State of California
The Resources Agency
Department of Fish and Game

CALIFORNIA BLACK-TAILED GNATCATCHER SURVEY, 1980

by

Jonathan L. Atwood

ABSTRACT

The California Black-tailed Gnatcatcher (Polioptila melanura californica) is restricted in its United States distribution to limited areas of sage scrub vegetation located in coastal southern California. The historic range of the species has been reduced in recent years as a result of habitat loss, with presently known areas of distribution being limited to Los Angeles, Orange, Riverside, and San Diego counties. Although highly speculative, available information suggests that the United States population of California Black-tailed Gnatcatchers is approximately 1000 - 2000 breeding pairs. Since most known sites of occurrence are immediately threatened by ongoing urban and agricultural development, efforts should be made to more thoroughly assess the population's status and to preserve existing areas of sage scrub habitat known to be inhabited by the species.

Supported by Federal Aid for Endangered, Threatened, and Rare Wildlife, Project E-W-4. Job Progress Report, Job IV-37.1 (August 1981).

RECOMMENDATIONS

1. Propose the California Black-tailed Gnatcatcher for inclusion on state and federal endangered species lists.

2. Conduct additional studies to determine the precise ecological requirements of californica. These studies will not only enhance efforts to obtain accurate population estimates, but will also help in selection of appropriate stands of coastal sage scrub to receive protection.

3. Conduct censuses to further define californica's range and population level, especially in Riverside and San Diego counties.

4. Through acquisition, easement or zoning, protect remaining areas of the species' occupied habitat from urban development. The need for such protection is particularly urgent in Los Angeles and Orange counties.

INTRODUCTION

The California Black-tailed Gnatcatcher (Polioptila melanura californica) is a very distinct subspecies[1/] entirely restricted in its United States distribution to limited areas of coastal southern California west of the Transverse and Peninsular ranges (Grinnell and Miller 1944). Recent comparison of the population's historic and present ranges indicate that californica has apparently been extirpated from many pre-1960 localities of occurrence, with continuing declines expected due to rapid destruction of the species' required sage scrub habitat by urban and agricultural development (Atwood 1980). This study represents a refinement of previously presented distributional data concerning californica (Atwood 1980), and provides additional information regarding population levels and habitat preferences of the species.

METHODS

Known localities of California Black-tailed Gnatcatcher occurrence, based primarily on data presented in Atwood (1980), were visited between December 1979 and December 1980. Since Black-tailed Gnatcatchers appear to be less vocal, and hence easily overlooked, during the warm summer months, most field work was conducted during winter, spring, and fall. In addition to surveys at previously identified localities of occurrence, numerous areas with habitat approximating suitable sage scrub vegetation were checked. Information from various active field ornithologists and biologists concerning californica's current distribution was solicited and has been included in this report.

In areas where I observed Black-tailed Gnatcatchers, population estimates were made based on the number of individuals identified during the visit(s), the amount of suitable habitat present and percent which was actually searched, and observation conditions such as weather and time of day. Three factors make precise population estimates for Black-tailed Gnatcatchers extremely difficult if not impossible: 1) the species is very easily overlooked, especially when not engaged in actual nesting activities, due to inconspicuous visual and vocal displays; 2) population densitites, even in contiguous regions of uniformly suitable habitat, vary considerably, requiring direct on-site inspection of nearly every potential locality; and 3) extensive regions (at least relative to the small territory size of californica) of scrub habitat approximating the ecological requirements of the species are present in southern California. Population estimates provided here should not be regarded as census results, but "educated gueses" based on the present level of our knowledge regarding California Black-tailed Gnatcatcher ecology and distribution.

RESULTS

Habitat Characteristics

The California Black-tailed Gnatcatcher is ecologically restricted to low (usually approximately 1 m high) growths of coastal and inland sage scrub occurring on arid hillsides, mesas and washes of southern California below 2000 foot elevation. Frequently occurring plant species in this habitat

---

[1/] Ongoing investigation of vocalizations and ecologic distribution within the Black-tailed Gnatcatcher complex suggests that californica may be specifically distinct from the widely distributed desert populations (Atwood, unpubl. data). This opinion is also held by taxonomist A. R. Phillips (pers. comm.).

include California Sagebrush (Artemesia californica), California Buckwheat (Eriogonum fasciculatum), Black Sage (Salvia mellifera), White Sage (Salvia apiana), Prickly Pear (Opuntia occidentalis), Laurel Sumac (Malosoma laurina), and brittlebush (Encelia spp.). Although Artemesia and/or Eriogonum are probably the most generally characteristic plant species in californica's United States range, gnatcatcher breeding territories have been noted in areas dominated by most of the plant species listed above. Factors such as vegetation height, vegetation density and terrain (slope) may affect California Black-tailed Gnatcatcher distribution more than subtle differences in the actual plant species composition of the sage scrub habitat, but inadequate information concerning these variables is presently available.

