...yearling steelhead were observed."); **Wooden Valley Ck.**, 2/Apr/1972, visual survey (CDFG, 1 p., states that "...contained...SH yearlings to 6 in."); **Wooden Valley Ck., at Wooden Valley Rd. bridge**, T6N, R3W, S23, 10/Aug/1972, P.B. Moyle (UCDPM 72-11, 1); **Suisun Ck., immediately upstream and downstream from Rockville Rd. bridge**, 13/Feb/1975, electrofishing survey (CDFG, 135 steelhead); **White Ck., adjacent to Wildhorse Valley Ranch Rd.**, 25/Feb/1980, request for stream access (Letter from J. Hopkirk, Professor, Sonoma State University to Wildhorse Valley Ranch, Inc., 1 p., states that "One of the last remaining spawning streams for steelhead trout within the [Suisun Ck.] system is White Creek..."); **Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater**, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys

(CDFG, 4 p., states that creek "...sustains a winter steelhead run...Steelhead have been caught in Suisun Valley Creek as recently as the summer of 1979...");

#### GASTEROSTEIDAE (STICKLEBACKS)

##### ***Gasterosteus aculeatus* (threespine stickleback)**

**SAN FRANCISCO (San Francisco): Salt marshes of the Presidio near San Francisco** [listed as *G. a. microcephalus*, Cotypes, possibly non-type specimens from Petaluma, see UMMZ 146721], 1853, Lieut. W. P. Trowbridge (UMMZ 146720, 4:ca. 27-41 mm SL); **Freshwater lagoon about one mi. back of Presidio**, Aug/1854, as *G. inopinatus*, W. P. Trowbridge (Girard 1854: 147-148); **Marshes of the Bay of San Francisco**, 30/Apr/1855, type locality, listed as *G. serratus* (Ayres 1855: 47); **Marshes of San Francisco Bay**, 30/Apr/1855, as *G. plebius* (Ayres 1855: 48);, 30/Apr/1855, as *G. inopinatus* (Ayres 1855: 48); **San Francisco, Mountain Lake near San Francisco** likely collected in 1850s, Inconnu and M. Washington (MNHN 0299, 1: 55 mm TL, listed as *G. serratus*, paratype, see also Ayres 1855: 47); **San Francisco**, likely collected in 1850s, Inconnu and m. Washington (MNHN 3272, 2); **Presidio [San Francisco?]** [listed as "Rio Grande, Alimito", but probably an error], likely collected in 1850s, Inconnu and M. Washington (MNHN 0300, 2: 45 mm SL, listed as *G. inopinatus*, paratype); **Presidio**, W.P. Trowbridge, as *G. inopinatus* (Girard 1857: 17, 1858: 90); **San Francisco**, as *G. plebeius*, W.P. Trowbridge, J.S. Newberry (Girard 1858: 86); **San Francisco**, mid-1800s, Mr. Newberg (MCZ 6694, 1); **San Francisco**, 1856-1862, T. G. Cary (MCZ 6779, 13, as *G. williamsoni*); **Presidio Ck.**, listed as *G. inopinatus*, likely collected in mid-1800s, collector unknown, via USNM (MCZ 6701, 1, syntype); **San Francisco**, mid-1800s, T. G. Cary (MCZ 6707, 10); **San Francisco [likely from Sacramento River]**, Sept/1872, Hassler Expedition (MCZ 6711, 15); **San Francisco**, 1880, D. S. Jordan (USNM 27753, 1); **"San Francisco, Cal"**, 1880, D. S. Jordan (USNM 27254, 4); **"In rivers and brackish waters from Los Angeles to Puget Sound"**, as *G. microcephalus* (Jordan and Gilbert 1881: 69); **"Rivers from San Francisco to Alaska"**, as *G. a. cataphractus* (Jordan and Gilbert 1881: 69); **San Francisco**, likely collected in late-1800s, U. S. Fish Commission (ANSP 14290, 2, orig. USFC 7814, and ANSP 14290-14292); **"On the San Francisco peninsula"**, as *G. williamsoni* (Jordan and Evermann 1900: 750); **Golden Gate Park**, listed as *G. a. microcephalus*, 28/Oct/1918 (CAS 214174, 5); **Golden Gate Park, Japanese Tea Garden**

(CAS: 5, listed in Hopkirk 1973: 76); **Mountain Lake, Presidio**, as *G. a. microcephalus*, 11/Aug/1928, E. Lyons and G. Campbell (CAS 212840, 6); **North Lake Merced**, 12/Jul/1949, CDFG (CAS 96537, 4); **San Francisco, 2419 22<sup>nd</sup> Ave.**, picked up in back yard 1 hr. after hard rain and wind, 7/Apr/1950, J. A. Baker (CAS 81734, 1); **Lake Merced**, 29/Jul/1957, C. K. Fisher (CAS 23366, 2); **Stow Lake, Golden Gate Park, San Francisco**, 29/Jul/1957, Gallagher and Elwell (CAS 23362, 3: 40-55); **Lake Merced, at southeast shore**, 23/Jul/1975, C. Swift and K. Howe (LACM 35302.002, 4: 18-60 mm SL);

**SAN FRANCISCO BAY: San Francisco Bay**, May/1865, Dall and Pease (USNM 7814, 5); **San Francisco Bay**, likely mid-1880s, [Lt.] Williamson (USNM 334, 1); **"Oakland"**, likely collected in late-1800s, W. N. Lockington (ANSP 14293, 6); **San Francisco Bay**, likely collected in late-1800s, W. N. Lockington (ANSP 14315, 5); **"S. Belmont, Oyster Beds, San Francisco, Cal"**, 1891, C. H. Townsend (USNM 67238, 1); **"San Francisco Bay"** (CAS 11656:1); **Port Costa**, 10/Jun/1902, Port Costa Water Co. (CAS 12482, 6: 33-36 mm SL); **"Haywards, Calif"**, 30/May/1909 (USNM 283721, 2); **San Francisco Bay**, Southampton Lt., S. 60.5 deg. E., Bluff Pt., S. 9.5 deg. W., Rt. Tang. Red Rk., N. 6 deg. E., Hydrographic Sta. 5282, 5/Dec/1912, U. S. Fisheries Commission, Steamer Albatross (CAS 12538, 1); **San Francisco Bay**, 14/Jul/1912, Steamer Albatross (CAS 12541, 1); **Bay Farm Island, in marsh sloughs**, 13/Mar/1920, T. I. Storer and D. McLean (CAS 13086, 6: 42-50); **Redwood City**, 12/May/1940, B. Halstead (CAS 7514, 2: 27-29 mm SL); **San Francisco Bay, P.G.&E. Pumping Station**, 10/Apr/1942, Steinhart Aquarium (CAS 11656, 1); **San Francisco Bay, P.G.&E. Co. intake, station A, Potrero Point**, 27/Dec/1947, W. I. Follett (CAS 25381, 2); **San Francisco Bay**, 10/Mar/1961, W. I. and E. B. Follett (CAS 26895, 2); **Berkeley Aquatic Park**, 10/Mar/1964, J. Conners (CAS 45495, 9); **Drainage ditch btw. SPRR tracks and Carlson Blvd., Richmond**, 3/Jun/1970, J. Conners (CAS, Acc. 1970-VI: 5, 1); **Berkeley Aquatic Park**, listed as *G. a. microcephalus* and personal observation in Hopkirk 1973: 75); **Bay Farm Island** (CAS 13086, 6, in Hopkirk 1973: 75); **San Pablo Bay, vicinity of San Pablo Creek marsh**, Apr-Nov/1974 (Nakaji 1975, 61: 24-50 mm TL); **Aquatic Park, Berkeley**, 23/Jul/1975, C. Swift and K. Howe (LACM 35304.002, 33: 14-30 mm TL);

**MARSH CREEK WATERSHED (Contra Costa): Marsh Ck., 0.15 km E. of B.M. 485 on Marsh Ck. Rd.**, 22/May/1981, R.A. and G.R. Leidy, 25: 30-55 mm TL;

**MT. DIABLO CREEK WATERSHED (Contra Costa): Mt. Diablo Ck., immediately upstream from Port Chicago Hwy. Bridge**, 21/Sept/1981, R. Leidy and P. Fiedler, 15: 15-42 mm TL; **Mt. Diablo Ck., pool, at base of Kirker Pass Rd. bridge**, 21/Sept/1981, R. Leidy and P. Fiedler, 35: 15-37 mm TL;

**WALNUT CREEK WATERSHED (Contra Costa): Walnut Ck., 1 mile north of Walnut Creek, San Francisco Bay tributary**, 2/Apr/1939, R. R. Miller and J. Davis (UMMZ 133184, 133: 33-48 mm SL); **San Ramon Ck., 1.8 mi. above Walnut Ck. (town)**, 3/Aug/1945, W.I. Follett (CAS 41022, 320); **Tice Ck., about 400 ft. upstream from the culvert under Tice Valley Blvd.**, 12/Jul/1976, visual survey (CDFG, 3 p., observed: no size); **Tice Ck., below culvert to the lower culvert at Lilac Dr.**, 12/Jul/1976, visual survey (CDFG, 3 p., observed: no size); **Walnut Ck., from confluence of San Ramon Ck. downstream to mouth**, 20-21/Jul/1977, visual survey (CDFG, 5 p., noted as "...abundant throughout the stream length.": no size); **San Ramon Ck., from confluence with Walnut Ck. upstream to headwaters (9.0 mi.)**, 26/Jul/1977, visual survey (CDFG, 3 p., noted as "...abundant throughout the stream...": no size); **Pine Ck. (lower), from mouth upstream 7.0 mi.**, 28/Jul/1977, visual survey (CDFG, 4 p., abundant: no size); **Walnut Ck., pool immediately below drop structure downstream from Bancroft Rd. crossing**, 14/July/1978, seine sampling (CDFG, 1 p., 100: 1.0-2.0 in. TL); **Walnut Ck., immediately downstream from Hwy 4 crossing**, 5/Oct/1980, R.A. and G.R. Leidy, 12: 25-44 mm TL; **Walnut Ck., 50 m upstream from S.P.R.R. bridge at Walnut Creek Civic Center**, 5/Oct/1980, R.A. and G.R. Leidy, 8: 44 -51 mm TL; **San Ramon Ck., at Camino Ramon Dr. crossing, south of Danville**, 6/Oct/1980, R.A. and G.R. Leidy, 100: 32-44 mm TL; **San Ramon Ck., at Sycamore Valley Rd. crossing**, 6/Oct/1980, R.A. and G.R. Leidy, 100: 25-44 mm TL; **Green Valley Ck., immediately downstream from junction with Diablo Rd.**, 6/Oct/1980, R.A. and G.R. Leidy, 10: 25-38 mm TL; **Tice Ck., at Coventry Rd. crossing**, 6/Oct/1980, R.A. and G.R. Leidy, 30: 25-61 mm TL; **Grayson Ck., 50 m upstream from Hwy 24 crossing**, 12/Oct/1980, R.A. and G.R. Leidy, 6: 25-32 mm TL; **Grayson Ck., at Pleasant Hill Rd. bridge**, 12/Oct/1980, R.A. and G. R. Leidy, 25: 25-38 mm TL; **Las Trampas Ck., 50 m upstream from Pleasant Hill Road bridge**, 12/Oct/1980, R.A. and G.R. Leidy, 100: 25-51 mm TL; **Lafayette Ck., at Lafayette Reservoir filtration plant (EBMUD) bridge**, 12/Oct/1980, R.A. and G.R. Leidy,

12: 51-64 mm TL;

**ARROYO HAMBRE CREEK WATERSHED (Contra Costa):** **Arroyo Hambre at Berkeley St. (maintenance yard),** 24/Aug/1981, R. Leidy and P. Fiedler, 37: 18-45 mm TL;

**RODEO CREEK WATERSHED (Contra Costa):** **Rodeo Ck., former deltaic plain near San Pablo Bay,** sites V6312, V71001, late-Pleistocene (Wolff 1971, p. 28); **Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure,** 14/Feb/1974, electrofishing survey (CDFG, 4 p., 1: 2.5 in. TL); **Rodeo Ck., immediately downstream from Hwy. 80 bridge,** 14/Feb/1974, electrofishing survey (CDFG, 4 p., 2: no size); **Rodeo Ck., about 0.25 mi. below Hwy. 80 at flood control natural rock drop structure,** 20/Mar/1974, electrofishing survey (CDFG, 4 p., numerous: 1.0-2.5 in. TL); **Rodeo Ck., at culvert-bridge entrance to the Franklin Canyon Golf Club,** 20/Mar/1974, electrofishing survey (CDFG, 4 p., a few: no size); **Rodeo Ck., concrete drop structure in Luzon area,** 20/Mar/1974, electrofishing survey (CDFG, 4 p., observed: no size); **Rodeo Ck., 0.3 km downstream from Interstate 80,** 18/Jun/1981, R. Leidy and P. Fiedler, 41: 17-50 mm TL; **Rodeo Ck., 0.5 km upstream from Interstate 80, pool below 1<sup>st</sup> flow dissipater,** 18/Jun/1981, R. Leidy and P. Fiedler, 5: 20-30 mm TL; **Rodeo Ck., pool immediately below flow dissipater downstream from S.F.R.R. crossing,** 18/Jun/1981, R. Leidy and P. Fiedler, 200+: 50 at 20-35 mm TL; **Rodeo Ck., pool immediately downstream from S.F.R.R. crossing,** 18/Jun/1981, R. Leidy and P. Fiedler, 67: 30-42 mm TL; **Rodeo Ck., 75 m upstream from S.F.R.R. crossing,** 18/Jun/1981, R. Leidy and P. Fiedler, 2: 20 mm TL; **Rodeo Ck., 0.6 km downstream from Franklin Canyon Golf Course clubhouse,** 18/Jun/1981, R. Leidy and P. Fiedler, 3: 25-30 mm TL; **Rodeo Ck., 0.4 km downstream from Franklin Canyon Golf Course clubhouse,** 18/Jun/1981, R. Leidy and P. Fiedler, 107: 20-45 mm TL; **Rodeo Ck., 100 m downstream from Franklin Canyon Golf Course clubhouse,** 18/Jun/1981, R. Leidy and P. Fiedler, 200+: 50 at 20-42 mm TL;

**PINOLE CREEK WATERSHED (Contra Costa):** **Pinole Ck., 1.5 mi. reach from Hwy. 80 downstream,** 23/Apr/1975, fish kill (CDFG, 3 p., abundant: average 1.0-2.5 in. TL); **Pinole Ck., downstream from natural barrier located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.,** 5-6/May/1976, visual survey (CDFG, 4 p., noted as "...

numerous threespine stickleback observed..."); **Pinole Ck., immediately downstream from bedrock falls located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.,** 4/Jun/1976, electrofishing survey (CDFG, 5 p., common: no size); **Pinole Ck., 50 m reach immediately downstream from bedrock falls located approximately 0.4 mi. downstream from intersection of Pinole Valley, Alhambra, and Hampton rds.,** 9/Nov/1978, electrofishing survey (CDFG, 3 p., present: no size); **Pinole Ck., 300 m reach immediately downstream from intersection of Pinole valley and Castro rds.,** 9/Nov/1978, electrofishing survey (CDFG, 3 p., present: no size); **Pinole Ck., 25 m reach immediately downstream from Simas Ave. crossing, Pinole,** 9/Nov/1978, electrofishing survey (CDFG, 3 p., found: no size); **Pinole Ck., 175 yd. reach downstream from junction of Castro Ranch and Pinole Valley rds.,** 6/Nov/1979, electrofishing survey (CDFG, 2 p., observed: no size); **Pinole Ck., 175 yd. reach downstream from junction of Castro Ranch and Pinole Valley rds.,** 20/Nov/1979, electrofishing survey (CDFG, 4 p., common: no size); **Pinole Ck., 50 yd. reach, 1.6 mi. E. of intersection of Castro Ranch and Alhambra Valley rds.,** 20/Nov/1979, electrofishing survey (CDFG, 4 p., 5: 1.6-2.0 in. FL); **Pinole Ck., 70 yd. reach upstream from the Pinole Valley Rd. crossing, N. of the Ellorhorst intersection,** 20/Nov/1979, electrofishing survey (CDFG, 4 p., 10: 1.4-1.9 in. FL); **Pinole Ck., 0.6 km upstream from A.T.S.F. railroad bridge (elevation 15 ft.),** 23/Jun/1981, R. Leidy and P. Fiedler, 250+, 30 at 20-40 mm TL; **Pinole Ck., 30 m upstream from A.T.S.F. railroad bridge,** 23/Jun/1981, R. Leidy and P. Fiedler, 25: 22-46 mm TL; **Pinole Ck., 100 m upstream from culvert under San Pablo Ave.,** 23/Jun/1981, R. Leidy and P. Fiedler, 500+, 50 at 12-60 mm TL; **Pinole Ck., 200 m downstream from Interstate 80 crossing,** 23/Jun/1981, R. Leidy and P. Fiedler, 150+, 50 at 20-41 mm TL; **Pinole Ck., 200 m upstream from Interstate 80 crossing,** 23/Jun/1981, R. Leidy and P. Fiedler, 100: 15-40 mm TL; **Pinole Ck., Pinole Valley Rd. bridge opposite high school,** 23/Jun/1981, R. Leidy and P. Fiedler, 51: 14-44 mm TL; **Pinole Valley Rd. bridge, immediately upstream from Elhorst School,** 23/Jun/1981, R. Leidy and P. Fiedler, 100: 15-35 mm TL; **Pinole Ck., immediately downstream from junction of Pinole Valley and Castro Ranch rds.,** 24/Jun/1981, R. Leidy and P. Fiedler, 35: 23-32 mm TL; **Pinole Ck., immediately downstream from junction**

of Pinole Valley and Castro Ranch rds., 4/Aug/1981, R. Leidy and P. Fiedler, 11: 15-32 mm TL;

**GARRITY CREEK WATERSHED (Contra Costa): Garrity Ck., approx. 0.25 mi. upstream from railroad crossing near San Pablo Bay, 7/Jul/1981, R. Leidy and P. Fiedler, 111: 16-41 mm TL; Garrity Ck., 25 m E. of upstream railroad bridge, 7/Jul/1981, R. Leidy and P. Fiedler, 16: 30-65 mm TL;**