As established pairs of californica appear to be quite sedentary throughout the year (Atwood unpubl. data), most observations of the species may be safely assumed to be in areas characterized by, or at least immediately adjacent to, suitable nesting habitat. California Black-tailed Gnatcatchers are occasionally recorded in more chaparral-like habitats or in grassland areas adjacent to sage scrub; such habitats appear to be marginal, and these observations may represent wandering, non-breeding individuals.

Distribution and Population Survey

California Black-tailed Gnatcatcher population estimates for localities known to be occupied by this species in the United States (Figures 1-5) are summarized in Appendix A. In the absence of verified post-1975 records of californica from suitable sage scrub habitat in San Bernardino and Ventura counties, I assume that the species no longer persists in these areas of historical occurrence.

I estimate approximately 400-726 pairs of Black-tailed Gnatcatchers to be present at 52 southern California sites that I visited (San Diego County, 220-419 pairs; Orange County, 107-182 pairs; Los Angeles County, 48-85 pairs; Riverside County, 25-40 pairs). These figures represent what I feel to be fairly liberal estimates; in comparison with more detailed work by other individuals at certain sites, my estimates tended to be higher than actual population levels (K. Weaver, pers. comm.). Estimates for areas reported by other observers which I was unable to visit are currently unavailable; however, I would speculate that these as well as presently unknown localitites of occurrence probably support less than 1000 pairs total. Based on present information, I see little reason to estimate the statewide population at more than 2000 pairs, even assuming that substantial areas of suitable habitat in Riverside and San Diego counties harbor undocumented populations of California Black-tailed Gnatcatchers. Certainly additional field work is needed in all portions of the species' range, especially in Riverside County and inland portions of San Diego County.

Of even greater concern than this relatively low population level is the fact that nearly all of californica's presently known areas of occurrence are severely threatened by urban and agricultural development; in fact, many of the sites documented in San Diego County were identified as the result of environmental assessments associated with planned housing developments, and some are no longer in existence. All major known localities of occurrence in Los Angeles and Orange counties are bordered by rapidly expanding urban areas and are frequently owned

by land developing corporations such as Irvine Company and Mission Viejo Company. Only on the U. S. Marine Corps Base, Camp Pendleton, are substantial populations of California Black-tailed Gnatcatchers present on publically-owned land. Given present rates of urban expansion in coastal southern California and known distributional patterns of californica, the future status of the species in the United States seems questionable.

ACKNOWLEDGMENTS

Numerous individuals contributed valuable information regarding California Black-tailed Gnatcatcher distribution in San Diego County. In particular, I wish to thank Michael U. Evans (Department of Planning and Land Use, County of San Diego), Harold A. Wier (Pacific Southwest Biological Services) and Kenneth L. Weaver; this study would have been very incomplete without their assistance. Alan M. Craig (California Deparment of Fish and Game) provided helpful editorial comments on the final manuscript.

LITERATURE CITED

Atwood, J. L. 1980. The United States distribution of the California Black-tailed Gnatcatcher. Western Birds 11:65-78.

Grinnell, J. and A. H. Miller. 1944. The distribution of the birds of California. Pac. Coast Avif. 27.

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence.

COUNTY[1]	REFERENCE NUMBER[2]	LOCALITY[3]	POPULATION ESTIMATE[4]		YEAR
VE		No known localities of recent occurrence			
SB		No known localities of recent occurrence			
OR	033	immediately W of intersection Pacific Coast Hwy and Del Obispo St; Dana Point	2(1)	3-5	1980
OR	210	between Pelican Point and Pacific Coast Hwy; Corona Del Mar	10(4)	5-10	1980
OR	215	Laguna Canyon, approx. 1.5 mi N of intersection of Laguna Canyon Rd and El Toro Rd; Laguna Beach	3(1)	5-10	1978
OR	225,233	lower portions of Buck Gully and Hopkins Canyon; Corona Del Mar	7(3)	10-25	1980
SD	229	Spooner's Mesa, Tijuana River Valley; San Ysidro (K. Hyde).	18(9)	NA	1981
SD	230	slopes N of Otay River at intersection with Otay Valley Rd; San Ysidro	1(-)	3-6	1980
SD	231	N of Procter Valley Rd at intersection with Janal Valley Rd; Sunnyside.	4(2)	5-15	1980
OR	234	Turtle Rock, approx. 1.5 mi NE of intersection Bonita Canyon Rd and Coyote Canyon Rd; Irvine	2(1)	3-6	1980
SD	243	canyon W of Darwin Dr, S of Hwy 76; Oceanside	10(4)	6-10	1980
SD	244	N of Oceanside Blvd, 2.3 mi E of intersection with El Camino Real; Oceanside	2-3(1)	5-10	1980
SD	245	E slopes of Fire Mtn, approx. 0.3 mi NE of intersection Fire Mtn Dr and El Camino Real; Oceanside	2(-)	2-4	1980