**SAN PABLO CREEK WATERSHED: San Pablo Ck., A.D. 500- A.D. 1100, archaeological site CCO-600 (Gobalet 1994: 125-126); San Pablo Ck., 6 mi. below San Pablo Reservoir, 1/Dec/1941, G. Murphy (SU 40836, 80); San Pablo Ck., at Orinda, 19/Nov/1942, G. Murphy (SU 40837, 9, also as CAS, Acc. 1964-XI: 3, 8); Bear Ck., tributary S.E. side of San Pablo Reservoir, 4.5 mi. from Orinda junction, 1/May/1943, G. Murphy (SU, 3); San Pablo Ck., 18/Apr/1953, M.W. Brink (CAS, Acc. 1964-XI: 13, 7); Bear Ck., from mouth at San Pablo Reservoir upstream 5 mi., 13/Sept/1960, visual survey (CDFG, 5 p., noted as "A few...stickleback were found in some of the pools."); San Pablo Creek (CAS: 7: 22-37, listed as *G. a. microcephalus* in Hopkirk 1973: 75); San Pablo Ck., from the confluence of Lauterwasser Ck., downstream to the confluence of Bear Ck. (2.1 mi.), 3/Jun/1976, visual survey (CDFG, 4 p., noted as "...abundant above the Orinda filtration plant," and "...fairly numerous approximately 0.2 mi. downstream from Bear Ck. Rd. bridge."); San Pablo Ck., about 1.5 mi. downstream from the Orinda Filtration Plant, 75 yds. of San Pablo Ck. above and 100 yds. below the confluence with Bear Ck., 4/Jun/1976, electrofishing survey (CDFG, 3 p., numerous, 4 at 0.7-0.9 in. FL); San Pablo Ck., 0.2 mi. downstream from Bear Ck. Rd. bridge, 4/Jun/1976, electrofishing survey (CDFG, 3 p., numerous: no size); San Pablo Ck., immediately upstream from Orinda Filtration Plant, 4/Jun/1976 (CDFG, 17: 1.1-2.3 in. TL); San Pablo Ck., San Pablo Reservoir (R.M. 0.0) upstream to R.M. 0.35, 2/Jun/1981, kick net survey (CDFG, 7 p. + notes, 100+ fish/100 ft. of stream: to 3.0 in. TL); San Pablo Ck., R.M. 0.35 above San Pablo Reservoir upstream to R.M. 1.3, 2/Jun/1981, kick net survey (CDFG, 7 p. + notes, 50 fish/100 ft. of stream: to 3.0 in. TL); Pablo Ck., 25 m above junction of San Pablo Ck. and Brookwood Rd., 11/Jul/1981, R. Leidy and P. Fiedler, 200+: 11-78 mm TL; San Pablo Ck., immediately below junction of San Pablo Ck. and Brookwood Rd., 11/Jul/1981, R. Leidy and P. Fiedler, 75: 11-80 mm TL; San Pablo Ck., west branch,**

**20 m upstream from junction of W. branch and S. branch, 11/Jul/1981, R. Leidy and P. Fiedler, 21: 10-70 mm TL; San Pablo Ck., from junction of Santa Maria Way, downstream 400 m, 11/Jul/1981, R. Leidy and P. Fiedler, 5000+: 8-85 mm TL; San Pablo Ck., 50 m upstream from Vintage House Restaurant (T. 1N. R.3W.), 11/Jul/1981, R. Leidy and P. Fiedler, 300+: 12-64 mm TL; San Pablo Ck., 0.7 km downstream from Orinda Crossroads at Vintage House Restaurant, 11/Jul/1981, R. Leidy and P. Fiedler, 253: 12-60 mm TL; San Pablo Ck., 25 m below junction with Orinda Way, 12/Jul/1981, R. Leidy and P. Fiedler, 6: 13-50 mm TL; San Pablo Ck. at junction with Miner Rd., 12/Jul/1981, R. Leidy and P. Fiedler, 50: 14-48 mm TL; San Pablo Ck., downstream 30m from junction with Castro Ranch Rd., 12/Jul/1981, R. Leidy and P. Fiedler, 77: 15-52 mm TL; San Pablo Ck. at junction with Valley View Rd., upstream 20m, 12/Jul/1981, R. Leidy and P. Fiedler, 37: 13-55 mm TL; Lauterwasser Ck., at junction with Bien Venida, 12/Jul/1981, R. Leidy and P. Fiedler, 61: 13-35 mm TL; Lauterwasser Ck. at junction with Lombardy Rd., 12/Jul/1981, R. Leidy and P. Fiedler, 15: 7-12 mm TL; San Pablo Ck., from junction with Appian Way downstream 100 m, 13/Jul/1981, R. Leidy and P. Fiedler, 10: 20-56 mm TL; San Pablo Ck., at Rancho School on N. side of new development, 13/Jul/1981, R. Leidy and P. Fiedler, 200+: 12-60 mm TL; San Pablo Ck., from bridge to St. Joseph Cemetery upstream 30 m, 13/Ju/1981, R. Leidy and P. Fiedler, 155: 16-60 mm TL; Fiedler, 62: 11-51 mm TL; San Pablo Ck., 15 m below junction with 13<sup>th</sup> St., 13/Jul/1981, R. Leidy and P. Fiedler, 102: 12-62 mm TL; San Pablo Ck., at S.P.R.R. crossing, 13/Jul/1981, R. Leidy and P. Fiedler, 53: 12-45 mm TL; San Pablo Ck., 30 m above junction with 3<sup>rd</sup> St., 13/Jul/1981, R. Leidy and P. Fiedler, 54: 10-56 mm TL; San Pablo Ck., from San Pablo Reservoir upstream 1.46 mi., 3-5/Nov/1981, visual survey (Kelley 1981, p. 14, moderate numbers: small);**

**WILDCAT CREEK WATERSHED (Contra Costa/Alameda): Wildcat Ck., at 23<sup>rd</sup> St., 8/Jul/1981, R. Leidy and P. Fiedler, 32: 25-36 mm TL; Wildcat Ck., at Church St., 8/Jul/1981, R. Leidy and P. Fiedler, 27: 18-30 mm TL; Wildcat Ck., 100 m upstream from Church St. bridge, 8/Jul/1981, R. Leidy and P. Fiedler, 250+: 20-55 mm TL; Wildcat Ck., immediately downstream from Vale Rd. bridge, 8/Jul/1981, R. Leidy and P. Fiedler, 52+: 15-45 mm TL; Wildcat Ck., immediately upstream from Vale Rd. bridge, 8/Jul/1981, R. Leidy and P. Fiedler, 27: 21-40 mm TL;**



**CERRITO CREEK WATERSHED (Contra Costa/Alameda):** **Cerrito Ck., at Adams Dr.**, 9/Jul/1981, R. Leidy and P. Fiedler, 5: 21-33 mm TL; **Cerrito Ck., 50 m downstream from Adams Dr.**, 9/Jul/1981, R. Leidy and P. Fiedler, 300+: 15-60 mm TL; **Cerrito Ck., 75 m downstream from Adams Dr.**, 9/Jul/1981, R. Leidy and P. Fiedler, 52: 17-63 mm TL; **Cerrito Ck., at Pierce Rd.**, 9/Jul/1981, R. Leidy and P. Fiedler, 107: 20-64 mm TL;

**ARROYO VIEJO CREEK WATERSHED (Alameda):** **Arroyo Viejo, at Arroyo Viejo Recreation Center**, 23/Jul/1981, R. Leidy and P. Fiedler, 100+: 16-29 mm TL;

**SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa):** **San Leandro Ck., from Lake Chabot downstream to mouth (6.2 mi.)**, 12/Aug/1975, visual survey (CDFG, 4 p., states "...observed wherever there was surface flow..."); **San Leandro Ck., opposite Grover Cleveland Elementary School near Hwy. 17**, 22/Jul/1981, R. Leidy and P. Fiedler, 11: 20-35 mm TL; **San Leandro Ck., 75 m downstream from MacArthur Blvd. crossing**, 22/Jul/1981, R. Leidy and P. Fiedler, 150+: 50 at 25-51 mm TL; **San Leandro Ck., immediately downstream from MacArthur Blvd. crossing**, 22/Jul/1981, R. A. Leidy and P. Fiedler, 2: 21-30 mm, plus 17: 18-41 mm TL in pool under bridge); **San Leandro Ck., approximately 250 m downstream from MacArthur Blvd. bridge**, 22/Jul/1981, R. Leidy and P. Fiedler, 21: 19-31 mm TL; **San Leandro Ck., (S. branch), directly across from Chabot Park parking lot below dam**, 22/Jul/1981, R. Leidy and P. Fiedler, 53: 20-41 mm TL; **San Leandro Ck., (S. branch), approximately 250 m upstream from Chabot Park parking lot below dam, near EBMUD watershed boundary**, 22/Jul/1981, R. Leidy and P. Fiedler, 27: 24-37 mm TL; **San Leandro Ck., approximately 100 m upstream from bridge entering Chabot Regional Park (below dam)**, 22/Jul/1981, R. Leidy and P. Fiedler, 1: 27 mm TL; **San Leandro Ck., approximately 30 m downstream from spillway structure below Chabot Dam**, 22/Jul/1981, R. Leidy and P. Fiedler, 5: 20-39 mm TL;

**SAN LORENZO CREEK WATERSHED (Alameda):** **San Lorenzo Ck., near Hayward High School**, 1/Sept/1952, M. Pitman (SU, 3); **Crow Ck., from mouth to headwaters (5.5 mi.)**, 16/Jun/1960, visual survey (CDFG, 4 p., moderately plentiful: 1.0-2.0 in. TL); **Palomares Ck., from confluence with San Lorenzo Ck. to headwaters (5 mi.)**, 18/Jun/1960, visual survey (CDFG, 4 p., quite numerous, 50-60 fish/100 ft. of stream: 1.0-2.5 in. TL); **Crow Canyon Ck., E.**

**of 4821 Crow Canyon Rd., Hayward**, 8/Jul/1975, fish kill (CDFG, 1 p., 1000+: 1.0-2.0 in. TL); **San Lorenzo Ck., from pool below Don Castro Dam downstream to concrete channel**, 4-5/Aug/1975, visual survey (CDFG, 5 p., noted as "adult and young-of-the-year...sticklebacks...observed in great numbers."); **Crow Ck., lower reaches**, 5-6/Aug/1975, visual survey (CDFG, 4 p., observed); **Don Castro Reservoir**, 27/Aug/1975, fishery resource assessment (CDFG, Stream Survey Files, Yountville, 1 p., present: no abundance or size); **San Lorenzo Ck. at junction with 2<sup>nd</sup> St. across from Hayward City Hall**, 23/Jul/1981, R. Leidy and P. Fiedler, 250+: 17-38 mm TL; **San Lorenzo Ck., 250 m upstream from 2<sup>nd</sup> St. bridge**, 23 Jul/1981, R. Leidy and P. Fiedler, 102: 18-40 mm TL; **San Lorenzo Ck., 50 m upstream from 2<sup>nd</sup> St. bridge**, 23 Jul/1981, R. Leidy and P. Fiedler, 57: 16-37 mm TL; **San Lorenzo Ck., 30 m downstream from B St. bridge**, 25/Jul/1981, R.A. and G.R. Leidy, 17: 18-43 mm TL; **San Lorenzo Ck., 50 m upstream from B St. bridge**, 25/Jul/1981, R.A. and G.R. Leidy, 23: 19-38 mm TL; **San Lorenzo Ck., 50 m downstream from confluence of Crow Ck.**, 24/Jul/1981, R. Leidy and P. Fiedler, 10: 21-39 mm TL; **San Lorenzo Ck., pool immediately below Cull Canyon Reservoir spillway**, 25/Jul/1981, R.A. and G.R. Leidy, 100+: 16-49 mm TL; **San Lorenzo Ck., 100 m upstream from Hwy 580 crossing**, 25/Jul/1981, R.A. and G.R. Leidy, 50+: 15-40 mm TL; **Crow Ck., approx. 1 mi. upstream from junction of Cull Canyon and Crow Canyon rds., at second road crossing**, 25/Jul/1981, R.A. and G.R. Leidy, 20: 13-42 mm TL;

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara):** **Alameda Ck.**, likely collected in late-1850s or 1860 based on other collections by A. Agassiz (MCZ 6760, 6); **Alameda Ck.**, 16/Sept/1934, as *G. a. microcephalus*, A. Seale, San Francisco Aquarium Society (CAS 7383, 4: 22-45); **Calaveras Reservoir**, 11/May/1943, C. E. Holladay (CAS 20927, 1); **Alameda Ck., ca. 100 yds. below SPRR bridge, Niles**, 31/Oct/1955, W.I. Follett and G.M. Peckham (CAS, Acc. 1955-X: 31, 1: adult); **Creek tributary to Alameda Ck., Lowry Rd. and SPRR**, 22/Feb/1966, J. D. Hopkirk and party (CAS, Acc. 1966-VI: 20, 2: 45-46 mm SL); **Alameda Ck., at bridge on Hesperian Blvd., N. of Alvarado**, 22/Feb/1966, J.D. Hopkirk and party (CAS, Acc. 1966-VI: 20, 13: 30-55 mm SL); **Alameda Ck., bridge 1 mi. north of Alvarado, flood control channel, Mission Blvd.**, 21/Oct/1967, U.C. Berkeley ichthyology class, G. Barlow, as "lots of sticklebacks"; **Alameda Ck., bridge 1**

**mi. north of Alvarado, intersection of Union City and Hesperian Blvds.**, 12/Oct/1968, U.C. Berkeley ichthyology class, G. Barlow, as "less common"; **Alameda Ck., bridge at Union City limits, Union City Blvd.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "common, all sizes"; **Alameda Ck.** (lat. 37°, 33', long. 122°, 04', elevation 0 m), 20/Jun/1973 (Aceituno et al. 1976: 199, 1: 63 mm TL); **Alameda Ck.** (lat. 37°, 34', long. 122°, 03', elevation 0 m), 20/Jun/1973 (Aceituno et al. 1976: 199, 1: 61 mm TL); **Alameda Ck., approximately 600 m below Alvarado Blvd. bridge**, 20/Jun/1973, Aceituno and Caywood (LACM 24727, 6: 22-55 mm TL); **Alameda Ck., N. of Alvarado** (CAS: 13: 30-55, listed as *G. a. microcephalus* in Hopkirk 1973: 75); **Alameda Ck. tributary, near junction of Lowry Rd. and S.P. Railroad** (CAS: 2: 45-46, listed as *G. a. microcephalus* in Hopkirk 1973: 75); **Alameda Ck., flood control channel at crossing of Newark and Union Blvd. W. of Fremont**, 9/Jun/1981, C. Swift and B. Crabtree (LACM 42661.004, 59: 28.6-51.8 mm TL); **Arroyo las Positas Ck., 200 m downstream from confluence with Cayetano Ck.**, T3S, R2E, S6, 26/Jul/1981, R.A. and G.R. Leidy, 50: 17-28 mm TL; **Arroyo las Positas Ck., 100 m upstream from confluence with Cayetano Ck.**, 26/Jul/1981, R.A. and G.R. Leidy, 25: 17-32 mm TL; **South San Ramon Ck., pool upstream from Hwy. 580 crossing**, 30/Jul/1981, R. Leidy and P. Fiedler, 500: 15-33 mm TL; **Tassajara Ck., footbridge at Tassajara Regional Park**, 30/Jul/1981, R. Leidy and P. Fiedler, 50: 14-35 mm TL; **Alameda Ck., opposite Sunol Regional Wilderness headquarters**, T5S, R2E, S17, 6/Aug/1981, R. Leidy and P. Fiedler, 6: 15-30 mm TL; **Alameda Ck., upstream from crossing of Alvarado-Niles rd. and Dyer St.**, 21/Sept/1981, R. Leidy and P. Fiedler, 50: 15-37 mm TL;

**COYOTE CREEK WATERSHED (Santa Clara): "San Jose"**, as *G. plebeius*, A.G. Grayson, refer also to Hubbs 1924: 592-597 (Girard 1858: 86); ("**San Jose, Cal**", likely mid-1800s, A. G. Grayson (USNM 332, 30+); "**San Jose...taken in a stream formed by the water flowing from artesian wells...**", 2/Apr/1855, as *G. plebeius*, Rev. Douglas (Ayres 1855: 39); **Coyote Ck., near mouth**, as *G. cataphractus* (Snyder 1905, 337); **Coyote Creek, between Milpitas and Alison**, 24/Oct/1922, C. L. Hubbs (UMMZ 66028, 69: 27-46 mm SL); **0.25 miles north of Alviso, along OP railroad track**, 1/Dec/ 1922, C. L. Hubbs (UMMZ 66030, 3: 37-41 mm SL); **Lower Coyote Ck., near mouth (Alviso)**, 1926-1927, as *G. cataphractus*, D. H. Fry (Fry 1936: 67, "exceedingly

abundant"); **Coyote Ck., at bridge opposite Milpitas**, 16/Oct/1932, W.I. Follett and party (Follett 1974, 3: seined, no number given); **Coyote Ck., opposite Milpitas, below hwy. bridge**, 31/Oct/1941, W.I. Follett (Follett 1974, 3, 3, also as CAS 40261, 1; **Coyote Ck., opposite Milpitas**, 11/May/1944, W.I. Follett (CAS, 1); **Coyote Ck., opposite Milpitas, Calif. Hwy. 9 bridge**, 2/Aug/1944, W.I. Follett (Follett 1974, 4, 8 specimens, also as CAS 40572, 8); **Coyote River, about 6 miles south of San Jose, near stone quarry**, [Sta.] No. 16, 24/Aug/1945, D. A. and H. Simpson [CAS 13274, 1: half-grown]; **Coyote Ck., U.S. Hwy. 101 crossing in T.7S., R2E., Sec. 31**, 24/Jul/1953, seine survey (CDFG, 1 p., notes "...common. Several collected...", also as CAS 20981, 2); **Coyote Ck.**, refer to preceding record, listed as *G. a. microcephalus*, 24/Jul/1953, T. J. Merkel (CAS 20981, 2); **Coyote Ck.**, May/1955, memorandum on fish collection (CDFG, 2 p., SJSU, CD-5); **Coyote Ck.**, 1956, memorandum on fish collection (CDFG, 2 p., SJSU, CD-13); **Coyote Ck., btw. William St. and Tully Rd.**, 3/Mar/1960, memorandum on fish collection (CDFG, 2 p., SJSU, CD-17); **Coyote Ck.**, 5/Nov/1964, memorandum on fish collection (CDFG, 2 p., SJSU, CD-29); **Coyote Ck.**, 7/Mar/1972, field notes (R. L. Hassur, SJSU); **Coyote Ck.** (lat. 37°, 25', long. 121°, 55', elevation 5 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 3: 28-31 mm TL); **Coyote Ck.** (lat. 37°, 13', long. 121°, 45', elevation 58 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 8: 21-44 mm TL); **Coyote River, 100 yds. above Metcalf Rd. bridge near Hwy. 101**, 21/Jun/1973, Aceituno and Caywood (LACM 24827, 1: no size); **Berryessa Ck., approximately 0.75 mi. upstream from mouth**, 11/Jun/1975, visual survey (CDFG, 4 p., found); **Penitencia Ck., downstream from Hwy. 680**, 12, 13, 17/Jun/1975, visual survey (CDFG, 12 p., larval fish observed: no numbers or size); **Upper Silver Ck., middle stream reach downstream to the concrete diversion channel**, 21, 23/Jul/1975, visual survey, (CDFG, 5 p., found); **Coyote Ck., 100 yds. below Berryessa Rd.**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., numerous: no size); **Coyote Ck., Hwy. San Jose Municipal Golf Course, 100 yds. upstream from Oakland Rd. bridge**, 23/Sep/1975, electrofishing survey (CDFG, 3 p., numerous: no size); **Coyote Ck., downstream from confluence of Upper Penitencia Ck.**, 19/May/1977, visual survey (CDFG, present); **Coyote Ck., 1) near Capitol Expressway, 2) mouth of Penitencia Ck., 3) Tennant rd., 4) upstream from Metcalf Rd., 5) Riverside Golf Course Rd., 6) above percolation ponds, 2 km below Anderson Reservoir,**