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

SD	246	NE end of Buena Vista Lagoon, N of intersection Ivy Rd and Avocado Rd; Oceanside	1(-)	1-3	1980
SD	247,248	slopes NE of Agua Hedionda Lagoon; Carlsbad	6(2)	6-12	1980
SD	253	0.5 mi E of MiraCosta College, W of Marvin Ave; Oceanside	2(1)	5-10	1980
OR	254	immediately W of intersection Victoria Blvd and Del Obispo St; Dana Point	11(5)	8-14	1980
OR	271,272	W of Sand Canyon Reservoir, E of Turtle Rock Dr; Irvine	18(6)	20-30	1980
OR	273	N of Bonita Canyon Rd, E of MacArthur Blvd, W of UC Irvine; Irvine	4(1)	3-6	1980
OR	274	slopes surrounding Bonita Reservoir; Newport Beach	4(2)	3-6	1980
OR	275	Coyote Canyon and vicinity of San Joaquin Reservoir; Newport Beach	6(2)	6-12	1980
SD	280	NW of intersection of Via Rancho Pkwy and I-5; Escondido	17(8)	10-15	1980
SD	281	S-facing slopes on N edge of Lake Hodges, W of I-15 and E of Lake Dr; Escondido	9(3)	15-30	1980
SD	283,284	approx. 1 mi NW of intersection Bear Valley Pkwy and Via Rancho Pkwy; Escondido	7(3)	5-10	1980
SD	285	canyon W of Royal Crest Dr and E of Cranston Crest; Escondido	2-3(1)	2-4	1980
SD	286	0.3 mi S of intersection Bear Valley Pkwy and San Pasqual Valley Rd; Escondido	1(-)	1-3	1980
SD	287,289	1.3 mi SW of intersection San Pasqual Valley Rd and San Pasqual Rd; Escondido	3(1)	5-10	1980
SD	288	vicinity of Mule Hill, SE of intersection San Pasqual Rd and Bear Valley Pkwy; Escondido	14(6)	25-50	1980

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

OR	295	0.7 mi SSE of intersection Oso Pkwy and Marguerite Pkwy; Mission Viejo	8(4)	10-15	1980
OR	296,298	slopes in vicinity of Rancho Viejo Rd and Mission Hills Dr; San Juan Capistrano	1(-)	5-10	1980
OR	305	hill bordered by Crown Valley Pkwy, Marguerite Pkwy and Puerta Real; Laguna Niguel	9(4)	7-12	1980
OR	314	0.2 mi NW of intersection Crown Valley Pkwy and Cabot Rd; Laguna Niguel	1(-)	1-2	1980
OR	315,316,318	slopes N and S of Oso Pkwy, approx. 0.3 mi W of intersection with I-5; Mission Viejo	9(3)	15-25	1980
LA	322	Santa Ana Botanic Garden; Claremont (R. McKernan)	2(1)	NA	1975
SD	330	approx. 0.5 mi N of intersection Hwy 78 and San Pasqual Rd; Escondido	2(1)	3-5	1980
SD	331,332	slopes N of Hwy 78, E of intersection Hwy 78 and San Pasqual Rd and approx. 2 mi W of San Pasqual Historical Monument; Escondido	6(2)	15-30	1980
SD	334	slopes SE of intersection Highland Valley Rd and Pomerado Rd; Escondido	2(1)	10-15	1980
SD	338	slopes on N side of Batiquitos Lagoon at E end; Leucadia	1(-)	1-2	1980
SD	344	N of Friars Rd 0.1 mi NE of intersection with Frazee Rd; San Diego	2(1)	5-10	1980
SD	345	slopes N of Friars Rd at intersection with Rancho Mission Rd; San Diego	2(1)	5-10	1980
SD	347	ENE of intersection Beyer Blvd and Otay Mesa Rd; San Ysidro (V. Scheidt)	2(1)	NA	1981

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

SD	348	Dictionary Hill, approx. 2 mi NE of intersection Hwy 54 and Jamacha Blvd; Spring Valley (M. Thornburgh)	3(1)	NA	1980
SD	350,351	slopes N and S of intersection Alicante Rd and Alga Rd; La Costa	4(2)	5-10	1980
LA	353	0.7 mi WNW of intersection Paseo Del Mar and Anchovy Ave; Palos Verdes Peninsula	14(7)	10-13	1981
LA	354	Altamira, Portugese and Klondike Canyons; Palos Verdes Peninsula	13(5)	15-25	1980
LA	355	0.5 mi SE of intersection Hawthorne Blvd and Palos Verdes Dr West; Palos Verdes Peninsula	11(5)	10-20	1980
LA	356	Agua Amarga Canyon; Palos Verdes Peninsula	6(3)	5-10	1980
LA	357	Coronell Canyon; Palos Verdes Peninsula	2(1)	2-4	1980
LA	358	canyon between Sunnyridge Rd and Buggywhip Dr; Palos Verdes Peninsula	4(2)	5-10	1980
LA	359	Baldwin Hills, 0.5 mi NW of intersection La Brea Ave and Stocker St; Culver City	1(-)	1-3	1978
LA	360	vicinity of Big Tujunga Wash NW of intersection of Hwy 2 and Palmdale Hwy; Sunland (M. San Miguel)	3(-)	NA	ca.1975
RI	361	slopes in vicinity of Monument Peak, adjacent to Lake Matthews Rd; Lake Matthews	8(2)	20-30	1980
RI	362	slopes S of Mockingbird Canyon Rd, 2.4 mi N of intersection with Cajalco Rd; Lake Matthews	2(1)	5-10	1979
RI	363	Gavilan Hills Rd, approx. 2 mi S of intersection with Cajalco Rd; Lake Matthews (E. Anderson)	2(1)	NA	ca.1976

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

RI	364	University of California Motte Reserve, 2.5 mi NW of Perris; Moreno (S. Cardiff)	4(2)	NA	1975
OR	365	0.1 mi NW of intersection Dana Cove Rd and St of the Green Lantern; Dana Point	6(3)	3-6	1980
OR	366	Casper's Park, approx. 12 mi E of Pacific Coast Hwy on Ortega Hwy; San Juan Capistrano (R. McKernan)	2(1)	NA	1976
SD	367	approx. 2 mi NE of San Mateo Pt, Camp Pendleton; San Clemente	12(6)	20-35	1980
SD	368	lower portions of Las Pulgas Canyon, Camp Pendleton; Oceanside	4(2)	20-35	1980
SD	369	slopes N and S of lower Santa Margarita River valley; Camp Pendleton; Oceanside	6(3)	20-35	1980
SD	370	Pueblitos Canyon, Camp Pendleton; Oceanside	8(4)	10-20	1980
SD	371	vicinity of O'Neill Lake, Camp Pendleton; Fallbrook (J. Dunn)	1(-)	NA	1976
SD	372	slopes on S edge of Sweetwater Reservoir; Spring Valley (C. Edwards)	6(?)	NA	1981
SD	375	Windmill Canyon, above Windmill Lake, Camp Pendleton; Oceanside (H. Wier)	1(-)	NA	1980
SD	376	N of Del Dios Hwy, W of Lake Hodges Dam at end of Camino de las Estrellas; Escondido (H. Wier)	3(?)	NA	1979
SD	378	Olivenhain Cemetary, SW of intersection Encinitas Blvd and Manchester Ave; Encinitas (H. Wier)	2(1)	NA	1981
SD	379	2 mi NW of Ramona Airport; Ramona (T. Scott)	+	NA	1980

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

SD	380	E of Clairemont Mesa Blvd, NW of Mission Gorge, W of Fortuna Mtn; San Diego (T. Scott)	9(3)	NA	1980
SD	381	Fortuna Regional Park, N of Mission Dam; San Diego (S. Montgomery)	10(5)	NA	1980
SD	382	Carroll Canyon, E of El Camino Memorial Park; San Diego (H. Wier)	1(-)	NA	1981
SD	383	Rancho Arbolitos, approx. 1.3 mi SW of Twin Peaks; Poway	32(15)	10-20	1981
SD	384	Espola Rd at Northcrest Ln, S of Poway High School; Poway (anonymous)	2(?)	NA	1980
SD	385	Penasquitos Canyon, 1 mi W of Black Mtn Rd; Miramar (T. Scott)	1(-)	NA	1980
SD	386	N of La Cresta Rd, approx. 1.5 mi E of I-5 and Greenfield Dr; Crest (H. Wier)	18(9)	NA	1981
SD	387	S of La Cresta Rd off of Orchard Rd, approx. 1.5 mi E of intersection I-5 and Greenfield Dr; Crest (T. Scott)	4(?)	NA	1981
SD	388	E-facing slope S of Mountain View Rd, off Al Bahr Rd; Crest (S. Montgomery)	+	NA	1979
SD	389	just E of Hwy 67 and Vigilante Rd; Moreno Valley (E. Wier)	2(1)	NA	1981
SD	390	Pt. Loma; San Diego (J. Rieger)	+	NA	1980
SD	391	Rice Canyon, immediately E of I-805; Chula Vista (S. Montgomery)	+	NA	1980
SD	392	Otay Mesa, head of Dennery Canyon; San Ysidro (S, Montgomery)	+	NA	1980
SD	393	2 mi N of Brown Field, Otay Mesa; San Ysidro (T. Scott)	+	NA	1980
SD	394	O'Neill Canyon at Otay Valley; San Ysidro (T. Scott)	1(-)	NA	1980
SD	395	N slope of San Miguel Mtn at Sweetwater River, S of Steele Canyon; Sunnyside (T. Scott)	6(3)	NA	1980