1972-1977 (Scoppettone and Smith 1978: 63); **Coyote Ck., near Metcalf Rd. crossing**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Cochran Rd.**, Jun and Oct/1977, Jun/1978 and Sept/1979 (Pit and Bozeman 1982, p. 73); **Coyote Ck., near Hellyer Ave.**, Oct/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote downstream from Coyote Canal input**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote Rd. gage**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Capitol Expressway**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Riverside Rd. at golf course and Coyote Canal diversion**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sycamore Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Bernal Rd. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tennant Ave. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Sylvandale Ave.**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Silver Ck., at Silver Ck. Rd.**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Burnett Ave.**, Jun and Sept/1979 (Pit and Bozeman 1982, p. 73); **Upper Penitencia Ck., at B.M. 332, approx. 0.6 km upstream from intersection of Dutard and Penitencia Ck. rds.**, 11/Aug/1981, R. Leidy and P. Fiedler, 12: 23-40 mm TL; **Coyote Ck., at Hwy 237 crossing (immediately downstream from old hwy bridge)**, 31/Aug/1981, R. Leidy and P. Fiedler, 2: 37-40 mm TL; **Silver Ck., Rd. 1 km upstream from Capitol Expressway (approx. 0.5 mi. upstream from underground reach)**, 1/Sept/1981, R. Leidy and P. Fiedler, 205: 50 at 24-51 mm TL; **Babb Ck., 20 m downstream from Lyndale Ave. crossing**, 1/Sept/1981, R. Leidy and P. Fiedler, 4: 20-34 mm TL; **Coyote Ck., 25 m upstream from Metcalf Rd. crossing**, 3/Sept/1981, R. Leidy and P. Fiedler, 10: 19-27 mm TL; **Coyote Ck., approx. 2 km upstream from large gravel pits opposite Bruno Ave.**, 3/Sept/1981, R. Leidy and P. Fiedler, 26: 21-61 mm TL; **Coyote Ck., at Malguerra Ave. (Santa**

**Clara Co. Correctional Facility)**, 3/Sept/1981, R. Leidy and P. Fiedler, 10: 17-32 mm TL; **Fisher Ck., immediately upstream from Bailey Rd. crossing**, 5/Sept/1981, R. Leidy and P. Fiedler, 27: 35-60 mm TL; **Metcalf Canyon Ck., 20 m upstream from canal crossing**, 5/Sept/1981, R. Leidy and P. Fiedler, 3: 25-42 mm TL; **Coyote Ck., slough just W. of railroad bridge**, Dec/1981-Nov/1982, otter trawl (Stevenson et al. 1987, p. 357, 1: no size);

**GUADALUPE RIVER WATERSHED (Santa Clara):** **Guadalupe Ck.** (Snyder 1905, 337); **Guadalupe Ck., San Jose (in city)**, 30/Sep/1922, C. L. Hubbs (UMMZ 66034, 1455: 9-46 mm SL; 192611, 1: 16 mm SL); **Guadalupe Ck., in the hills about two miles north of the town of Almaden**, 1926-1927, as *G. cataphractus*, D. H. Fry (Fry 1936: 67); **Calero Ck., at outlet from Calero Reservoir**, 13/Sep/1937, L. Shapovalov, visual survey (CDFG, 2 pg., as "sticklebacks common"... "hundreds of dead fish in outlet...", also as CAS, Acc. 1952-X: 30, 1: 37 mm SL); **Arroyo Calero, McKean Rd. crossing in T.8S., R. 2.E., Sec. 31**, 24/Jul/1953, field notes, seine survey (CDFG, 1 p., notes that "Three-spined sticklebacks were abundant", also as CAS 20979, 5); **Calero Reservoir**, 30/Dec/1960, reservoir management letter (CDFG, 2 p., present); **Guadalupe Ck.**, 31/Mar/1966 (SJSU, GD-12);

**STEVENS CREEK WATERSHED (Santa Clara):** **Stevens Ck.**, as *G. cataphractus* (Snyder 1905, 337); **Stevens Ck. Reservoir**, 10/Aug/1942, L. Shapovalov, seining survey (CDFG, 3 p., notes "Less than a dozen sticklebacks were also netted."); **Stevens Ck. Reservoir**, 15/Aug/1942, L. Shapovalov (CAS 20918, 1); **Stevens Ck., mouth above reservoir downstream 100 yds. into dry reservoir bottom**, 20/Jul/1954, fish mortality inspection (CDFG, 2 p., 8: no size); **Stevens Ck., below Hwy. 101**, 25, 28/Jun/1975, visual survey (CDFG, present); **Stevens Ck., below Hwy. 101 bridge**, 29/Dec/1975, visual survey (CDFG, present); **Stevens Ck., 150 yds. S. of Hwy. 101 to approximately 0.5 to 0.75 mi. downstream**, 8/May/1978, fish kill (CDFG, 250-300: 1.0-2.0 in. TL); **Stevens Ck., at Homestead Rd.**, 19/Aug/1981, R. Leidy and P. Fiedler, 200+: 50 at 16-55 mm TL; **Stevens Ck., downstream from Hwy. 101**, visual survey (CDFG, 8 p., observed: no numbers or size); **Stevens Ck., from Stevens Ck. Rd. bridge downstream 25 m**, 19/Aug/1981, R. Leidy and P. Fiedler, 26: 21-55 mm TL; **Stevens Ck., from Stevens Ck. Rd. bridge upstream 25 m**, 19/Aug/1981, R. Leidy and P. Fiedler, 36: 16-36 mm TL; **Stevens Ck., approx. 0.5 mi. below junction with**

**Moffett Rd.**, 19/Aug/1981, R. Leidy and P. Fiedler, 15: 17-23 mm TL; **Hale Ck., at Covington Rd.**, 20/Aug/1981, R. Leidy and P. Fiedler, 50+: 15-42 mm TL;

**ADOBE CREEK WATERSHED (Santa Clara): Adobe Ck.**, ca. 1896-1898, W.W. Thoburn and Johnson (SU 4444, 50); **Adobe Ck.**, as *G. williamsoni* (Rutter 1896, 248, 250: 115 specimens); **San Antonio [Adobe] Ck.**, as *G. cataphractus* (Snyder 1905, 337); **Adobe Ck., at frontage rd. on west side of Hwy 101**, 18/Aug/1981, R. Leidy and P. Fiedler, 23: 20-47 mm TL;

**MATADERO CREEK WATERSHED (Santa Clara): Madera [Matadero] Ck.**, as *G. cataphractus* (Snyder 1905, 337); **Matadero Ck., vicinity of V.A. Hospital to 0.5 mi. downstream**, 10/Jun/1980, fish kill (CDFG, approximately 100: 0.75-1.25 in. TL); **Matadero Ck., at junction of Old Page Mill Rd. and Page Mill Rd. (culvert btw. rds.)**, 18/Aug/1981, R. Leidy and P. Fiedler, 250+: 50 at 21-43 mm TL; **Matadero Ck., immediately downstream from junction with Foothill Expressway, just past confluence of Deer Ck.**, 18/Aug/1981, R. Leidy and P. Fiedler, 200+: 50 at 19-61 mm FL; **Matadero Ck. (channelized), at frontage rd. crossing below Bayshore Fwy**, 18/Aug/1981, R. Leidy and P. Fiedler, 10: 20-30 mm TL; **Deer Ck., at Arastradero Rd. crossing below Fwy 280**, 18/Aug/1981, R. Leidy and P. Fiedler, 27: 22-47 mm TL;

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/ San Mateo): San Francisquito Ck., Palo Alto**, as *G. williamsoni* (Rutter 1896, 246, 248, 250: 175 specimens); **San Francisquito Ck.**, as *G. cataphractus* (Snyder 1905, 337); **San Francisquito Ck., El Camino Real and SPRR bridge, Palo Alto**, 13/May/1938, L. Shapovalov (SU 19258, 35); **San Francisquito Ck., near Palo Alto**, 12/1938, A. J. Calhoun (NRM 24303, 13); **Francisquito [San Francisquito] Ck., Palo Alto**, 13/Jun/1939, Kenton and D. Grant (SU, 5); **Lagunita Lake, Stanford**, 14/Aug/1947, L. Shapovalov (CAS 20956, 1); **Lagunita Lake, Santa Clara**, 18/Aug/1942, L. Shapovalov (CAS 20924, 11); **San Francisquito Ck.**, 16/Nov/1953 (CDFG, 1 p., present); **Lake Lagunita, Stanford University**, 2/Jun/1954, G. S. Meyers (CAS 159867, 50); **San Francisquito Ck. drainage**, Apr/1956 (SJSU, SF-10, 11); **San Francisquito Ck. drainage**, Jan/1957 (SJSU, SF-12); **San Francisquito Ck. diversion channel to Lake Lagunita**, 20/May/1966, hand nets (CDFG, 2 p., present); **San Francisquito Ck., from confluence of Corte Madera and Bear cks., downstream to San Francisco Bay**, 1, 2 and 5/Jul/1976, visual survey (CDFG, 6 p., present);

**San Francisquito Ck., immediately above and below Junipero Serra Blvd. crossing**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., abundant: no size); **San Francisquito Ck., immediately above and below Lake Lagunita Diversion Dam**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., abundant: no size); **San Francisquito Ck., bedrock pools about 75 yds. downstream from Junipero Serra Fwy. 280**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., abundant: no size); **San Francisquito Ck., 75 yd. reach approximately 1.5 mi. above Junipero Serra Fwy. 280 crossing**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., abundant: no size); **Los Trancos Ck., 75 yd. reach upstream from Piers Ln. bridge (near confluence with San Francisquito Ck.)**, 14/Jul/1976, electrofishing survey (CDFG, 4 p., abundant, approximately 2.0 in. TL); **San Francisquito Ck., from Sand Hill Rd. crossing on Bear Gulch Ck. downstream to the end of Alma Rd. just downstream of El Camino Real**, 30/Jun/1981, visual survey (CDFG, 5 p., observed); **San Francisquito Ck., 100 m N.W. of University Ave. off ramp from Hwy 101 (at tidal interface)**, 15/Aug/1981, R. Leidy and P. Fiedler, 27: 26-44 mm TL; **San Francisquito Ck., at Oak Ck. apartments, downstream from Willow Rd. crossing**, 16/Aug/1981, R. Leidy and P. Fiedler, 11: 18-22 mm TL; **San Francisquito Ck., 20 m downstream from Willow Rd. crossing**, 16/Aug/1981, R. Leidy and P. Fiedler, 2: 17-23 mm TL; **San Francisquito Ck., crossing at 1<sup>st</sup> rt. Turn off of Alpine Rd., off Hwy 280 (rd. to hospital and quarry)**, 16/Aug/1981, R. Leidy and P. Fiedler, 2: 18-20 mm TL; **Los Trancos Ck., approx. 0.25 mi upstream from Hwy 280 bridge**, 16/Aug/1981, R. Leidy and P. Fiedler, 6: 18-27 mm TL;

**REDWOOD CREEK WATERSHED (San Mateo): Redwood Ck., N. branch at James Ave., one block from S.P.R.R. crossing**, 15/Aug/1981, R. Leidy and P. Fiedler, 10: 27-57 mm TL; **Redwood Ck., N. branch at Middlefield Rd. where stream crosses railroad**, 15/Aug/1981, R. Leidy and P. Fiedler, 50+: 25-60 mm TL;

**CORDILLERAS CREEK WATERSHED (San Mateo): Cordilleras Ck., at Grant-Industrial Rd.**, 23/Aug/1981, R. Leidy and P. Fiedler, 50+: 17-40 mm TL;

**BELMONT CREEK WATERSHED (San Mateo): Belmont Ck., at Alexander Sanitarium**, 17/Aug/1981, R. Leidy and P. Fiedler, 250+: 20-42 mm TL; **Belmont Ck., immediately downstream from Industrial Rd.**, 17/Aug/1981, R. Leidy and P. Fiedler, 150+: 16-31 mm TL;



**LAUREL CREEK WATERSHED (San Mateo): Laurel Ck., at Otay Ave.,** 23/Aug/1981, R. Leidy and P. Fiedler, 65+: 15-37 mm TL;

**SAN MATEO CREEK WATERSHED (San Mateo): Crystal Springs Reservoir near San Mateo,** 25/Nov/1915, C. L. Hubbs (FMNH 9155, 5, listed as *G. cataphractus*); **San Mateo Ck., at Sierra Dr. crossing (near Crystal Springs School),** 17/Aug/1981, R. Leidy and P. Fiedler, 52: 21-38 mm TL; **San Mateo Ck., at B.M. 108, 1 km downstream from junction of Crystal Springs and Polhemus rds.,** 17/Aug/1981, R. Leidy and P. Fiedler, 60: 16-33 mm TL; **San Mateo Ck., at intersection of Crystal Springs and Polhemus rds., near B.M. 125,** 17/Aug/1981, R. Leidy and P. Fiedler, 250+: 50 at 20-41 mm TL; **San Mateo Ck., approx. 0.6 km upstream from intersection of Crystal Springs and Polhemus rds.,** 17/Aug/1981, R. Leidy and P. Fiedler, 37: 22-42 mm TL; **Polhemus Ck., 0.5 km upstream from intersection of Crystal Springs and Polhemus rds.,** 17/Aug/1981, R. Leidy and P. Fiedler, (lower pool) 11: 19-30 mm TL;

**SANCHEZ CREEK WATERSHED (San Mateo): Sanchez Ck., downstream from California Ave. at S.P.R.R. crossing,** 23/Aug/1981, R. Leidy and P. Fiedler, 20: 19-27 mm TL;

**COYOTE CREEK WATERSHED (Marin): Coyote Ck., at Tennessee Valley Rd. and Marin Ave.,** 24/Jul/1975, C. Swift and K. Howe (LACM 35305.001, 15: 19-52 mm TL); **Coyote Ck., on Tennessee Valley Rd. at GGNRA trailhead,** 19/Sept/1981, R. Leidy and P. Fiedler, 250+: 50 at 17-29 mm TL;

**ARROYO CORTE MADERA DEL PRESIDIO CREEK (Marin): Arroyo Corte Madera del Presidio, in tidewater,** 16/Jul/1963, visual survey (CDFG, 4 p.); **Arroyo Corte Madera del Presidio, at Locust Rd. bridge,** 18/Sept/1981, R. Leidy and P. Fiedler, 75+: 16-58 mm TL;

**CORTE MADERA CREEK WATERSHED (Marin): San Anselmo Ck., San Anselmo,** 1926-1927, as *G. cataphractus*, D. H. Fry (Fry 1936: 67-68); **San Anselmo Ck., downstream section,** 26/Jul/1959 (CDFG, present); **Corte Madera Ck.,** 6/Dec/1959, E. W. Kirschbaum and party (SIO 60-53, 1); **Corte Madera Ck., at Lagunitas Rd. bridge, just W. of Ross City Hall (37°, 57', 45" N., 122°, 33', 15" W.),** 1/Nov/1963 (San Francisco State College, 38); **Corte Madera Ck., between San Anselmo and Ross Corte Madera Ck., at bridge near firehouse in Ross,** 15/May/1965 (San Francisco State College: 63+-, listed as *G. a.*

*aculeatus* x *G. a. microcephalus* in Hopkirk 1973: 76); **Corte Madera Ck., bridge at Ross,** 9/Oct/1967 (San Francisco State College, 410: 15-51 mm SL); **Corte Madera Ck., from bay to confluence of San Anselmo and Sleepy Hollow cks. (6 mi.),** 24-25/Jul/1968, visual survey (CDFG, 2 p., 200 fish/100 ft. of stream, 0.5-3.0 in. TL); **Corte Madera Ck., at Ross, upstream from bridge,** 7/Oct/1968 (San Francisco State College, 895 or 1219: 17-44 mm SL); **Corte Madera Ck., at Ross, downstream from bridge,** 7/Oct/1968 (San Francisco State College, 324: 21-41 mm SL); **San Anselmo Ck., Pastori Ave. bridge,** 14/Aug/1969 (CDFG, Stream Survey Files, 9 p., 200); **Corte Madera Ck., downstream from Lagunitas Dr. bridge,** 11/Sept/1969 (CDFG, 9 p., 146); **Sleepy Hollow Ck., Butterfield Rd. bridge,** 11/Sept/1969 (CDFG, 9 p., 77); **Corte Madera Ck., bridge at Ross firehouse,** 17/Oct/1969 (San Francisco State College, 179: 18-43 mm SL); **Corte Madera Ck., Lagunitas Rd. bridge in Ross,** 27/Sept/1971 (San Francisco State College, 790: 11-57 mm SL); **Corte Madera Ck., at bridge near fire station, Ross,** 20/Sept/1972 (San Francisco State College, as "several hundred"); **Corte Madera Ck., bridge near Ross fire house off Sir Francis Drake Blvd.,** 24/Sept/1973 (San Francisco State College, approximately 854); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (directly downstream from bridge),** 16/Oct/1974 (San Francisco State College, 110 or 173: 21-45 mm SL); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (several hundred feet downstream from bridge),** 16/Oct/1974 (San Francisco State College, 60); **Corte Madera Ck., at Ross, vicinity of bridge over creek adjacent to Ross fire station (directly upstream from bridge),** 16/Oct/1974 (San Francisco State College, 124: 24-39 mm SL); **Corte Madera Ck.,** 1976, environmental assessment (Madrone Associates, Table 9); **Corte Madera and San Anselmo cks., middle one-third from Ross to Happersberger Pt. (5.5 mi.),** 9-10/Sept/1980, visual survey (CDFG, 12 p., noted as "present in small numbers"); **Corte Madera Ck., immediately downstream from Madrone Dr. bridge,** 18/Sept/1981, R. Leidy and P. Fiedler, 28: 16-36 mm TL; **Corte Madera Ck., Lagunitas Rd. bridge,** 18/Sept/1981, R. Leidy and P. Fiedler, 30: 18-39 mm TL; **Corte Madera (Fairfax) Ck., at Marin Rd. bridge in Fairfax,** 18/Sept/1981, R. Leidy and P. Fiedler, 29: 15-36 mm TL; **Corte Madera (Fairfax) Ck., on Olema Rd. crossing 20 m from Alamitos Way,** 18/Sept/1981, R. Leidy and P.

Fiedler, 5: 16-26 mm TL; **Sleepy Hollow Ck., immediately upstream from Butterfield Dr. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 50+: 13-51 mm TL; **Larkspur Ck., at Diane Ln. bridge**, Larkspur, 18/Sept/1981, R. Leidy and P. Fiedler, 25+: 16-40 mm TL;

**SAN RAFAEL CREEK WATERSHED (Marin): San Rafael Ck., along 1<sup>st</sup> St., between D St. and E St., San Rafael**, 18/Sept/1981, R. Leidy and P. Fiedler, 150+: 50 at 17-47 mm TL;

**UNNAMED PT. SAN PEDRO CREEK WATERSHED (Marin): Unnamed Ck., S. of Pt. San Pedro at junction with Castlewood Dr. (near Glenwood School)**, 19/Sept/1981, R. Leidy and P. Fiedler, 32: 17-47 mm TL;

**MILLER CREEK WATERSHED (Marin): Miller Ck., at Bridge 27-04 on Highway 101**, [Sta.] No. 1, 19/Jul/1945, D. A. and H. Simpson (CAS 12991, 175, juv., half-grown); **Miller Ck., 50 m upstream on Lucas Valley Rd. from junction with Sequeira Rd.**, 17/Sept/1981, R. Leidy and P. Fiedler, 100+: 50 at 16-27 mm TL; **Miller Ck., at Gallinas Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 75+: 15-52 mm TL; **Miller Ck., at St. Vincent Dr.**, 17/Sept/1981, R. Leidy and P. Fiedler, 25: 15-42 mm TL;

**PACHECO CREEK WATERSHED (Marin): Pacheco Ck., at immediately upstream from Alameda del Prado/Hwy 101 bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 100+: 50 at 14-38 mm TL;

**ARROYO DE SAN JOSE WATERSHED (Marin): Arroyo de San Jose, at Bridge 27-03 on Hwy. 101, 100 yds. S. of Ignacio R. R. Station**, [Sta.] No. 2, 19/Jul/1945, D. A. and H. Simpson (CAS 12994, 236, half-grown); **Arroyo de San Jose**, 17/Sept/1981, R. Leidy and P. Fiedler, 75+: 50 at 17-30 mm TL;

**NOVATO CREEK WATERSHED (Marin): Novato Ck., at Bridge 27-01 on Hwy 101**, [Sta.] No. 3, 19/Jul/1945, D. A. and H. Simpson (CAS 12997, 132, one-third grown, 16-30 mm SL); **Novato Ck.**, likely collected in 1967, R. H. Cornelius and D. M. V. (LACM 30914.001, 48); **Novato Ck., approx. 100 m downstream from Novato Ck., Dam (Stafford Lake)**, 16/Sept/1981, R. Leidy and P. Fiedler, 250+: 50 at 17-67 mm TL; **Novato Ck., at Sutro Ave. bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 250+: 50 at 15-50 mm TL; **Novato Ck., at 7<sup>th</sup> St., bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 57: 16-61 mm TL; **Bowman Canyon Ck., immediately upstream from Hicks Valley Rd. (Novato Blvd.) bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 55+: 15-43 mm TL; **Warner Ck., at Diablo Rd. bridge**, 17/

Sept/1981, R. Leidy and P. Fiedler, 100+: 50 at 15-40 mm TL;

**PETALUMA RIVER WATERSHED (Sonoma/Marin): Petaluma** [listed as *G. a. microcephalus*, not types, unless these specimens come from Presidio, see UMMZ 146720], 1855, E. Samuels (UMMZ 146721, 25: 24-50 mm SL); **"Calif: (Petaluma)"**, 1855, E. Samuels (USNM 130317, 12+); **"Calif: Petaluma, Sonoma Co"**, 1855, E. Samuels (UMMZ 130316, 200+); **"Petaluma, Cal"**, likely collected in 1855, E. Samuels (USNM 30259, 10+, USNM 333, 10+); **"Petaluma"**, listed as *G. plebeius*, likely collected in 1855 by E. Samuels (MCZ 6706, 6, syntype); **"Petaluma"**, as *G. plebeius*, E. Samuels (Girard 1857: 537, 1858: 86); **Petaluma**, likely collected prior to 1861, Inconnu and M. Washington (MNHN 0298, 8: 50-55 mm SL, listed as *G. plebeius*, paratype); **Petaluma Ck., at Pengrove**, 6/Nov/1943, G. Murphy (SU 40893, 13); **Lichau Ck., from mouth to headwaters (9 mi.)**, 17-18/Jul/1968, visual survey (CDFG, observed in lower section of stream, approximately 100 fish/100 ft. of stream, 0.25-2.0 in. TL); **Willow Brook [Petaluma] Ck., upstream from Hwy. 101 bridge to headwaters (3 mi.)**, 17/Jul/1968, visual survey (CDFG, 3 p., as "about 200 fish in an average pool"); **Petaluma River, at Petaluma Blvd. bridge**, 18/Jul/1968 (CDFG, 2 p., 2 fish/ft<sup>2</sup> of stream, 0.5-2.0 in TL); **Petaluma R., at Pengrove crossing (city park)**, 15/Sept/1981, R. Leidy and P. Fiedler, 3: 21-57 mm TL; **Petaluma R., 25 m upstream from Corona (Hardin Lane) crossing**, 16/Sept/1981, R. Leidy and P. Fiedler, 30: 15-56 mm TL; **San Antonio Ck. (main branch), at Chileno Valley Rd. crossing**, 16/Sept/1981, R. Leidy and P. Fiedler, 35: 14-25 mm TL; **San Antonio Ck., at crossing of Petaluma cutover (Union School)**, 16/Sept/1981, R. Leidy and P. Fiedler, 3: 35-62 mm TL; **San Antonio Ck., approximately 0.25 mi. W. (upstream) from Hwy. 101 at frontage rd. bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 2: 21-33 mm TL;

**TOLAY CREEK WATERSHED (Sonoma): Tolay Ck., isolated potholes in the upper area**, 8/Jul/1965, visual survey (CDFG, 2 p., as "large numbers of 3-spine stickleback.");

**SONOMA CREEK WATERSHED (Sonoma): Tolay Ck., isolated potholes in upper reaches**, 8/Jul/1965, visual survey (CDFG, 2 p., notes that potholes "...sustained quite large numbers of 3-spine stickleback."); **Rodgers Ck., from mi. 1.0 to mi. 2.5**, 13/Jul/1966, visual survey (CDFG, 29 p., as "abundant"); **Yulupa Ck., lower 0.75 mi.**, 14/Jul/1966,

visual survey (CDFG, 29 p., as "observed"); **Sonoma Ck., at West Watmaugh Rd. bridge**, 15/Sept/1981, R. Leidy and P. Fiedler, 25: 15-37 mm TL; **Nathanson Ck., at E. Napa St.**, 15/Sept/1981, R. Leidy and P. Fiedler, 13: 27-62 mm TL; **Schell Ck., at Hwy 12(121) bridge**, 15/Sept/1981, R. Leidy and P. Fiedler, 150+: 15-61 mm TL;

**HUICHICA CREEK WATERSHED (Napa/Sonoma): Huichica Ck., immediately downstream from Hwy 12(121) bridge**, 14/Sept/1981, R. Leidy and P. Fiedler, 7: 42-63 mm TL;

**NAPA RIVER WATERSHED (Napa): "Conn Ck., Napa Co., Cal"**, 26/May/1897, C. H. Gilbert (USNM 59827, 300+); **Napa River at Rutherford and Calistoga**, as *G. cataphractus* (Snyder 1908a: 160); **Conn Ck.**, as *G. cataphractus* (Snyder 1908a: 160, likely recorded by C.H. Gilbert and party in 1897, above); **"Napa Ck. [River], Calistoga, Cal"**, likely May/1897, C. H. Gilbert and party (USNM 58264, 150+); **Napa River, Calistoga** (Snyder 1908a: 160, likely recorded by C.H. Gilbert in 1897, above); **Napa River, Rutherford** (Snyder 1908a: 160, likely recorded by C.H. Gilbert and party in 1897); **Lake Milliken**, possibly (Shapovalov 1940: 5); **Napa River, 2 mi. below Calistoga**, 1/Aug/1943, G. Murphy (SU 40833, 16); **Chiles Ck., in canyon above mouth of Moore Ck.**, 27/Jul/1945 (Curtis 1945a, 4, 4 specimens: juveniles); **Conn Ck., 0.25 mi. above dam under construction by City of Napa**, 30/Jul/1945 (Curtis 1945 a, 4, 2 specimens: juveniles); **Chiles Ck., about one mile above junction with Sage Ck., just above stone winery**, 9/Aug/1945 (Curtis 1945b, 5, 5 specimens: 1 adult and 4 juveniles); **Sage Ck., pool at "Jack London"**, 9/Aug/1945 (Curtis 1945b, 6, 4 specimens: juveniles); **Conn Valley Reservoir and its tributaries** (Murphy 1949, 4); **Tributary to Napa River, near old soldiers [veterans] home, near Yountville**, 31/Aug/1958, E.W. Kirschbaum, T. Boud, and D. Rentz (CAS, Acc. 1958-VIII: 9, 10); **Napa River, from Bale Lane downstream to Zinfandel Lane (6.0 mi.)**, 9-10/Jun/1961, visual survey (CDFG, 3 p., noted as "...quite successful..."); **Napa River, 1 mi. north of Calistoga downstream to Bale Lane (5.5 mi.)**, 22-23/Jun/1961, visual survey (CDFG, 3 p., noted as "...extremely successful."); **Napa River, Napa**, 30/May/1963, J. D. Hopkirk, J. Shimizu and A. Ota (CAS 23274, 2: 36-52); **Napa River, Napa**, 26/May/1965, J. D. Hopkirk, J. Shimizu and A. Ota (CAS, Acc. 1966-VI: 20, 8: 24.8-34.3 mm SL); **Tulucay Ck., at Hwy. 29 bridge on Imola Ave. (West), Napa**, 22/Apr/1966, J.D. Hopkirk and A.M. Kuris (CAS, Acc. 1966-VI: 20, 1); **Carneros Ck.**,

26/May/1966 (CDFG, present); **Huichica Ck., lower 5.25 mi.**, 27/May/1966 (CDFG, present); **Hinman Ck., Hinman Reservoir to mouth (2.5 mi.)**, 23, 25/June/1966, visual survey (CDFG, 5 p., as "a few sticklebacks were noted", 0.5-1.0 3 in. TL); **Browns Valley Ck., mouth to headwaters (4.5 mi.)**, 29/Jun/1966, visual survey (CDFG, 6 p., 500 fish/100 ft. of stream: 0.5-3.0 in. TL); **Hinman Ck., 600 yds. E. of Hwy. 29 bridge to confluence with Napa River, Napa**, 15/Jun/1967, fish kill (CDFG, 100: 0.8-2.0 in. TL); **Napa River, 200 yds downstream from Hwy 20(12) xing, at SE edge of Napa**, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15184, 5; 65494, 5, field notes state ca. 10 adult, common in side slough); **Bell Canyon Ck., from spillway of Bell Canyon Dam downstream to confluence with the Napa River (2 mi.)**, 20/Jun/1969, visual survey (CDFG, 4 p., 25 fish/100 ft. of stream: 0.5-1.5 in. TL); **Bell Canyon Ck., approximately 1 mi. downstream from Bell Canyon Dam within NE0.25 of SW0.25, S13, T8N, R6W**, 18 Jul/1969, electrofishing survey 100 ft. length (CDFG, 2 p., 9: 1.0-2.0 in. TL); **Bell Canyon Ck., 100 ft. upstream from confluence with south fork of Bell Canyon Ck.**, 18 Jul/1969, electrofishing survey 100 ft. length (CDFG, 2 p., 7: no size); **Napa River, Zinfandel Lane bridge**, 29/Jul/1969, electrofishing (CDFG, 4 p., 26: no size); **Napa River at Berry Ave., Pope St., Zinfandel Ln., Hwy. 128, Yountville Cross Rd. bridges**, 28/Jul/1969-8/Aug/1969, electrofishing (CDFG, 4 p., noted as "...minor components of the fish population."); **Garnett Ck., 1.5 mi. upstream from Hwy. 29 bridge to mouth (3.5 mi.)**, 16/Jun/1970, visual survey (CDFG, 4 p., 20-40 fish/100 ft. in "downstream areas": 0.75-1.5 in., averaging 1.0 in. TL); **Napa River, Yountville Cross Rd.**, 20/Oct/1972, P.B. Moyle (UCDPM, 72-23, 2); **Sarco Ck., along Hwy. 121 near Napa**, T6N, R3W, S13, 20/Oct/1972, P.B. Moyle (UCDPM, 72-22, 3); **Suscol Ck., from confluence with Napa River to headwaters (8 mi.)**, 8-9/May/1973, visual survey (CDFG, 3 p., 500 fish/100 ft. of stream in lower reach only: 0.5-3.5 in., average 2.0 in. TL); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 4 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 2 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4),**

near **Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1 specimen total: no size); **Hinman Reservoir**, 13/Jan/1975, drained and Pro-noxfish application (CDFG, 2 p.); **Bell Canyon Ck., from Bell Canyon Dam to mouth (2 mi.)**, 14, 16/Jul/1975, visual survey (CDFG, 5 p., 30 fish/100 ft. of stream: 0.5-1.0 in. TL); **Redwood Ck., from mouth upstream 1 mi.**, 13, 14/Apr/1977, visual survey (CDFG, 3 p., as "numerous"); **Dry Ck.**, 13-14/Jun/1977 (CDFG, present); **Sulphur Ck., immediately above first rd. crossing upstream from confluence with the Napa R., off Pope St.**, 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 4: no size); **Napa River, at Dunaweal Ln., opposite sewage treatment plant downstream from Calistoga**, 9/Sept/1981, R. Leidy and P. Fiedler, 4: 37-52 mm TL; **Garnett Ck., at Grant St. bridge**, 9/Sept/1981, R. Leidy and P. Fiedler, 7: 28-42 mm TL; **Conn Ck., at milepost 8.07 E. on Hwy. 128**, 10/Sept/1981, R. Leidy and P. Fiedler, 16: 17-30 mm TL; **Redwood Ck., on Redwood Rd. 0.25 mi. before junction with Browns Valley Rd.**, 10/Sept/1981, R. Leidy and P. Fiedler, 13: 27-50 mm TL; **Browns Valley Ck., at Buhrman Ave. (Browns Valley School)**, 12/Sept/1981, R. Leidy and P. Fiedler, 52: 21-57 mm TL; **Napa Ck., at Jefferson St. bridge, Napa**, 12/Sept/1981, R. Leidy and P. Fiedler, 200+: 37 at 21-43 mm TL; **Tulucay Ck., 50 m upstream from Suscol Ave. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 1000+: 232 at 30-67 mm TL; **Suscol Ck., at frontage rd. bridge along Hwy. 12/29**, 12/Sept/1981, R. Leidy and P. Fiedler, 7: 33-105 mm TL; **Sarco Ck., immediately upstream from Hwy. 121 bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 100+: 25-62 mm TL; **American Canyon Ck., at American Canyon Rd. crossing opposite trailer park**, 19/Sept/1981, R. Leidy and P. Fiedler, 25: 18-34 mm TL;

**GREEN VALLEY CREEK WATERSHED (Solano):** **Green Valley Ck., 1 mile North of US 40**, 21/Dec/1940, B. W. Walker (UMMZ 132875, 7: 18-39 mm SL); **Green Valley Ck., immediately downstream from Rockville Rd. bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 16: no size); **Green Valley Ck., 300 ft. upstream from Via Palo Linda bridge**, 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 1: 1.8 in. TL); **Green Valley Ck., near Hwy. 80**, 10/Jan/1979, electrofishing survey (CDFG, 2 p., 8: 18.0-49.5 mm SL, also as LACM 25160); **Green Valley Ck., at S.P.R.R. bridge (5 ft. elevation)**, 2/Oct/1981, R.A. and G.R. Leidy, 17: 25-40 mm TL; **Green Valley Ck., at**

**Interstate 80 bridge**, 2/Oct/1981, R.A. and G.R. Leidy, 15: 27-46 mm TL; **Green Valley Ck., immediately upstream from Mason Rd. bridge**, 2/Oct/1981, R.A. and G.R. Leidy, 33: 25-45 mm TL;

**SUISUN CREEK WATERSHED (Solano):** **Suisun Ck., upper end of Suisun Valley near Mankas Corner**, 2/Apr/1964, visual survey (CDFG, states that "Large schools of small...sticklebacks...were noted."); **Suisun Ck. watershed**, 23-24/May/1956, chemical and visual survey (CDFG, 3 p., present: no numbers or size); **Suisun Ck., downstream from Wooden Valley Ck.**, 2/Apr/1972, electrofishing survey (CDFG, 1 p., states that "Sticklebacks...were numerous."); **Suisun Ck., off Gordon Valley Rd., just below Lake Curry**, 10/Aug/1972, P.B. Moyle (UCDPM, 72-12, 100+); **Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater**, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys (CDFG, 4 p., notes "...very abundant, especially in undercut banks."); **Suisun Ck., at immediately downstream from Cordelier Rd. crossing**, 2/Oct/1981, R.A. and G.R. Leidy, 5: 18-24 mm TL; **Suisun Ck., at Suisun Valley Rd. crossing immediately before Twin Sisters Gun Club turnoff**, 2/Oct/1981, R.A. and G.R. Leidy, 100+: 50 at 18-35 mm TL; **Suisun Ck., at Lakeside Rd. gate to Lake Curry**, 2/Oct/1981, R.A. and G.R. Leidy, 15: 20-30 mm TL;

#### COTTIDAE (SCULPINS)

##### **Cottus sp. (unidentified Cottidae sp.)**

**SAN FRANCISCO (San Francisco):** **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 13730, 30); **San Francisco [likely collected from Sacramento River]**, Sept/1872, Hassler Expedition (MCZ 13720, 4);

**MARSH CREEK WATERSHED (Contra Costa):** **Marsh Ck., bridge 4 mi. E. of Byron**, 1/Apr/1942, B. Curtis, visual survey (CDFG, 2 p., noted as "present": no size);

**ALAMEDA CREEK WASTERSHED (Alameda/Santa Clara):** **Alameda Ck.**, likely collected in late-1850s or 1860, A. Agassiz (MCZ 13621, 2); **Arroyo Hondo Ck., road crossing just above Calaveras Reservoir**, 30/Sep/1953, W. Evans field note (CDFG, 1 p., noted as "...seen..."); **Alameda Ck., below Niles**, 16/May/1957, visual survey (CDFG, 5 p., observed: no abundance or size); **Alameda Ck., Niles Canyon near Kaiser Quarry (T4S, R1W, S12)**, 16/Oct/1975, USFWS electrofishing survey (CDFG, 1 p., present: no abundance or size);