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

SD	396	N and S of San Dieguito River in vicinity of Whispering Palms Golf Course; Del Mar (H. Wier)	5(?)	NA	1980
SD	397	approx. 2 mi NE of intersection Hwy 54 and Willowglen Dr; El Cajon (R. Riggan)	+	NA	1976
SD	398	Mills Hills, approx. 1 mi NW of intersection of Pepper Dr and Winter Gardens Blvd; Santee (D. Lawhead)	+	NA	1980
SD	399	upper Los Coches Canyon, approx. 0.5 mi NW of intersection of Los Coches Rd and Main St; Lakeside (P. Jorgensen)	+	NA	1978
SD	400	W of Hwy 67 at intersection with Moreno Ave; Lakeside (S. Berryman)	1(-)	NA	1975
SD	401	SE of I-8 at intersection with Camino Canada; El Cajon (M. Evans)	+	NA	1981
SD	402	approx. 0.6 mi NW of intersection Miramar Rd and Dowdy Dr; Miramar (P. Fromer)	1(-)	NA	1980
SD	403	0.5 mi E of intersection I-5 and Del Mar Heights Rd; Del Mar (P. Fromer)	2(?)	NA	1980
SD	404	approx. 0.1 mi E of intersection Olive Hill Rd and Puerta Del Sol; Solana Beach (M. Brand)	1(-)	NA	1981
SD	405	approx. 0.4 mi NE of intersection Regent's Rd and Hwy 52; San Diego (M. Brand)	1(-)	NA	1981
SD	407	approx. 0.4 mi E of La Mesa Blvd and Spring St; La Mesa (M. Guest)	4(2)	NA	1981
SD	408	N of Espola Rd, E of Cloudcroft and Tam O'Shanter Drs, W of Old Coach Rd; Rancho Bernardo (V. Scheidt)	8(4)	NA	1981
SD	409	0.3 mi SW of intersection Worthington St and Paradise Valley Rd; Sunnyside (anonymous)	1(-)	NA	1980

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

SD	410	S of Lake Poway Rd, E of intersection Lake Poway Rd and Espola Rd; Rancho Bernardo (J. Mc Neil)	3(?)	NA	1981
SD	411	approx. 1 mi NE of intersection Poway Rd and Garden Rd; Poway (D. Lawhead)	+	NA	1979
SD	412	intersection Wildcat Canyon Rd and San Vicente Rd; Ramona (H. Coulombe)	+	NA	1975
SD	413	N Mission Gorge, along Jackson Dr roadcut, 0.2 mi N of Mission Gorge Rd; San Diego (C. Edwards)	3(?)	NA	1978
SD	414	slopes immediately S of Poway Cr, S of intersection Poway Rd and Sudan Rd; Poway (H. Wier)	7(2)	NA	1981
SD	416	Twin Oaks Valley; San Marcos (W. Lenarz)	1(-)	NA	1976
SD	417	Wilderness Gardens; Pauma Valley (A. Fries)	2(?)	NA	1976
SD	418	0.5 mi W of intersection North Broadway and Jesmond Dene Rd; Escondido (K. Weaver)	2(1)	NA	1979
SD	419	S-facing slopes E of Bear Valley Pkwy, N of El Dorado Dr, W of Summit Dr, S of Valencia Dr; Escondido (K. Weaver)	8(4)	NA	1981
SD	421	approx. 2.5 mi W of Lake Murray, N of I-8; San Diego (S. Montgomery)	1(-)	NA	1977
SD	422	near Squires's Pond; Carlsbad (C. Edwards)	3(?)	NA	1977
SD	423	Shepherd Canyon, approx. 1.5 mi NE of intersection Clairmont Mesa Blvd and Santo Rd; Miramar (M. Evans)	6(3)	NA	1981

APPENDIX A. Localities of documented California Black-tailed Gnatcatcher occurrence (cont'd).

1/ County symbols as follows: VE = Ventura; SB = San Bernardino; OR = Orange; SD = San Diego; LA = Los Angeles; RI = Riverside.

2/ Reference number: see locality maps (Figures 1-5).

3/ Localities not surveyed by the author are included, with observer's name provided in parentheses.

4/ Population estimate figures provided in following sequence: number of individuals observed during field work (number of definite pairs observed), followed by estimate of number of pairs present at locality. Estimates for number of pairs present are lacking for areas reported by other observers; these are indicated NA (not available).