**COYOTE CREEK WATERSHED (Santa Clara):** **Penitencia Ck., junction of Piedmont Rd. and Penitencia Ck. Rd.,** 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present); **Penitencia Ck., from junction of Noble Ave. and Penitencia Ck. Rd. upstream for 0.25 mi.,** 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present);

**GUADALUPE RIVER WATERSHED (Santa Clara):** **Guadalupe Ck., 1.4 to 1.5 mi. by rd. upstream from junction of Hicks and Shannon rds., in T.8S., R.1E., Sec. 30,** 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present); **Guadalupe Ck., 0.3 mi. by rd. upstream from junction of Hicks and Shannon rds., in T.8S., R.1E., Sec. 30,** 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present); **Guadalupe Ck., Coleman Rd. crossing, in T.8S., R.1E., Sec. 30,** 24/Jul/1953, field notes, T.J. Merkel, seine survey (CDFG, 2 p., present);

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/San Mateo):** **San Francisquito Ck. diversion channel to Lake Lagunita,** 20/May/1966, hand nets (CDFG, 2 p., present);

**SAN MATEO CREEK WATERSHED (San Mateo):** **San Mateo Ck.,** 6/Jan/1860, T. G. Cary (MCZ 13598, 4);

**CORTE MADERA CREEK WATERSHED (Marin):** **Corte Madera Ck., from bay to confluence of San Anselmo and Sleepy Hollow cks. (6 mi.),** 24-25/Jul/1968, visual survey (CDFG, 2 p., noted as "cottids", 5 fish/100 ft. of stream, 2.0-3.0 in. TL);

**SONOMA CREEK WATERSHED (Sonoma):** **Graham Ck., mouth to headwaters, 2 mi.,** 4/Dec/1959, (CDFG, 4 p., "...were extremely few in number."); **Calabazas Ck.,** 16, 18/Jan/1961, [likely *C. gulosus* based on recent collections by R.A. Leidy], (CDFG, 3 p., 4: 2.5-3.0 in. TL); **Rodgers Ck., upper 4.5 mi. of stream,** 29/Jul/1975, visual survey (CDFG, 4 p., very abundant in upper 0.25-mi. of survey section: 200 fish/100 ft., overall abundance approximately 50 fish/100 ft.: 1.0-5.0 in. TL); **Stuart Ck., Glen Ellen bridge,** 17/Oct/1975, visual survey (CDFG, 4 p., 1 dead sculpin); **Bear Ck., up to 0.2 mi. above mouth,** 15/Jul/1976, visual survey [likely *C. gulosus* based on recent surveys by R.A. Leidy], (CDFG, 3 p., a few: approximately 1 in. TL); **Yulupa Ck., headwaters of left fork [W. or Bennett Valley Rd. Fk],** 23/Jul/1976, visual survey [likely *C. gulosus* based on survey by R.A. Leidy in 1981], (CDFG, 3 p., as "abundant": approximately 1.5 in. TL);

**NAPA RIVER WATERSHED (Napa):** **Chiles Ck., middle**

**flowing section, 0.5 mi. upstream from mouth upstream to confluence of west and east branches,** 7/Aug/1956, visual survey (CDFG, 3 p., noted as "an occasional sculpin was seen..."); **Napa River, 1 mi. north of Calistoga downstream to Bale Lane (5.5 mi.),** 22-23/Jun/1961, visual survey (CDFG, 3 p., noted as "...extremely successful."); **Cyrus Ck., from mouth (Porter Ck.) upstream 1.75 mi.** (btw. City of Calistoga water supply reservoir and proposed site of new reservoir), 17/Jan/1964, visual survey (CDFG, 4 p., noted as "cottids" observed); **Ritchie Ck., mouth to headwaters (3.5 mi.),** 13/Jul/1967, brail net and visual survey (CDFG, 4 p., noted as "Sculpin were observed throughout the stream."); **Bell Canyon Ck., approximately 1 mi. downstream from Bell Canyon Dam within NE0.25 of SW0.25, S13, T8N, R6W,** 18 Jul/1969, electrofishing survey 100 ft. length (CDFG, 2 p., 12: 1.25-3.0 in. TL); **Bell Canyon Ck., 100 ft. upstream from confluence with south fork of Bell Canyon Ck.,** 18 Jul/1969, electrofishing survey 100 ft. length (CDFG, 2 p., 66: no size); **Napa River at Berry Ave., Bale Ln., Pratt Ave., Pope St., Hwy. 128 bridges,** 28/Jul/1969-8/Aug/1969, electrofishing (CDFG, 4 p., noted as "...minor components of the fish population."); **Ritchie Ck., 100 ft. upstream from State Hwy. 29 bridge,** 7/Aug/1969, electrofishing survey (CDFG, 2 p., 12: 2.0-6.0 in. TL, 15 fish/100 ft. of stream); **Ritchie Ck., 500 ft. upstream from concrete diversion dam,** 7/Aug/1969, electrofishing survey (CDFG, 2 p., 14: 3.0-6.5 in. TL, 15 fish/100 ft. of stream); **Napa River, 0.25 mi. downstream from Kimball Dam,** 8/Aug/1969, electrofishing survey (CDFG, 2 p., 15: no size); **Sulphur Ck., Sulphur Canyon Rd. (NW0.25 of Sec. 3, T7N, R6W),** 12/Aug/1969, electrofishing survey (CDFG, 2 p., 58: 2.0-4.5 in. TL, 64 fish/100 ft. of stream); **Suscol Ck., from confluence with Napa River to headwaters (8 mi.),** 8-9/May/1973, visual survey (CDFG, 3 p., 500 fish/100 ft. of stream in lower section only: 0.5-4.0 in., average 1.0 in. TL); **Bear Canyon Ck., from mouth upstream 3.3 miles,** 12/Sept/1975, visual survey (CDFG, 3 p., 5 fish/100 ft. of stream: averaging 2.0 in. TL); **Milliken Ck., downstream from Milliken Reservoir,** 3/Nov, 5/Dec/1975, visual survey, (CDFG, 4 p., 1) below diversion dam barrier no. 3, 2 fish/100 ft. of stream: 2.0-4.0 in., averaging 3.0 in. TL, 2) lower section below the canyon, 2 fish/100 ft. of stream: 2.0-4.0 in., averaging 3.0 in. TL; **Mill Ck., lower one-third of stream above mouth,** 3, 7/Aug/1978, visual survey (CDFG, 3 p., noted as "sculpins": average 1.0 in. TL); **Napa River,**

from Deer Park Rd. to about one-third mi. below the Pope St. bridge, 16-17/Oct/1979, fish kill (CDFG, 1 p., 1: 4.0 in. TL); **Sulphur Ck., near elevation 309 ft., adjacent to Sulphur Canyon Rd.,** 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 1: no size); **Sulphur Ck., immediately upstream from Sulphur Canyon Rd. crossing, near elevation 800 ft.,** 23/May/1980, visual and electrofishing survey (CDFG, 5 p., 6: no size);

**GREEN VALLEY CREEK (Solano): Green Valley Ck., immediately downstream from Rockville Rd. bridge,** 21/Jan/1975, electrofishing survey (CDFG, 4 p. + field notes, 7: no size);

**SUISUN CREEK WATERSHED (Solano/Napa): Lake Curry** (Shapovalov 1940: 13);

#### ***Cottus asper* (prickly sculpin)**

**SAN FRANCISCO BAY: San Francisco Bay,** May/1865, Dall and Pease (USNM 7817, 1); **"Mare Isl., Cal.,"** 16/Apr/1890, C. H. Townsend (USNM 67204, 1+); **Mare Island, California,** as *Cottopsis asper* (USNM 12963: 5, *Proceedings of the U.S. National Museum*, 1881); **South Belmont, oyster beds, San Francisco,** 1891, C. H. Townsend (USNM 67203, 1+); **Mare Island** (Evermann and Latimer 1910: 138); **South end, Palo Alto Yacht Harbor, Santa Clara Co.,** 6/Feb/1954, Cliff and party (CAS 147441, 1); **Dutton Island, Solano Co.,** 20/Jul/1957, W.I. Follett and G.M. Peckham (CAS 26744, 148); **Slough near Corte Madera, Marin Co.,** 22/Jun/1958, D. Rentz (CAS 38649, 1);

**SAN FRANCISCO COUNTY: Presidio, on the Bay of San Francisco,** Aug/1854, as *Cottopsis parvus*, Lieut. Trowbridge (Girard 1854, 144-145); **"Mountain Lake, Cal.,"** likely collected mid-1860s, C. Pease (USNM 23926, 1); **San Francisco at Lake Merced,** 29/Oct/1939, Clark, Campbell and Halstead (CAS 7599, 1); **San Francisco, Golden Gate Park Lake,** 15/Dec/1941, Rainey and Goodman (CAS 11040, 1); **Lake Merced, San Francisco,** 23/Jul/1942, B. Curtis (CAS 20913, 7); **San Francisco, Lake Merced,** likely collected 12/Jun/1949, A. C. Calhoun ? (CAS 33685, 4); **San Francisco, Lake Merced (south lake),** 12/Jun/1949, A. C. Calhoun (CAS 33686, 6); **Lake Merced, at southeast shore,** 23/Jul/1975, C. Swift and K. Howe (LACM 35302.001, 23: 27-65 mm SL); **North Lake Merced,** 12/Apr/1979, electrofishing survey (CDFG, 2 p., abundant: 1.0-7.7 in. TL);

**WALNUT CREEK WATERSHED (Contra Costa): Walnut Ck., at confluence with Grayson Ck.,** 12/Oct/1980, R.A.

and G.R. Leidy, 4: 51-127 mm TL; **Walnut Ck., immediately downstream from Hwy 4 crossing,** 5/Oct/1980, R.A. and G.R. Leidy, 4: 25-44 mm TL;

**PINOLE CREEK WATERSHED (Contra Costa): Pinole Ck., 1.5 mi. reach from Hwy. 80** downstream, 23/Apr/1975, fish kill (CDFG, 3 p., small sculpin, numerous: 1.0-1.75 in., 32: average 1.5-5.0 in. TL); **Pinole Ck., 70 yd. reach upstream from the Pinole Valley Rd. crossing, N. of the Ellorhorst intersection,** 20/Nov/1979, electrofishing survey (CDFG, 4 p., 3: 3.8-3.9 in. FL); **Pinole Ck., 100 m upstream from culvert under San Pablo Ave.,** 23/Jun/1981, R. Leidy and P. Fiedler, 1: 98 mm TL;

**SAN PABLO CREEK WATERSHED (Contra Costa): San Pablo Ck., San Pablo Reservoir (R.M. 0.0) upstream to R.M. 0.35,** 2/Jun/1981, kick net survey (CDFG, 7 p. + notes, 100+ fish/100 ft. of stream: to 3.0 in. TL); **San Pablo Ck., from San lower reaches above Pablo Reservoir,** 3-5/Nov/1981, visual survey (Kelley 1981, p. 14, few: no size);

**SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa): San Leandro Ck., west branch [Moraga Ck.], concrete drop structure near Moraga Country Club,** 15/Aug/1974, electrofishing survey (CDFG, 3 p., 2: 2.0-2.5 in. TL); **San Leandro Ck., north branch [Moraga Ck.], btw. Rd. crossing adjacent to firehouse on Moraga Way,** 14/Aug/1974, electrofishing survey (CDFG, 3 p., 1: 1.5 in. TL); **San Leandro Ck., 100 m upstream from bridge entering Chabot Regional Park (west entrance below Chabot dam),** 22/Jul/1981, R. Leidy and P. Fiedler, 1: 27 mm TL; **San Leandro Ck., 30 m below spillway of Chabot Dam,** 22/Jul/1981, R. Leidy and P. Fiedler, 11: 80-107 mm TL; **San Leandro Ck., immediately downstream from MacArthur Blvd. crossing,** 22/Jul/1981, R. A. Leidy and P. Fiedler, 2: 1-68 mm TL; **San Leandro Ck., (S. branch), approximately 250 m upstream from Chabot Park parking lot below dam, near EBMUD watershed boundary,** 22/Jul/1981, R. Leidy and P. Fiedler, 1: 87 mm TL; **San Leandro Ck., 0.5 mi. upstream from Upper San Leandro Reservoir (T1S, R3W, S25),** 4/Aug/1981, R. Leidy and P. Fiedler, 76: 26-82 mm TL; **Moraga Ck., 25 m upstream from 1<sup>st</sup> bridge at Valle Vista along Canyon Rd.,** T1S, R2W, S19, 5/Aug/1981, R. Leidy and P. Fiedler, 19: 27-48 mm TL; **Moraga Ck., south branch, 0.25 mi. upstream from confluence with main branch, south of Moraga Intermediate School,** T1S, R3W, S25, 5/Aug/1981, R. Leidy and P. Fiedler, 3: 48-52 mm TL; **Moraga Ck., at junction of old Moraga Way,** T1S, R2W, S19, 5/

Aug/1981, R. Leidy and P. Fiedler, 15: 36-74 mm TL; **Moraga Ck., immediately downstream from junction with Moraga Rd., near BM 498**, 7/Aug/1981, R. Leidy and P. Fiedler, 5: 33-73 mm TL; **Moraga Ck., at junction of Corlias Dr.**, T1S, R2W, S18, 7/Aug/1981, R. Leidy and P. Fiedler, 1: 75 mm TL;

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Alameda Ck.** (Snyder 1905, 337); **Alameda Ck., immediately below dam in Niles Canyon**, 24/Jul/1927, W.I. Follett (Follett 1974, 1: as "sculpins", also as CAS, Acc. 1927, several adults); **Alameda Ck., immediately below dam in Niles Canyon**, 31/Jul/1927, W.I. Follett (CAS, Acc. 1927, 1: adult); **Alameda Ck.**, 15/Oct/1934, A. Seale (SU 6840, 2); **Alameda Ck.**, 19/May/1938, L. Shapovalov (CAS, Acc. 1952-X: 30, 2: 64-66 mm SL); **Alameda Ck., between Niles and bridge E. of Sunol, tributary to San Francisco Bay**, 25/Feb/1939, R. R. Miller and G. Murphy (UMMZ 133182, 2: 52-75 mm SL); **Alameda Ck., Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26159, 16: young to large young); **Alameda Ck., gravel pit near Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (Follett 1974, 2: 2: as "...1 young and 1 yearling..." ); **Alameda Ck., gravel pit near Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (Follett 1974, 2: 2: as "several *Cottus*"); **Alameda Ck., 0.2 mile above WPRR bridge below Niles, in pool**, 31/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26165, 3: young to half-grown); **Alameda Ck., ca. 100 yds. below SPRR bridge, Niles**, 31/Oct/1955, W.I. Follett and G.M. Peckham (CAS, Acc. 1955-X, 31, several half-grown); **Alameda Ck., Niles, opposite California Nursery Co. pool**, turbid water, 25/Mar/1957, W. I. Follett and G. M. Peckham (CAS 26725, 1: adult); **Alameda Ck., at Niles Sand and Gravel Co. pool**, 22/Apr/1957, W. I. Follett and G. M. Peckham (CAS 26730, 1: small adult); **Alameda Ck., 0.2 mile above bridge of new fwy near Niles**, 21/Jul/1957, W. I. Follett and G. M. Peckham (CAS 26289, 3: young to small adult); **Alameda Ck., just above bridge of new fwy near Niles**, 21/Jul/1957, W.I. Follett and G.M. Peckham (CAS 26293, 7: young to half-grown); **Alameda Ck., at Niles**, 22/Feb/1966, J. D. Hopkirk and party (CAS 24714, 1: 80 mm SL); **Arroyo de la Laguna, 3 mi. N. Sunol**, 22/Feb/1966, J. D. Hopkirk and party (CAS 24715, 4: 47-85 mm SL); **Alameda Ck., Stanley Bridge, Old Canyon Rd., Niles**, 21/Apr/1967, U.C. Berkeley

Zoology 166 class, G. Barlow, juveniles/adults common); **Alameda Ck., bridge at Union City limits, Union City Blvd.**, 19/Oct/1969, U.C. Berkeley Zoology 166 class, G. Barlow, as "few individuals"; **Alameda Ck.** (lat. 37°, 34', long. 121°, 59', elevation 12 m), 20/Jun/1973 (Aceituno *et al.* 1976: 199, 10: 34-100 mm TL); **Alameda Ck., at BART crossing**, 20/Jun/1973, M.L. Caywood, M. Aceituno (SSU, no. 219, 1: no size); **Alameda Ck.** (lat. 37°, 35', long. 121°, 55'), 20/Jun/1973 (Aceituno *et al.* 1976: 199, 2: 80-90 mm TL); **Alameda Ck., below BART track at Fiber Dam**, 20/Jun/1973, Cuencal, Caywood, and Aceituno (LACM 24560, 7: no size); **Lake Del Valle** (California Department of Water Resources 1974, 25); **Arroyo de la Laguna Ck., 150 yds. upstream from confluence with Alameda Ck.**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., 4: 66-91 mm FL); **Arroyo de la Laguna Ck., large pool at confluence with Alameda Ck., to 50 yds. downstream on Alameda Ck.**, 4/Feb/1976, electrofishing survey (CDFG, 3 p., 3: 69-93 mm FL); **Alameda Ck., 200 yd. reach adjacent to and downstream from the USGS Niles gauging station**, 8/May/1976, electrofishing survey (Chabot College Ecology 40-84 class and J. Smith, CDFG, 2 p., 6: 72-90 mm FL); **Shinn Pond, Niles District of Fremont**, 31/Aug/1976, gill and net sampling (CDFG, 14 p., 4: 1.1-1.3 in. FL); **Arroyo Hondo, Arroyo Hondo Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Arroyo de la Laguna, near mouth**, 1972-1977 (Scoppettone and Smith 1978: 64); **Alameda Ck., pools below spillway opposite USGS gaging station, Niles Canyon**, T4S, R1E, S7, 1/Oct/1981, R. Leidy and P. Fiedler, 3: 97-117 mm TL; **Alameda Ck., opposite Kaiser aggregate quarry**, T4S, R1W, S12, 1/Oct/1981, R. Leidy and P. Fiedler, 1: 82 mm TL; **Alameda Ck., at 1<sup>st</sup> railroad crossing above Niles**, T4S, R1W, S15, 1/Oct/1981, R. Leidy and P. Fiedler, 1: 73 mm TL;

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., near mouth and San Jose** (Snyder 1905, 337-338); **Coyote Ck., near Gilroy Hot Springs**, 25/Jul/1909, U.S. Bureau of Fisheries (SU 37010, 1); **Coyote Ck., San Jose (inside city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 63392, 411: 24-107 mm SL); **Coyote Ck., San Jose (in city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 63397, 6: 35-39 mm SL); **Coyote Ck., San Jose**, 1/Oct/1922, C. L. Hubbs (ANSP 85428, 4); **Coyote Ck., between Milpitas and Alviso**, 24/Oct/1922, C. L. Hubbs (UMMZ 63393, 71: 27-88 mm SL); **Coyote Ck., at bridge opposite Milpitas**, 16/Oct/1932, W.I. Follett and party (Follett 1974, 3: as listed as *Cottus*, seined, no number

given); **Coyote Ck., Tully Rd.**, 3/Mar/1960, memorandum on fish collection (CDFG, 2 p., SJSU, CD-19); **Coyote Ck., below dam on Five Dot Ranch**, 12/May/1964, W.I. Follett (Follett 1973, 4: 10 specimens); **Coyote Ck., end of Cochrane Rd. at Anderson Dam**, 12/May/1964, W.I. Follett (CAS, 3); **Coyote Ck.** (lat. 37°, 13', long. 121°, 45', elevation 58 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 17: 31-119 mm FL); **Coyote Ck.** (lat. 37°, 10', long. 121°, 38', elevation 116 m), 21/Jun/1973 (Aceituno et al. 1976: 203, 4: 114-138 mm FL); **Coyote River at Coyote River Park**, 21/Jun/1973, M.L. Caywood (SSU, no. 266, 1: no size); **Coyote River, 100 yds. above Metcalf Rd. bridge near Hwy. 101**, 21/Jun/1973, Aceituno and Caywood (LACM 24826, 6: 51-111.5 mm FL); **Coyote Ck., 1) upstream from Metcalf Rd., 2) Riverside Golf Course Rd.**, 1972-1977 (Scoppettone and Smith 1978: 63); **Sandy Wool Lake**, 11/Oct/1973, electrofishing survey (CDFG, 7 p., 1: 2.4 in. FL); **Coyote Ck., Dunne Ave., inflow to Anderson Lake**, Oct/1977 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Cochran Rd.**, Jun and Oct/1977, Jun/1978 and Sep/1979 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., below Anderson Dam outlet**, Oct/1977, Jun/1978 and Sept/1979 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Metcalf Rd. crossing**, Jun/1977, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., Gilroy Hot Springs, 14.4 km upstream from Coyote Reservoir Dam**, Jun/1977 and Jul/1980 (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote downstream from Coyote Canal input**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Bayshore**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Crosslees**, Jun/1978, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Coyote Bernal Rd. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Coyote Ck., near Tennant Ave. crossing**, Jun/1978 and Sept/1979, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); **Upper Penitencia Ck. at mouth**, Jun/1978, Sept/1979, Apr/1980 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Coyote Ck., near Burnett Ave.**, Jun and Sept/1979 (Pitt and Bozeman 1982, p. 73); **Anderson Reservoir**, 7-8/Jul/1980, electrofishing survey (CDFG, 5 p., 8: 1.5-5.1 in. FL); **Coyote Ck., 25 m upstream from Metcalf Rd. crossing**, 3/Sept/1981, R. Leidy and P. Fiedler, 9: 37-88 mm TL; **Coyote Ck., approx.**

**2 km upstream from large gravel pits opposite Bruno Ave.**, 3/Sept/1981, R. Leidy and P. Fiedler, 5: 37-80 mm TL; **Coyote Ck., at Coyote R. Park, immediately downstream from Anderson Dam**, 3/Sept/1981, R. Leidy and P. Fiedler, 7: 60-95 mm TL; **Coyote Ck., 6.12 mi. E. on Gilroy Hot Springs Rd. from intersection with Canada Rd.**, 5/Sept/1981, R. Leidy and P. Fiedler, 20: 25-59 mm TL; **Canada de los Osos Ck., approx. 1.25 mi. upstream from intersection of Canada and Gilroy Hot Springs rds.**, 5/Sept/1981, R. Leidy and P. Fiedler, 5: 27-42 mm TL; **Fisher Ck., immediately upstream from Bailey Rd. crossing**, 5/Sept/1981, R. Leidy and P. Fiedler, 1: 83 mm TL; **GUADALUPE RIVER WATERSHED (Santa Clara): Guadalupe Ck.** (Snyder 1905, 337); **Guadalupe Ck., at Coleman Rd. crossing**, T8S, R1E, S19, 24/Jul/1953, T. J. Merkel (CAS 20983, 2); **Los Gatos Ck., at Lack Ave. bridge off Hwy 17**, 25/Aug/1981, R. Leidy and P. Fiedler, 3: 35-62 mm TL; **Guadalupe R., at Camden Ave.**, 26/Aug/1981, R. Leidy and P. Fiedler, 12: 62-112 mm TL; **ADOBE CREEK WATERSHED (Santa Clara): Adobe Ck., Cal.**, 24/Oct/1893, W. W. Thoburn and Johnson (CAS 111355-111358, 4 specimens total, also as SU 4546, 4); **San Antonio [Adobe] Ck.** (Snyder 1905, 337); **MATADERO CREEK WATERSHED (Santa Clara): Madera [Matadero] Ck.** (Snyder 1905, 337); **Matadero Ck. (channelized), at frontage rd. crossing below Bayshore Fwy**, 18/Aug/1981, R. Leidy and P. Fiedler, 1: 41 mm TL; **SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/ San Mateo): San Francisquito Ck.**, 13/May/1893, Stowell and Lunt (CAS 110048, 110063, 111344-111354, 13 specimens total); **"Stanford University Cal"**, 9/Feb/1904, C. F. Baker (USNM 51229, 1); **San Francisquito Ck.** (Snyder 1905, 337); **San Francisquito Ck., El Camino Real and SPRR bridge at Palo Alto**, 13/May/1938, L. Shapovalov (SU 68025, 5); **Lagunita Lake, Santa Clara**, 17/Aug/1942, L. Shapovalov (CAS 20921, 27); **Palo Alto**, 19/May/1946, P. Chandler (CAS, Acc. 1959-VIII: 6A, 5: 13-19 mm SL); **San Francisquito Ck., downstream from golf course**, Mar/1956 (SJSU, SF-5); **San Francisquito Ck. drainage**, Mar/1956 (SJSU, SF-6); **Los Trancos Ck.**, 26/Jan/1957 (SJSU, SF-13); **San Francisquito Ck., immediately above and below Lake Lagunita Diversion Dam**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 6: 3.4-4.5 in. FL); **San Francisquito Ck., bedrock pools about 75 yds. downstream from Junipero Serra Fwy. 280**, 13/



Jul/1976, electrofishing survey (CDFG, 5 p., 2: 2.8-3.5 in. FL); **San Francisquito Ck., 75 yd. reach approximately 1.5 mi. above Junipero Serra Fwy. 280 crossing**, 13/Jul/1976, electrofishing survey (CDFG, 5 p., 2: 4.1-4.5 in. FL); **Los Trancos Ck., 75 yd. reach upstream from Piers Ln. bridge (near confluence with San Francisquito Ck.)**, 14/Jul/1976, electrofishing survey (CDFG, 4 p., abundant, 3 at 3.2-4.4 in. FL); **Bear Ck., 400 yd. reach above Sand Hill Rd. crossing**, 15/Jul/1976, electrofishing survey (CDFG, 4 p., 1: 5.9 in. FL);

**SAN MATEO CREEK WATERSHED (San Mateo): San Mateo [Ck.]**, likely collected between 1854-1860, A. Agassiz (MCZ 13776, 1, 13777, 2);

**ARROYO CORTE MADERA DEL PRESIDIO CREEK (Marin): Arroyo Corte Madera del Presidio, at Locust Rd. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 5: 60-128 mm TL;

**CORTE MADERA CREEK WATERSHED (Marin): Corte Madera Ck., 0.5 mi. above Ross** (CAS: 2: 30-37); **Corte Madera Ck., couple of miles downstream from Lagunitas Rd., bridge, just W. of Ross City Hall**, 1/Nov/1963 (San Francisco State College, 36); **Corte Madera Ck., between San Anselmo and Ross, at bridge near firehouse in Ross**, 15/May/1965 (San Francisco State College, 1, also as CAS, 2: 30-37 mm SL); **Corte Madera Ck., bridge at Ross**, 9/Oct/1967 (San Francisco State College, 4: 30-80 mm SL); **Corte Madera Ck., at Ross, downstream from bridge**, 7/Oct/1968 (San Francisco State College, 4: 40-73 mm SL); **Corte Madera Ck., Lagunitas Rd. bridge in Ross**, 27/Sept/1971 (San Francisco State College, 1: 88 mm SL); **Corte Madera Ck., bridge near Ross fire house off Sir Francis Drake Blvd.**, 24/Sept/1973 (San Francisco State College, 1); **Corte Madera Ck., 0.5 mi. above Ross** (CAS, 2, in Hopkirk 1973, 93); **Corte Madera Ck., immediately downstream from Madrone Dr. bridge**, 18/Sept/1981, R. Leidy and P. Fiedler, 1: 88 mm TL; **Corte Madera (Fairfax) Ck., at Marin Rd. bridge in Fairfax**, 18/Sept/1981, R. Leidy and P. Fiedler, 2: 70-96 mm TL;

**SAN RAFAEL CREEK WATERSHED (Marin): San Rafael Ck., along 1<sup>st</sup> St., between D St. and E St., San Rafael**, 18/Sept/1981, R. Leidy and P. Fiedler, 2: 61-86 mm TL;

**MILLER CREEK WATERSHED (Marin): Miller Ck., at Bridge 27-04 on Highway 101** [Sta.] No. 1, 19/Jul/1945, D. A. and H. Simpson (CAS 12992, 175, juv., one-fourth grown);

**NOVATO CREEK WATERSHED (Marin): Novato Ck., at**

**7<sup>th</sup> St., bridge**, 16/Sept/1981, R. Leidy and P. Fiedler, 2: 110-132 mm TL; **Warner Ck., at McClay Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 1: 72 mm TL; **Warner Ck., at Diablo Rd. bridge**, 17/Sept/1981, R. Leidy and P. Fiedler, 1: 170 mm TL;

**PETALUMA RIVER WATERSHED (Sonoma): Petaluma**, 1859, E. Samuels (UMMZ 171133, 1: 74 mm SL, not a cotype of *Cottopsis parvus* for original description lists "Presidio, Calif" as only locality); **"Petaluma, Cal"**, likely collected 1855 or 1859, E. Samuels (USNM 8305, 25); **"Petaluma, Cal"**, likely collected 1855 or 1859, E. Samuels (USNM 296, 4); **"Petaluma"**, likely collected in 1855 or 1859, [E.] Samuels (MCZ 13765, 6); **Petaluma River, mouth near San Francisco Bay**, 12/Dec/1970, M.R. Brittan and class (SSU, no. 366-1, 1: no size); **Black Jones Slough, 1 km. From mouth to Petaluma River**, 8/Mar/1974, Baker, Breitenbach, Drake and Caywood (SSC Sta. No. MLC-49-74, 14: 86-119 mm, also as LACM 24958); **Petaluma River, downstream from lower end of Cut B (below bouy 4)**, 28/May/1974, Caywood, Drake and Jones (SSC Sta. No. MLC-160-74, 1: 111 mm); **Petaluma River, upstream from start of Cut B**, 28/May/1974, Caywood, Baker and Jones (SSC Sta. No. MLC-161-74, 1: 118 mm); **Petaluma River, approximately 1 km. below Hwy. 101 bridge**, 28/May/1974, Caywood, Baker and Jones (SSC Sta. No. MLC-162-74, 5: 113-132 mm); **Petaluma River, from 700 m below Hwy. 101 bridge downstream approximately 1300 m**, 26/Apr/1974, Caywood and Baker (SSC Sta. No. MLC-125-74, 1: 151 mm); **Petaluma River, down from lower end of Cut B**, 26/Apr/1974, Caywood and Baker (SSC Sta. No. MLC-126-74, 2, LACM 24959); **Petaluma River, Black Jones Slough (going past the radio station, Marin Co.)**, 26/Apr/1974, Caywood and Baker (SSC Sta. No. MLC-129-74, 96-171 mm);

**SONOMA CREEK WATERSHED (Sonoma): Sonoma Ck., 0.5 mi. along Warm Springs Rd. from junction with Hwy. 12 (Kenwood)**, 14/Sept/1981, R. Leidy and P. Fiedler, 3: 42-96 mm TL; **Carriger Ck. (Rd.), 0.5 mi. S. of junction with Canyon Rd.**, 14/Sept/1981, R. Leidy and P. Fiedler, 2: 42-57 mm TL;

**NAPA RIVER WATERSHED (Napa): Napa River** (Snyder 1908b); **Napa River, below Imola Ave. (West) bridge at Holiday Harbour boat dock, Napa**, 30/May/1963, J. D. Hopkirk, J. T. Shimizu and A. Ota (CAS 23273, 3: 76-97 mm SL); **Napa River, near mouth of Tulucay Creek**, 26/May/1965, J. D. Hopkirk (CAS 24716, 5: 21.5-37.4 mm SL);

**Napa River, 200 yds downstream from Hwy 20(12) xing, at SE edge of Napa, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15186, 1, adult); Napa River marshes, Dutchman Slough (N-1), below bridge, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 2 specimens total: no size); Napa River marshes, South Slough (N-2), above duck club, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 3 specimens total: no size); Napa River marshes, Devil's Slough (N-3), above bridge, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1 specimen total: no size); Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 1 specimen total: no size); Napa Ck., at Jefferson St. bridge, Napa, 12/Sept/1981, R. Leidy and P. Fiedler, 3: 35-82 mm TL; Tulucay Ck., at 4<sup>th</sup> Ave. bridge, 12/Sept/1981, R. Leidy and P. Fiedler, 2: 37-44 mm TL; Milliken Ck., immediately upstream from West Trancas Rd. bridge, 12/Sept/1981, R. Leidy and P. Fiedler, 11: 36-85 mm TL; Sarco Ck., immediately upstream from Hwy. 121 bridge, 12/Sept/1981, R. Leidy and P. Fiedler, 4: 40-75 mm TL;**

**GREEN VALLEY CREEK WATERSHED (Solano): Green Valley Ck., at S.P.R.R. bridge (5 ft. elevation), T4N, R2W, S7, 2/Oct/1981, R.A. and G.R. Leidy, 5: 47-83 mm TL; Green Valley Ck., at Interstate 80 bridge, T4N, R3W, S1, 2/Oct/1981, R.A. and G.R. Leidy, 12: 35-80 mm TL;**

**SUISUN CREEK WATERSHED (Solano): Suisun Ck., off Gordon Valley Rd., just below Lake Curry, 10/Aug/1972, P.B. Moyle (UCDPM, 72-12, 1); Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys (CDFG, 4 p., notes "...common, especially from Morrison Lane Bridge downstream. Individuals were caught up to 5 in. in length."); Suisun Ck., at immediately downstream from Cordelia Rd. crossing, 2/Oct/1981, R.A. and G.R. Leidy, 13: 32-83 mm TL;**

#### ***Cottus gulosus* (riffle sculpin)**

**SAN FRANCISCO: Presidio, as *Cottopsis parvus*, W. P. Trowbridge (Girard 1858: 54);**

**SAN LEANDRO CREEK WATERSHED (Alameda/Contra Costa): West Branch San Leandro Ck., from concrete drop structure near entrance to Moraga Country Club downstream 100 ft., 15/Aug/1974, electrofishing survey (CDFG, 7 p., authors note: likely *Cottus asper*, not *C. gulosus* 2: 2.0-2.5 in. TL); North Branch San Leandro Ck., between road crossings adjacent to firehouse on Moraga Way, 15/Aug/1974, electrofishing survey (CDFG, 7 p., authors note: likely *Cottus asper*, not *C. gulosus* 1: 1.5 in. TL);**

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Alameda Ck., 15/Sept/1934, San Francisco Aquarium Society (CAS 6840, 2); Alameda Ck., junction with Calaveras Ck., 19/May/1938, L. Shapovalov (CAS 24720, 1: 56 mm SL);**

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., likely collected 1898, J. O. Snyder (USNM 75405, 37); Coyote Ck., likely collected late-1890s based on SU catalog number (CAS 104544, prev. no. SU 4544); [Coyote Ck.], "near Newark, Calif.", likely collected in late-1890s based on SU catalog number, [C. H.] Gilbert and Thoburn (CAS 104545, 1); Coyote Ck., San Jose (inside city), 1/Oct/1922, C. L. Hubbs (UMMZ 63397, 6: 35-39 mm SL); Upper Coyote Ck., in canyon east of the town of Madrone, 1926-1927, D. H. Fry (Fry 1936: 66-67); Penitencia Ck., just outside of western boundary Alum Rock Park, in T6S, R1E, Sec. 24, 24/Jul/1953, T. J. Merkel (CAS 20988, 1: 25 mm SL); Penitencia Ck., at Piedmont Rd. crossing, 24/Jul/1953, T.J. Merkel (CAS 20986: 2); Coyote Ck., 7/Mar/1972, R.L. Hassur (SJSU); Coyote Ck., upper half, Coe State Park (Guzzetta 1974: 28); Coyote Ck., middle and lower, Coe State Park (Guzzetta 1974: 28); Penitencia Ck., from Alum Rock Park bridge to immediately downstream, 12, 13, 17/Jun/1975, visual survey (CDFG, 12 p., observed: no numbers or size); Coyote Ck., middle fork, Coe State Park, 1972-1977 (Scoppettone and Smith 1978: 63); Penitencia Ck., Alum Rock Park, 1972-1977 (Scoppettone and Smith 1978: 63); Coyote Ck., Gilroy Hot Springs, 14.4 km upstream from Coyote Reservoir Dam, 6/1977 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman 1982, p. 73); Upper Penitencia Ck. at mouth, Jun/1978, Sept/1979, Apr/1980 and Jul/1980, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); Upper Penitencia Ck., below falls, Sept/1979, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); Upper Penitencia Ck. at Mineral Springs, Sept/1979,**

electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck. at Alum Rock**, Sept/1979, electrofishing and seining survey (Pitt and Bozeman, 1982, p. 73); **Upper Penitencia Ck., at B.M. 332, approx. 0.6 km upstream from intersection of Dutard and Penitencia Ck. rds.**, 11/Aug/1981, R. Leidy and P. Fiedler, 3: 55-86 mm TL; **Coyote Ck., approx. 6.25 mi. E. on Gilroy Hot Springs Rd. from intersection with Canada Rd.**, 5/Set/1981, R. Leidy and P. Fiedler, 10: 36-50 mm TL;