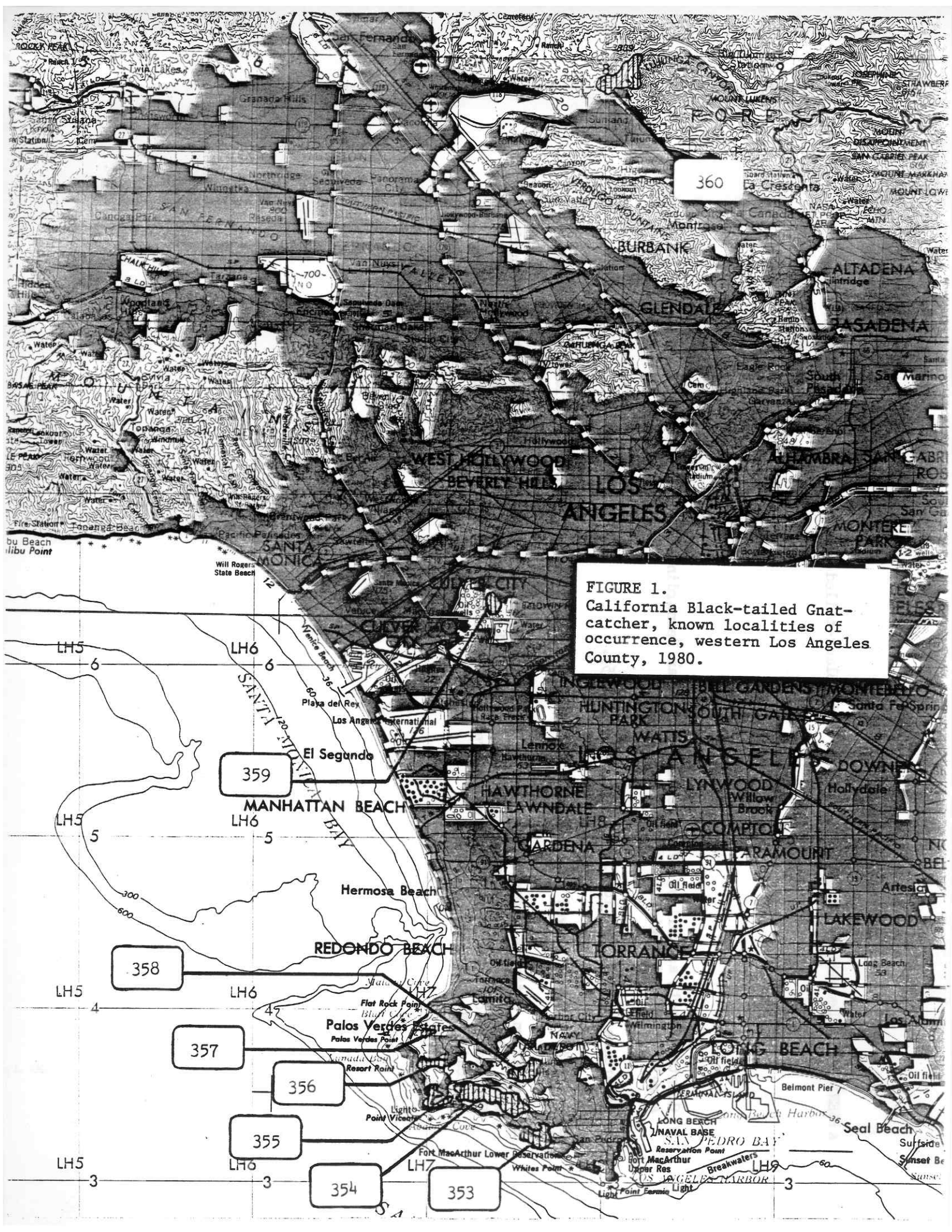

FIGURE 1.
California Black-tailed Gnatcatcher, known localities of occurrence, western Los Angeles County, 1980.

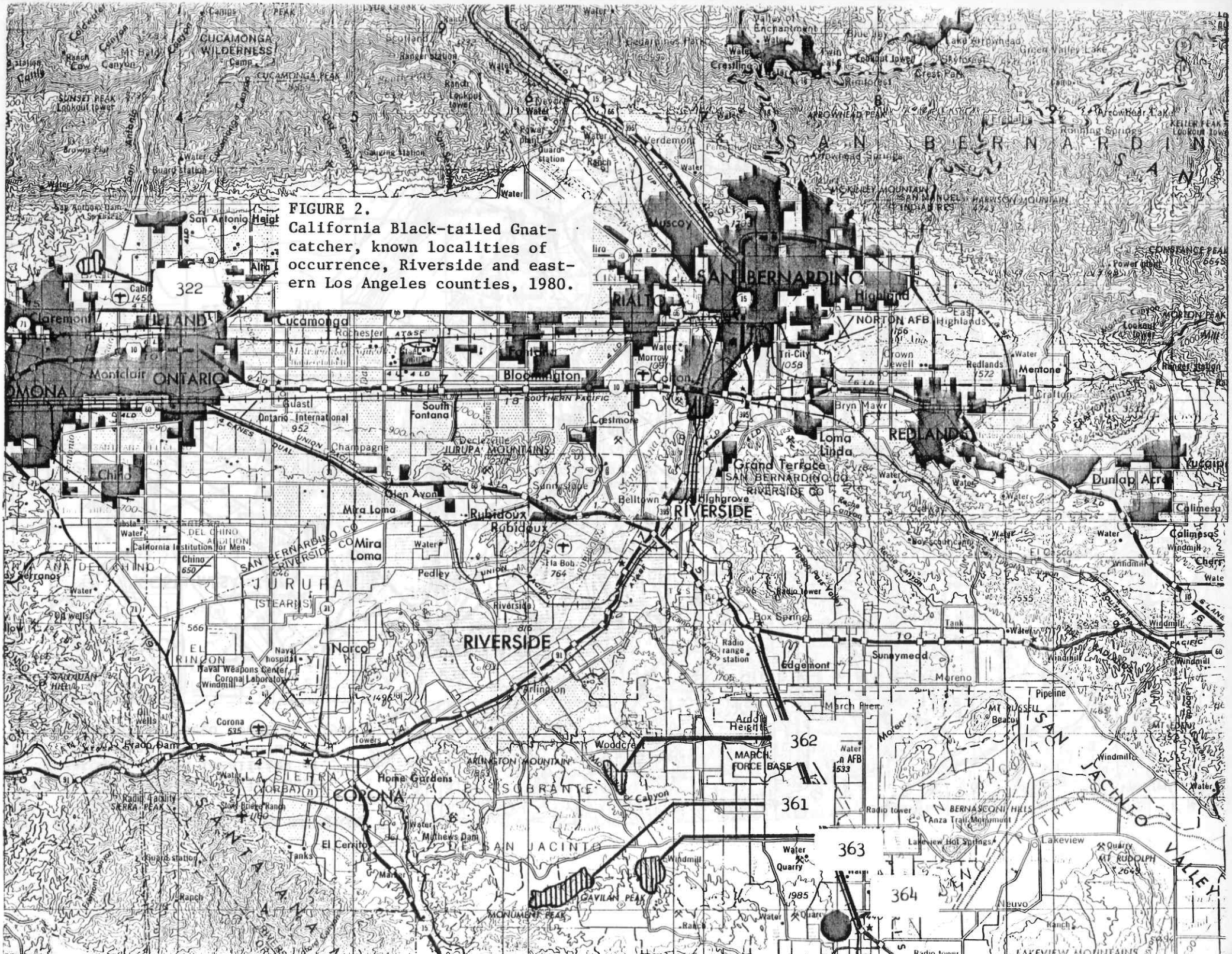

FIGURE 2.
California Black-tailed Gnatcatcher, known localities of occurrence, Riverside and eastern Los Angeles counties, 1980.