**GUADALUPE RIVER WATERSHED (Santa Clara):** **Guadalupe Ck., in the hills about two miles north of the town of Almaden**, 1926-1927, D. H. Fry (Fry 1936: 67); **Guadalupe Ck., Kelsey Pond, Coleman Ave. and Hicks Rd.**, Apr/1954 (SJSU, GD-1); **Guadalupe Ck.**, 1955 (SJSU, GD-3); **Guadalupe Ck.**, 29/Oct/1957 (SJSU, GD-7); **Guadalupe Ck., two stations along Hicks Rd., 1) approximately 2 mi. downstream from Guadalupe Dam, 2) approximately 3 mi. downstream from Guadalupe Dam, Secs. 19 & 30, T8S, R1E**, 14/Nov/1975, electrofishing survey (USFWS, 1 p., present); **Guadalupe R., at Camden Ave.**, 26/Aug/1981, R. Leidy and P. Fiedler, 1: 63 mm TL; **Guadalupe R., at USGS gauging sta. at Hicks Rd.**, 26/Aug/1981, R. Leidy and P. Fiedler, 5: 27-88 mm TL, 1 at 122 mm TL (gravid); **Guadalupe R., 50 m downstream from Guadalupe Dam**, 26/Aug/1981, R. Leidy and P. Fiedler, 10: 35-70 mm TL; **Guadalupe R., 20 m upstream from uppermost crossing of Hicks Rd.**, 26/Aug/1981, R. Leidy and P. Fiedler, 4: 48-68 mm TL; **Rincon Ck., 50 m upstream from confluence with Guadalupe R.**, 26/Aug/1981, R. Leidy and P. Fiedler, 3: 41-52 mm TL; **Los Gatos Ck., immediately upstream from confluence with Hooker Gulch Ck. on Aldercroft Rd.**, 6/Sept/1981, R. Leidy and P. Fiedler, 4: 27-47 mm TL; **Hooker Gulch Ck., immediately upstream from confluence with Los Gatos Ck. on Aldercroft Rd.**, 6/Sept/1981, R. Leidy and P. Fiedler, 2: 41-44 mm TL; **Los Gatos Ck., 20 m upstream from Wrights Station Rd. crossing, 2 km S. of Wrights site**, 6/Sept/1981, R. Leidy and P. Fiedler, 2: 72-81 mm TL; **Austrian Gulch, approx. 25 m upstream from bridge over ck., which flows into N.E. arm of Lake Elsmar**, 6/Sept/1981, R. Leidy and P. Fiedler, 26: 325-59 mm TL;

**SAN FRANCISCO CREEK WATERSHED (Santa Clara/San Mateo):** **"Streams of the Coast Range in California, south to Point Conception, San Francisquito Creek"** (Jordan and Evermann 1898: 1944); **San Francisquito Creek**, likely collected in late 1890s

based on SU catalog number, Zoology Club (CAS 105514, 1, prev. no. SU 5514); **Lake Lagunita, Stanford University**, 2/Jun/1954, G. S. Meyers (CAS 159851, 1); **Los Trancos Ck., 25 m downstream from Arastradero Rd. crossing, at Felt lake diversion**, 16/Aug/1981, R. Leidy and P. Fiedler, 4: 43-62 mm TL;

**SAN MATEO CREEK WATERSHED (San Mateo):** **San Mateo Ck.**, type locality, as *Cottopsis gulosus* (Girard 1854: 129); **"San Matteo Cr. Cal"**, likely collected mid-1800s, R. D. Cutts (USNM 290, 2);

**CORTE MADERA CREEK WATERSHED (Marin):** **Corte Madera Ck., couple of miles downstream from Lagunitas Rd., bridge, just W. of Ross City Hall**, 37°, 51', 45" N, 122°, 32', 35" W, 1/Nov/1963 (San Francisco State College, 4);

**PETALUMA RIVER WATERSHED (Sonoma):** **"Vitaluma"[Petaluma]**, likely collected in 1855, E. Samuel[s] (ANSP 12011, 2); **Petaluma**, as *Cottopsis parvus*, E. Samuels (Girard 1858: 54); **Willow Brook Ck.** (J.D. Hopkirk, Professor, Emeritus, Sonoma State University, personal communication, 1981);

**SONOMA CREEK WATERSHED (Sonoma):** **Sonoma Ck., 0.5 mi. down Warm Springs Rd. from junction with Hwy. 12 (Kenwood)**, 14/Sept/1981, R. Leidy and P. Fiedler, 2: 45-121 mm TL; **Yulupa Ck., 0.25 mi. upstream on Bennett Valley Rd. from junction with Warm Springs Rd. (T6N, R6W, S7-8)**, 14/Sept/1981, R. Leidy and P. Fiedler, 3: 40-72 mm TL;

**NAPA RIVER WATERSHED (Napa):** **Napa R., Napa**, 31/Mar/1894, G. B. Culver (CAS 105182, 1); **"Napa Crk. [River], Calistoga, Cal."**, possibly collected in 1897 by C. H. Gilbert (USNM 58097, 39); **Napa River, Rutherford and Calistoga** (Snyder 1908a: 160, likely recorded circa 1897 by C.H. Gilbert and party); **Moore Ck., at Greenfield Ranch, 1.5 mi. above junction with Chiles Creek**, 30/Jul/1945, B. Curtis (CAS 20938, 5: 44-58 mm SL); **Moore Ck.**, 10/Aug/1945, CDFG (CAS 20943, 12: 55-95 mm SL); **Sage Ck.**, 15/Jul/1950, H. E. Pintler (CAS 23087, 3: 38-69 mm SL); **Napa River, Tamagni Bridge**, 1981 (CAS 49113, 3); **Conn Ck., 1.5 mi. upstream from Lake Hennessy**, 9/Sept/1981, R. Leidy and P. Fiedler, 15: 27-61 mm TL; **Conn Ck., at milepost 8.07 E. on Hwy. 128**, 10/Sept/1981, R. Leidy and P. Fiedler, 2: 34-41 mm TL; **Spencer Ck., at Wildhorse Valley Rd. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 3: 43-54 mm TL; **Murphy Ck., at Shadybrook Ln. bridge**, 12/Sept/1981, R. Leidy and P. Fiedler, 3: 40-50 mm

TL; **Milliken Ck., at Westgate Dr. immediately before Milliken Dr.**, T6N, R4WQ, S24, 12/Sept/1981, R. Leidy and P. Fiedler, 5: 27-40 mm TL;

***Cottus aleuticus* (coastrange sculpin)**

**SAN FRANCISCO BAY REGION:** "It [*i.e.*, *C. aleuticus*] is not present in the Central Valley, but is present in streams of the San Francisco Bay region." Hopkirk (1973: 104);

**PETALUMA RIVER WATERSHED (Sonoma):** **Petaluma R., Lakeville Hwy bridge**, 19/Aug/1980, (CDFG, Yountville, Stream Survey Files, collected in fish kill, 4 p.);

**NAPA RIVER WATERSHED (Napa):** **Moore Ck., at Greenfield Ranch, 1.5 mi. above junction with Chiles Ck.**, 30/Jul/1945 (Curtis 1945a, 4, 5 specimens: juveniles); **Conn Ck., from B.B. Ranch, downstream 3 mi.**, 31/Jul/1945, B. Curtis, determined by L. Shapovalov, CDFG, 2: juveniles (see Curtis 1945a, 4); **Moore Ck., pools one-fifth mi. above mouth and on Greenfield Ranch**, 10/Aug/1945 (Curtis 1945b, 5, 12 specimens: adults and juveniles); **Conn Valley Reservoir and its tributaries** (Murphy 1949, 4);

***Leptocottus armatus* (Pacific staghorn sculpin)**

**SAN FRANCISCO:** **San Francisco**, 1856-1862, T. G. Cary (MCZ 13756, 4: 110-189 mm SL; 13757, 1: 96 mm SL; 13758, 6: 61-120 mm SL); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 13759, 1: 110 mm SL; 13760, 6: 22695, 1); **San Francisco**, likely mid-1800s, [Lt.] Williamson (USNM 310, 4, type; MCZ 36019, 1, syntype); **San Francisco**, received mid-1800s, Smithsonian via BSNH (MCZ 31482, 1); **San Francisco**, may/1899, S. E. Meek (FMNH 2729, 5);

**SAN FRANCISCO BAY:** **San Pablo Bay, Calif.**, 5/Aug/1935, J. E. Lynch (USNM 103612, 15); **Carquinez Straits (north shore) at Benicia, within 400 yds of end of West 3<sup>rd</sup> Street**, 28/Jun/1967, C. and D. Swift (FLMNH 15202, 1, juv. scarce);

**NAPA RIVER WATERSHED (NAPA):** **Napa River, upstream from Bull Island**, 20/May/1976, gill net survey (CDFG, Stream Survey Files, Yountville, 2 p., 1: 150 mm FL); **Napa River marshes, Dutchman Slough (N-1), below bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 117 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery

Project Files, Stockton, several rpts., 125 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 31 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 109 specimens total: no size);

**CENTRARCHIDAE (SUNFISH)**

**Unidentified Centrarchidae (sunfish sp.)**

**SAN FRANCISCO (San Francisco):** **San Francisco**, 1857, T. G. Cary (MCZ 3346, 6);

***Archoplites interruptus* (Sacramento perch)**

**SAN FRANCISCO (San Francisco):** **San Francisco**, 1853, Kennerly and Heerman (MNHN 0278, 1, paralectotype); **San Francisco**, 1857, T. G. Cary (MCZ 154206, 1: 140 mm SL); **San Francisco**, 1859 or 1860, A. Agassiz (MCZ 9582, 1; 9608, 5; 9609, 4); **San Francisco**, Dr. Kennerly, as *Ambloplites interruptus* (Girard 1858: 10); **San Francisco**, 1/June/1860, T. G. Cary (MCZ 9595, 3); **San Francisco**, likely collected mid-to-late 1800s, Needham? (CAS 20610, 1, orig. no. IU 7725); "**Sacramento River San Francisco, Cal.**," listed as *Centrarchus interruptus*, likely collected mid-1800s, Heermann (USNM 280, 2, collected in Sacramento River and brought to San Francisco, syntype); **San Francisco [likely collected from Sacramento River during 9/1872]**, Hassler Expedition (MCZ 25248, 1, as *Centrarchus interruptus*; 25710, 1; 9581, 6); "**San Francisco, Cal.**," likely collected in 1880, D. S. Jordan (USNM 27137, 2); **[San Francisco]**, 1907, H. W. Fowler (author), *Some New and Little Known Percoid Fishes*, Proc. Acad. Nat. Sci. Phil. 58: 514, paralectotype; **San Francisco market**, likely collected late-1800s to early-1900s, California Fisheries Commission (CAS 112040, 1); "**San Francisco, CA**", no date, (Indiana University 7724, 7725, 1106, housed as CAS); **Lake Merced, San Francisco**, 23/Jul/1942, B. Curtis (CAS 20913, 7); **Lake Merced, San Francisco**, 22/Oct/1949, J. Springer (CAS 20608, 16: juveniles; KU 12881, 4); **Middle Lake [Merced?]**, 1955, CDFG records (listed as present and introduced by Aceituno and Nicola 1976b, 249); **South Lake Merced (large lake)**, 19/Apr/1962, J.E. Reeves (CAS Acc. 1950-III:31, 23: 18-28 mm SL);



**SAN FRANCISCO BAY: San Francisco Bay**, 3/Feb/1862 (Ayres 1854-1862: 163); **"Mare Isl., Cal."**, 16/Apr/1890, C. H. Townsend (USNM 67328, 1); **Mare Island** (Evermann and Latimer 1910: 137);

**MARSH CREEK WATERSHED (Contra Costa): "John Marsh State Historic Park, W. of Brentwood, Contra Costa Co."**, A.D. 1000-1500, archeological site CCO-18 (Gobalet 1992: 76-77);

**WALNUT CREEK WATERSHED (Contra Costa): "Tice [Creek] Valley, Rossmore, Walnut Creek, Contra Costa Co."**, A.D. 1400-1500, archaeological site CCO-309 (Gobalet 1992: 76-77, 81);

**WILDCAT CREEK WATERSHED (Contra Costa/Alameda): Lake Anza**, 27/Mar/1953, original introduction (Mathews 1962, p. 5, refer to P. Needham, U.C. Berkeley, Zoology 138 field trip notes, 1 p., states that "The lake was allowed to lie fallow over the winter of 1952-53 and on March 27, 1953, 77 adult Sacramento perch were planted."); **Lake Anza**, 5/Jun/1953, Freihofer, Flinttner and Weitzman (CAS Acc. 1964-XI: 13, 14: 16-34 mm); **Lake Anza**, 11/Jul/1953, P. Needham and party (CAS 149311, 9: juveniles; 59062, 53: juveniles); **Lake Anza**, 7/Nov/1953, seine (Mathews 1962, p. 8, 22: small); **Lake Anza**, 17/Nov/1953, seine survey (P. Needham, U. C. Berkeley, Zoology 138 field trip notes, 1 p., 288: 15-47 mm SL); **Lake Anza**, 20/May/1954, seine survey (P. Needham, U. C. Berkeley, Zoology 138 field trip notes, 1 p., 207: 22-90 mm SL); **Lake Anza**, 22/Nov/1954, P. Needham and Zool. 116 class (CAS 149312, 3: adults); **Tilden Park, Lake Anza**, 22/Aug/1955 (CAS 31328, 79: juveniles); **Lake Anza**, 1955, CDFG records (listed as present and introduced by Aceituno and Nicola 1976b, 249); **Lake Anza, Tilden Regional Park**, 29/Jun/1956, M. Bradbury and W. C. Freihofer, S. Weitzman (UMMZ 210298, 15: 18-29 mm SL; CAS 47375, 23; 163676, 36: juveniles; 163677, 36: juveniles); **Lake Anza**, 29/Jun/1956, M. Bradbury, W. Freihofer and S. Weitzman (CAS 47375, 23: adults); **Lake Anza**, likely collected in 1956, Freihofer, Freimaier and MacDaniels (ANSP 97316, 13); **Lake Anza**, Apr-May/1961, hook-and-line (Mathews 1962, p. 8, several: no size, not part of subsequent collection); **Lake Anza**, 5/61-4/62, hook-and-line, gill net, minnow seine (Mathews 1962, p. 56, 246 total: sample of 206 estimated length at time of annulus formation: 57-106 mm FL); **Lake Anza (Tilden Regional Park)**, 22/Aug/1961, T. Iwamoto (CAS, 3: adults); **Lake Anza**, 3/Feb/1964, R. J. Angel (CAS 24702, 4: 109-128 mm SL); **Tilden Regional Park, Lake Anza**, 29/Jun/1956,

M. Bradbury, W. Freihofer and S. Weitzman (FMNH 74365, 15; 88334, 15);

**ALAMEDA COUNTY NEAR EAST SIDE OF SAN FRANCISCO BAY: Vicinity of Oak Knoll Naval Hospital, Oakland, 37°45'45" N., 122°8'22"W., early Pleistocene (Irvingtonian land mammal) age, (Casteel and Adam 1977, 213-214);**

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Arroyo de la Laguna, west of the intersection of Interstate 680 and Bernal Avenue, in town of Pleasanton**, beginning at least 1465 B.C., archaeological site ALA-483 (Gobalet 1990b: 244-247); **Alameda Ck., just north of the confluence of Dry Ck., Union City**, 1 A.D. – 600 A.D., archaeological site ALA-453 (Schulz 1986: 3-5); **Calaveras Reservoir**, 11/May/1943, C. E. Holladay (CAS 20926, 1: 114 mm SL); **Calaveras Reservoir**, 7/Jun/1945, lake survey (CDFG, Stream Survey Files, Yountville, 2 p., states that "This is the only place in this area where Sacto. Perch are at all common...they are abundant and were first seen there about three years earlier, when "schools" were noticed about the boat landing."); **Alameda Ck., dredger ponds at Niles**, 23/Jan/1953, W. I. Follett, G. M. Peckham and party (CAS 25736, 3: adults); **Alameda Ck.**, 30/Jan/1953, G. M. Peckham and P. Reno (CAS 25739, 3: adults); **Alameda Ck., Western Pacific Railroad bridge below Niles**, 14/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26158, 65 or 69: 31-42 mm SL specimens, listed as 81 specimens in Hopkirk 1973, 83, and Follett 1974, 1: young to large young); **Alameda Ck., gravel pit pond (37°, 34', 121°, 59')**, 14/Oct/1955, W.I. Follett and G.M. Peckham (CAS, 2: young and yearling); **Alameda Ck., 0.2 mile above WPRR bridge below Niles, in pool**, 31/Oct/1955, W. I. Follett and G. M. Peckham (CAS 26164, 1: 207 mm SL, see also Follett 1974, 2: listed as also including 82 young to adult); **Alameda Ck., Alameda Ck., gravel pit ponds near Niles, and Calaveras Reservoir**, 1955, CDFG records (listed as present and introduced by Aceituno and Nicola 1976b, 249); **Alameda Ck., Niles, opposite California Nursery Co. pool**, turbid water, 25/Mar/1957, W. I. Follett and G. M. Peckham (CAS 26724, 4: 104-169 mm SL); **Alameda Ck., at Niles Sand and Gravel Co. pool**, 22/Apr/1957, W. I. Follett and G. M. Peckham (CAS 26729, 3: 92-106 SL); **Alameda Ck., 0.4 mi. above old Hwy. 17 bridge, 0.2 mi. above bridge of new fwy.**, 21/Jul/1957, W. I. Follett and G. M. Peckham (CAS 26288, 52: 26-189 mm SL); **Alameda Ck., just above bridge of new fwy**

near Niles, 21/Jul/1957, W. I. Follett and G. M. Peckham (CAS 26292, 9: 27-120 mm SL); **Alameda Ck., near Niles nursery**, 31/Oct/1958, W. I. Follett and G. M. Peckham (CAS 26371, 14: 35-170 SL); **Alameda Ck., ca. 100 yds. below SPRR bridge below Niles**, 31/Oct/1955, W.I. Follett and G.M. Peckham (CAS, Acc. 1955-X: 31, several large young); **Alameda Ck., 0.2 mi. above WPRR bridge below Niles**, 31/Oct/1955, W.I. Follett and G.M. Peckham (CAS, 82: young to adult); **Alameda Ck., tributary, Lowry Rd. and S.P.R.R. railroad bridge, two mi. SE of Alvarado**, 22/Feb/1966, J. D. Hopkirk and party (CAS 24701, 1: 86 or 88 mm SL); **Alameda Ck., at Niles**, 22/Feb/1966, R. Lea, Kuris, Nolfi, Butz, and J.D. Hopkirk (CAS Acc. 1966-VI:20, 1: 39 mm SL); **Alameda Ck., Niles Canyon, picnic ground at railroad bridge**, 20/Feb/1972, W.I. Follett (Follett 1974, 3, 1: dead); **Alameda Ck.** (lat. 37°, 34', long. 121°, 59', elevation 12 m), 20/Jun/1973 (Aceituno *et al.* 1976: 199, 19: 71-199 mm FL); **Alameda Ck., at Fiber Dam below BART tracks**, 20/Jun/1973, Aceituno and Caywood (LACM 24825, 6: 53.5-155.5 mm FL); **Alameda Ck. and Calaveras Reservoir**, 1973, CDFG records (listed as present and introduced by Aceituno and Nicola 1976b, 250); **Alameda Ck., Castlewood Rd.**, 1972-1977 (Scoppettone and Smith 1978: 64); **Arroyo de la Laguna Ck., downstream from Castlewood Rd.**, 4/Feb/1976, CDFG (refer also to Scoppettone and Smith 1978: 64), 1: 162 mm FL; **Alameda Ck., 200 yd. reach adjacent to and downstream from the USGS Niles gauging station**, 8/May/1976, electrofishing survey (Chabot College Ecology 40-84 class and J. Smith, 2 p., 1: 199 mm FL); **Grau Pond, Niles District of Fremont**, 30/Aug/1976, gill net and seine sampling (CDFG, 14 p., 9: 3.5-10.5 in. FL); **Kaiser B Pond, Niles District of Fremont**, 2/Sep/1976, gill and net sampling (CDFG, 14 p., 4: 8.3-11.3 in. FL); **Alameda Ck., opposite USGS gauging station, below spillway, Niles Canyon** (T4S, R1E, S7), 1/Oct/1981, R. Leidy and P. Fiedler, 1: 42 mm FL;

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., San Jose (inside city)**, 1/Oct/1922, C. L. Hubbs (UMMZ 63336, 19: 22-35 mm SL); **[Coyote Ck.], "San Jose"**, 1/Oct/1922, C. L. Hubbs (ANSP 85445, 1); **Coyote Ck., between Milpitas and Alviso**, 24/Oct/1922, C. L. Hubbs (UMMZ 63335, 1: 36 mm SL); **Coyote Ck., at bridge opposite Milpitas**, 16/Oct/1932, W.I. Follett and party (Follett 1974, 3: seined, no number given); **Coyote Ck.**, 7/Mar/1959, memorandum on fish collection (CDFG, 2 p., SJSU, CD-16); **Santa Teresa Park pond**, 23, 24, 28/Oct/1969,

beach seine (SJSU, Zoology 151 class, 4 p., 1: 10 5/8 in. TL); **SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/San Mateo): "Franetequita [San Francisquito] Creek"**, 30/Apr/1860, A. Agassiz (UMMZ 87164, 1: 146 mm SL); **"Francisquita [San Francisquito] Creek"**, likely 30/Apr/1860, A. Agassiz (MCZ 9605, 4);

**MISCELLANEOUS SANTA CLARA COUNTY LOCATIONS: Santa Cruz Mtns., W. of Saratoga, near Saratoga Ck. (site M-1219)**, Plio-Pleistocene (Blancan) age, as *Archoplites* (Casteel 1978, 296);

**SONOMA CREEK WATERSHED (Sonoma): Sterling Ranch pond**, 1973, CDFG records (listed as present and introduced by Aceituno and Nicola 1976b, 250);

**NAPA RIVER WATERSHED (Napa): Napa River, west bank Napa River on the northern edge of the City of Napa**, ca. 2000 ybp, archaeological site CA-Nap-261 (Schulz 1978, p. 8.2-8.4, 1 individual); **Lester B. Hard Ranch pond**, 1973, CDFG records (listed as present and introduced by Aceituno and Nicola 1976b, 250); **Napa River marshes**, Feb/1976, 4 tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 12 specimens total);

EMBIOTOCIDAE (SURFPERCH)

***Hysterocarpus traskii* (tule perch)**

**SAN FRANCISCO (San Francisco): "Freshwaters of our State"**, as *H. traskii* (Lockington 1879: 29); **San Francisco, W. end of North Lake of Lake Merced, in tubes**, 8/Apr/1976, A. Castro (CAS 36001, 6); **Lake Merced**, 14/Jun/1976, Mr. Demosthenes (CAS 36833, 1); **North Lake Merced**, Apr/1977, electrofishing survey (CDFG, 2 p., no number: 2.8-4.5 in. FL); **North Lake Merced**, 12/Apr/1979, electrofishing survey (CDFG, 2 p., 27: 4.4-5.8 in. FL);

**SAN FRANCISCO BAY: "Streams flowing into San Francisco Bay"** (Snyder 1905, 1908b, as cited in Hopkirk 1973: 87); **Dutton Island, Solano Co.**, 20/Jul/1957, W.I. Follett and G.M. Peckham (CAS 26280, 260: 35-63 mm SL); **Hastings Slough, near Port Chicago [Contra Costa Co.]**, 21/Oct/1962, D. Stevens (CAS 23949, 1: 62 mm SL); **Carquinez Straits (north shore) at Benicia, within 400 yds of end of West 3<sup>rd</sup> Street**, 28/Jun/1967, C. and D. Swift (FLMNH Field No. CCS67-96, 1: 4");

**ALAMEDA CREEK WATERSHED (Alameda/Santa Clara): Arroyo de la Laguna, west of the intersection of Interstate 680 and Bernal Avenue, in town of Pleasanton**, beginning at least 1465 B.C., archaeological site ALA-483 (Gobalet 1990b: 246); **Alameda Ck., Sunol,**

15/Jun/1898, J.O. Snyder (FMNH 2597, 27: 2 adults and 25 young; 2600, 4; J.D. Hopkirk, Professor Emeritus, Sonoma State University, personal communication, 1981); **[Alameda Ck., Alameda Co., likely late-1890s based on SU catalog number (CAS 105003, 1, prev. no. SU 5003); Alameda Ck., Sunol, 1898, J.O. Snyder (CAS 105929, 1, prev. no. SU 5929); Alameda Ck. (Snyder 1905: 337); Alameda Ck., immediately below dam in Niles Canyon, 24/Jul/1927, W.I. Follett (Follett 1974, 1: as "...several large viviparous perch, and many small ones", also cited as CAS Acc. 1927); Alameda Ck., immediately below dam in Niles Canyon, 31/Jul/1927, W.I. Follett (Follett 1974, 1: as "...caught 2 viviparous perch...; dip netted several more", photograph of one of these fish in Tarp 1952: fig. 29); Alameda Ck., Sunol (Tarp 1952: 80); Alameda Ck., 9/Sept/1934, San Francisco Aquarium Society (Seale 1934: 152); Arroyo de la Laguna Ck., 100 ft. reach located between 225 and 325 ft. downstream from Castlewood Rd. bridge, 4/Feb/1976, electrofishing survey (CDFG, Stream Survey Files, Yountville, 3 p., 1: 165 mm FL); Kaiser B Pond, Niles District of Fremont, 2/Sep/1976, gill and net sampling (CDFG, Stream Survey Files, Yountville, 14 p., 4: 4.1-4.7 in. FL); Alameda Ck., BART crossing, 1977 ("abundant", J. Smith, Professor, San Jose State University, personal communication, 1981); Alameda Ck., below spillway opposite USGS gauging station, Niles Canyon (T4S, R1E, S7), 1/Oct/1981, R. Leidy and P. Fiedler, 1: 115 mm FL;**

**COYOTE CREEK WATERSHED (Santa Clara): Coyote Ck., near San Jose, Cal., 25/Sept/1895, Heath and Abbott (CAS 105007, 19, also as SU 5007, 20); Coyote Ck., Santa Clara Co., likely collected in 1890s based on SU catalog number (CAS 105004, 1, prev. no. SU 5004); Coyote Ck., San Jose, likely collected in 1890s (MNHN 1901 0241, 1; 1901 0242, 1); "Rivers of central California, chiefly in the Sacramento Valley, from Lake County to Santa Clara County, locally abundant" (Jordan and Evermann 1900: 1496); Coyote Ck., near mouth and San Jose (Snyder 1905, 337-338); Coyote Ck., San Jose (inside city), 1/Oct/1922, C. L. Hubbs (UMMZ 63287, 19: 43-74 mm SL, cited in Hopkirk 1973: 84, as 17 specimens: 43-71 mm SL); Coyote Ck., San Jose (in city), 1/Oct/1922, C.L. Hubbs (UMMZ 63392, 415: 24-74 mm SL); Coyote Ck., San Jose, 1/Oct/1922, C. L. Hubbs (ANSP 92464, 1); Coyote Ck., between Milpitas and Alviso, 24/Oct/1922, C. L. Hubbs (UMMZ 63288, 4: 53-79 mm SL); Coyote Ck., 1/Sep/1925, memorandum on fish collection (CDFG, 2 p., SJSU, CD-**

21); **Coyote Ck.** (Tarp 1952, 80, referenced as specimens examined);

**SAN MATEO CREEK WATERSHED (San Mateo): "Valley [Crystal] Springs Lake", 5/Jul/1953, N. J. Green (CAS 22782, 14; 212517, 14, also in Hopkirk 1973: 84);**

**CORTE MADERA CREEK WATERSHED: Corte Madera Ck., at mouth, J.P. Mackey and E.W. Kirschbaum (San Francisco State College, 3: 32-33 SL, as listed in Hopkirk 1973: 84); Corte Madera Ck., 1976, environmental assessment (Madrone Associates, Table 9);**

**PETALUMA RIVER WATERSHED (Sonoma): Black Point, near mouth of Petaluma River, Dec/1911, H.Z. Nidaver (SU, 1);**

**NAPA RIVER WATERSHED (Napa): Conn Ck. (Snyder 1908a: 160, likely recorded circa 1897 by C.H. Gilbert and party); Napa River, Calistoga (Snyder 1908a: 160, likely recorded circa 1897 by C.H. Gilbert and party); Napa River (Tarp 1952, p. 81); Napa River, near mouth of Tulucay Ck., 4/May/1959, P.R. Needham, J.D. Hopkirk, D.W. Seegrist, and party (CAS 22788, 122: 25-88 mm SL); Tulucay Ck., near mouth, 4/May/1959 or 1/May/1961, P.R. Needham and D.W. Seegrist (CAS 22792, 8: young adults, 24-92 mm SL); Tulucay Ck., between Imola Avenue (west) and Napa River, 16/Mar/1960, P.R. Needham, J.D. Hopkirk, Seegrist, and party (CAS 22789, 41: 90-147 mm SL); Tulucay Ck., 1/Apr/1960, Needham, Hopkirk, Seegrist, and party. (CAS 22790, 41: 91-147 mm SL); Napa River, near mouth of Tulucay Ck., 12/May/1960, J. D. Hopkirk and J. Shimizu (CAS 22800, 21: 30-132 mm SL); Mouth of Tulucay Ck., 9/Apr/1961, Needham, Seegrist and party (CAS 66761, 3); Napa River, below Imola Ave. (West) bridge, at Holiday Harbor boat dock, Napa, 30/May/1963, J. D. Hopkirk, J. Shimizu and A. Ota (CAS 23272, 13: 27-40 mm SL); Tulucay Ck., upstream from railroad bridge, south of Imola Ave. West, 26/May/1965, J.D. Hopkirk, J. Shimizu and D. H. Evans (CAS 68087, 11: 116-134 mm SL); Napa River, 0.25 mi. upstream and downstream from Tulucay Ck., at Napa's southern city limit, 26/May/1965, Hopkirk, Shimizu and Evans (CAS 212533, 47); Tulucay Ck., at Napa, 22/Apr/1966, U.C. Berkeley Zoology 138 Class (CAS 66763, 1: female, also as A.M. Kuris, R. Berta and J.D. Hopkirk, CAS, Acc. 1966-VI: 20, 10: 82-118 mm SL); Napa River, 200 yds downstream from Hwy 20(12) xing, at SE edge of Napa, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15187, 54; 65493, 53, many juv. and adults common); Napa River marshes, Dutchman Slough (N-**

**1), below bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 71 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 79 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 46 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 3 specimens total: no size); **Napa River, upstream from Bull Island**, 20/May/1976, gill net survey (CDFG, 2 p., 3: 120-170 mm FL); **Napa River, Mud Slough**, 20/May/1976, gill net survey (CDFG, 2 p., 18: 120-190 mm FL);

**GREEN VALLEY CREEK WATERSHED (Solano): Green Valley Ck., at S.P.R.R. bridge (5 ft. elevation)**, T4N, R2W, S7, 2/Oct/1981, R.A. and G.R. Leidy, 1: 100 mm FL; **Green Valley Ck., at Interstate 80 bridge**, T4N, R3W, S1, 2/Oct/1981, R.A. and G.R. Leidy, 8: 69-105 mm FL;

**SUISUN CREEK WATERSHED (Solano/Napa): Suisun Valley Creek watershed, from confluence of Wooden Valley Ck. downstream to SPRR bridge at tidewater**, 1, 9, 16/Jul and 1, 8, 22/Aug/1980, multiple visual surveys (CDFG, 4 p., notes "...present downstream from Morrison Lane Bridge.");

#### GOBIIDAE (GOBIES)

##### ***Eucyclogobius newberryi* (tidewater goby)**

**SAN FRANCISCO (San Francisco): Lake Merced**, 1/Nov/1895 (CAS 12483, 2, desiccated); **San Francisco**, May/1899, S. E. Meek (FMNH 2772, 25); **San Francisco Bay, Berkeley Aquatic Park**, "collected summer 1950" (CAS 31767, 1; see also CAS Acc. 1964: xi: 13, and Swift *et al.* 1989, p. 19); **San Francisco Bay, lagoon near Corte Madera behind Littmons Store, behind Council Crest St.**, 15/May/1958, E. W. Kirschbaum (CAS 31772, 1);

**CORTE MADERA CREEK WATERSHED: Corte Madera Ck., near Kentfield**, 10/Oct/1959, E. W. Kirschbaum and D. Rentz (CAS 26690, 2); **Corte Madera Ck., vicinity of Kentfield bridge, 50 yds downstream**, 28/Oct/1961, E. W. Kirschbaum (CAS 23685, 41: 26-34 mm SL); **Corte**

**Madera Ck.**, 1976, environmental assessment (Madrone Associates, Table 9, no specific data);

**NOVATO CREEK WATERSHED (Marin): Novato Ck., at Bridge 27-01 on Hwy 101**, 19/Jul/1945, D. A. and H. Simpson (CAS 12995, 20, [Sta.] No. 3: half grown);

##### ***Gillichthys mirabilis* (longjaw mudsucker)**

**SAN FRANCISCO: San Francisco**, received in mid-1800s (MCZ 154557, 1); "Calif.: San Francisco", 1880, D. S. Jordan (UMMZ 27197, 8); **San Francisco**, likely collected late-1800s, Dr. Heerman (ANSP 12017, 2); **San Francisco**, likely collected in late-1800s, D. S. Jordan (FMNH 7705, 1); **San Francisco**, likely collected late-1800s, U. S. Fish Commission (ANSP 12021, 1);

**SAN FRANCISCO BAY: Richardson Bay**, 25/Jun/1930, C. W. Hibbard (CAS 213701, 1); **San Francisco Bay, P.G.&E. Sta. H**, 17/May/1948, D. A. Simpson (CAS 213703, 1); **San Pablo Bay, off China Camp, Marin Co.**, 28/Aug/1952, K. F. Innes (CAS 21679, 1); **San Francisco Bay, Leslie Salt Ponds**, 8/Apr/1955, G. W. Barlow (CAS 213706, 19); **San Francisco Bay, Leslie Salt Ponds**, 13/Aug/1955, G. W. Barlow (CAS 153115, 21); **San Francisco Bay, Leslie Salt Ponds**, 9/Oct/1955 (CAS 206769, 27); **San Francisco Bay, Leslie Salt Ponds**, 8/Apr/1956, G. W. Barlow (ANSP 90035, 18); **San Francisco Bay, Leslie Salt Ponds**, 6/May/1956, G. W. Barlow, (CAS 153114, 16); **Lake Merritt**, 1963 or before, P. F. Covell (CAS 23330, 2); **Berkeley Aquatic Park**, 17/Apr/1963, J. D. Connors (CAS 213705, 3); **Sears Pt. Road, Solano Co.**, 4/Jun/1963, J. D. Hopkirk and C. C. Swift (CAS 23276, 7: 12-23 mm SL); **San Francisco Bay, Plummer Ck.**, 17/Aug/1966, P. Wild and A. Aplin (CAS 208463, 1);

**GARRITY CREEK WATERSHED (Contra Costa): Garrity Ck., approx. 0.25 mi. upstream from railroad crossing near San Pablo Bay**, 7/Jul/1981, R. Leidy and P. Fiedler, 1: 50 mm TL;

**SAN PABLO CREEK (Contra Costa): San Pablo Ck.**, 1000 B.C. – 500 A.D., archaeological sites CCO-269, -270 (Gobalet 1990a: 239-240);

**ALAMEDA CREEK WATERSHED (Alameda): Mouth of Alameda Ck. (new)**, 3/May/1975, G. Scoppettone (Sacramento State University, Ecology 40-84 field trip, 1: 4 in.); **Alameda Ck., flood control channel at crossing of Newark and Union Blvd. W. of Fremont**, 9/Jun/1981, C. Swift and B. Crabtree (LACM 42661.001, 11: 22.8-70.1 mm TL);

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara):**



**"San Francisquito Creek, N. of Stanford, Santa Clara Co."**, 1200 B.C.-1500 A.D., archaeological site SCL-464 (Gobalet 1992: 76-77, 79);

**CORTE MADERA CREEK WATERSHED (Marin): Corte Madera Ck.**, 27/Jun/1959, E. W. Kirschbaum and A. Dever (CAS 26360, 1); **Corte Madera Ck.**, 1976, environmental assessment (Madrone Associates, Table 9);

#### PLEURONECTIDAE (RIGHTEYE FLOUNDERS)

##### ***Platichthys stellatus* (starry flounder)**

**SAN FRANCISCO (San Francisco): San Francisco**, 1859 or 1860, A. Agassiz (MCZ 11267, 1; 11268, 1); **San Francisco**, May/1899, S. E. Meek (FMNH 2749, 2);

**SAN PABLO CREEK (Contra Costa): San Pablo Ck.**, 1000 B.C. – 500 A.D., archaeological site CCO-271 (Gobalet 1990a: 239-240);

**SAN FRANCISQUITO CREEK WATERSHED (Santa Clara/ San Mateo): San Francisquito Ck.**, 26/Mar/1894, Snyder and Richardson (CAS 111510, 1).

**NAPA RIVER WATERSHED (Napa): Napa River, 200 yds downstream from Hwy 20(12) xing, at SE edge of Napa**, 17/Jun/1967, C. R. Gilbert and C. C. Swift (FLMNH 15183, 11; 65496, 12, small juveniles, common); **Napa River marshes, Dutchman Slough (N-1), below bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 25 specimens total: no size); **Napa River marshes, South Slough (N-2), above duck club**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 13 specimens total: no size); **Napa River marshes, Devil's Slough (N-3), above bridge**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 19 specimens total: no size); **Napa River marshes, Hudeman Slough (N-4), near Napa Slough cutoff**, Jun/1974-Feb/1979, 4 month sampling intervals with tow and gill nets (CDFG, Bay-Delta Fishery Project Files, Stockton, several rpts., 27 specimens total: no size);.