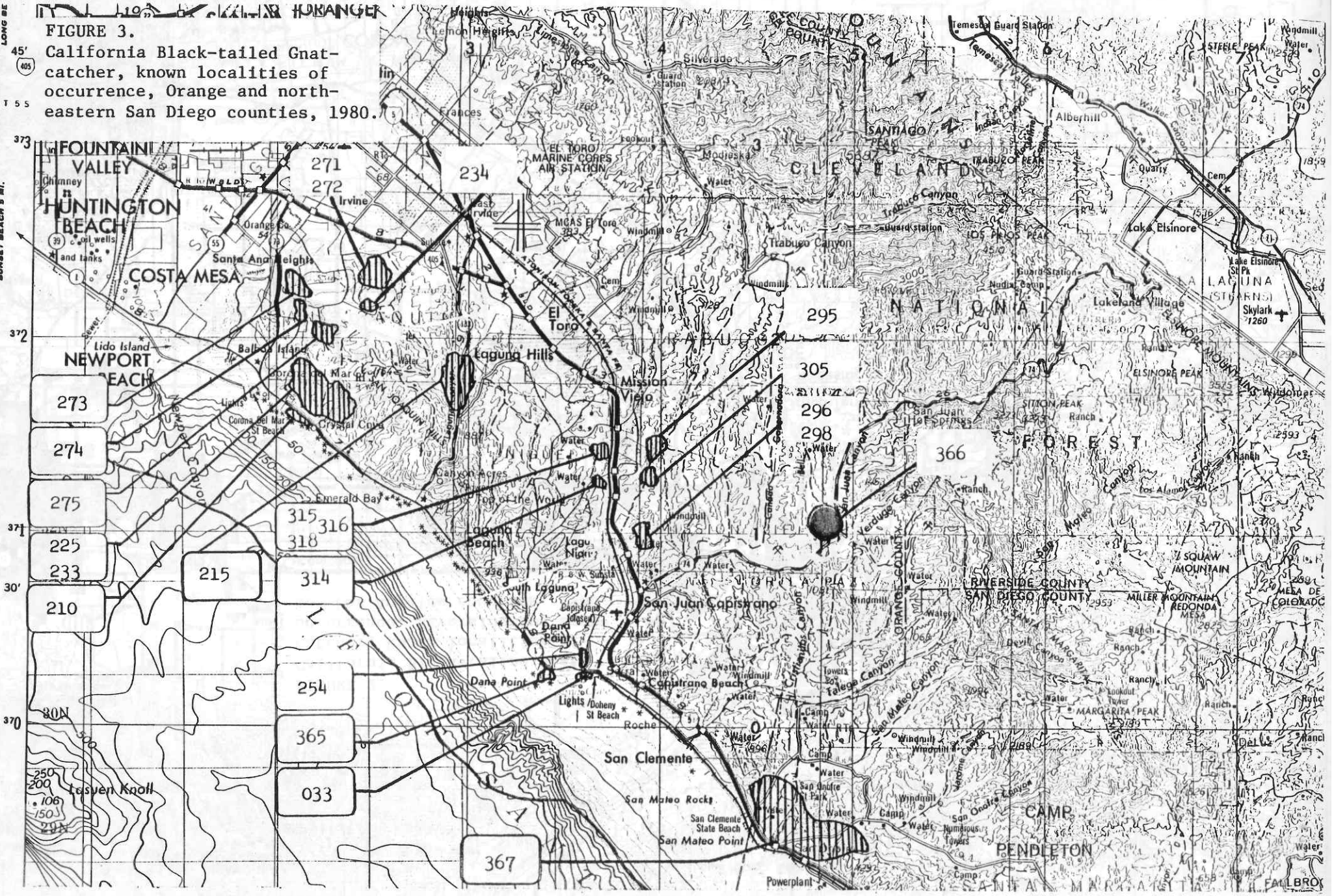

FIGURE 3.
California Black-tailed Gnatcatcher, known localities of occurrence, Orange and northeastern San Diego counties, 1980.

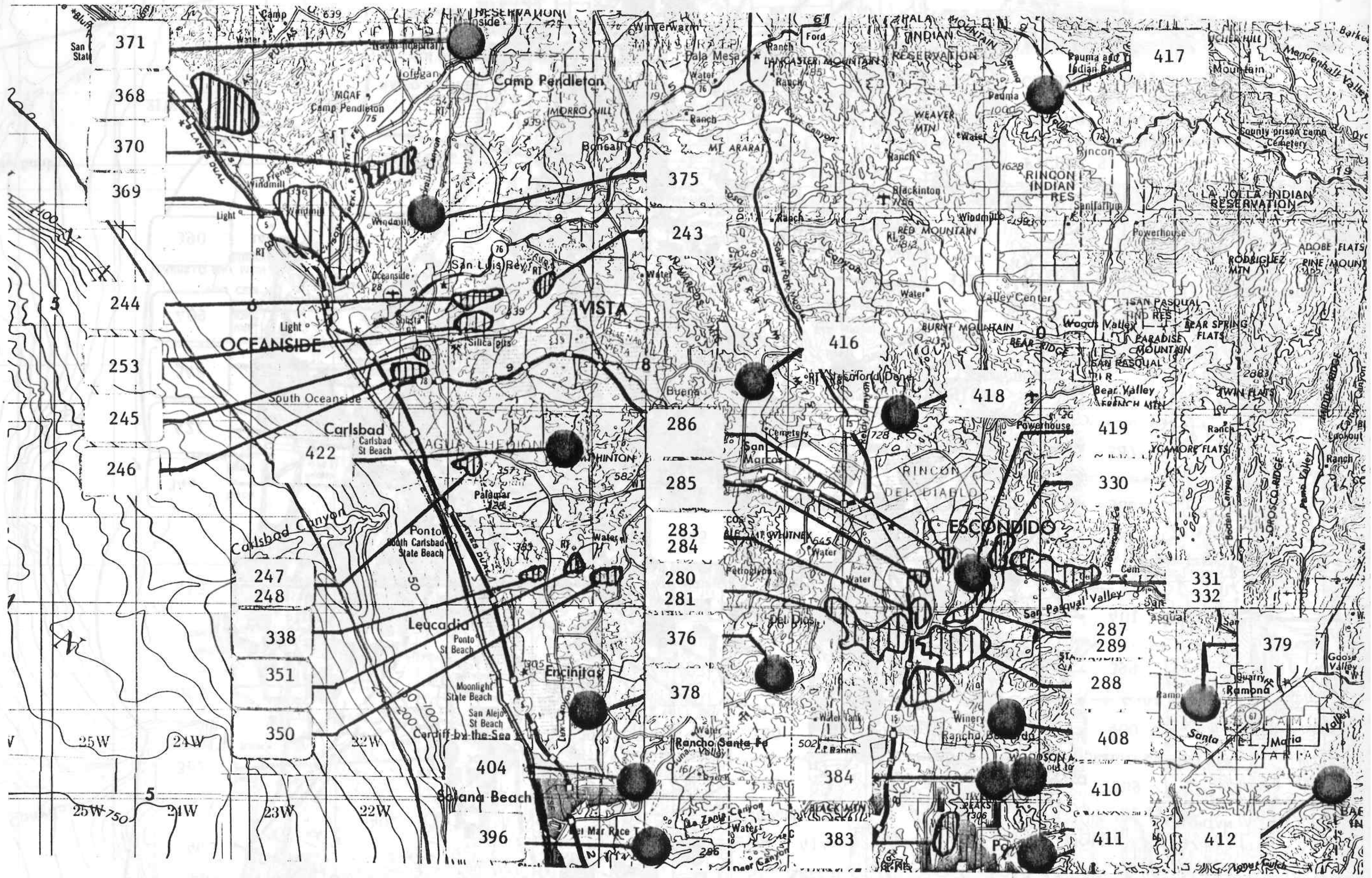

FIGURE 4.
California Black-tailed Gnat-catcher, known localities of occurrence, northern San Diego County, 1980.

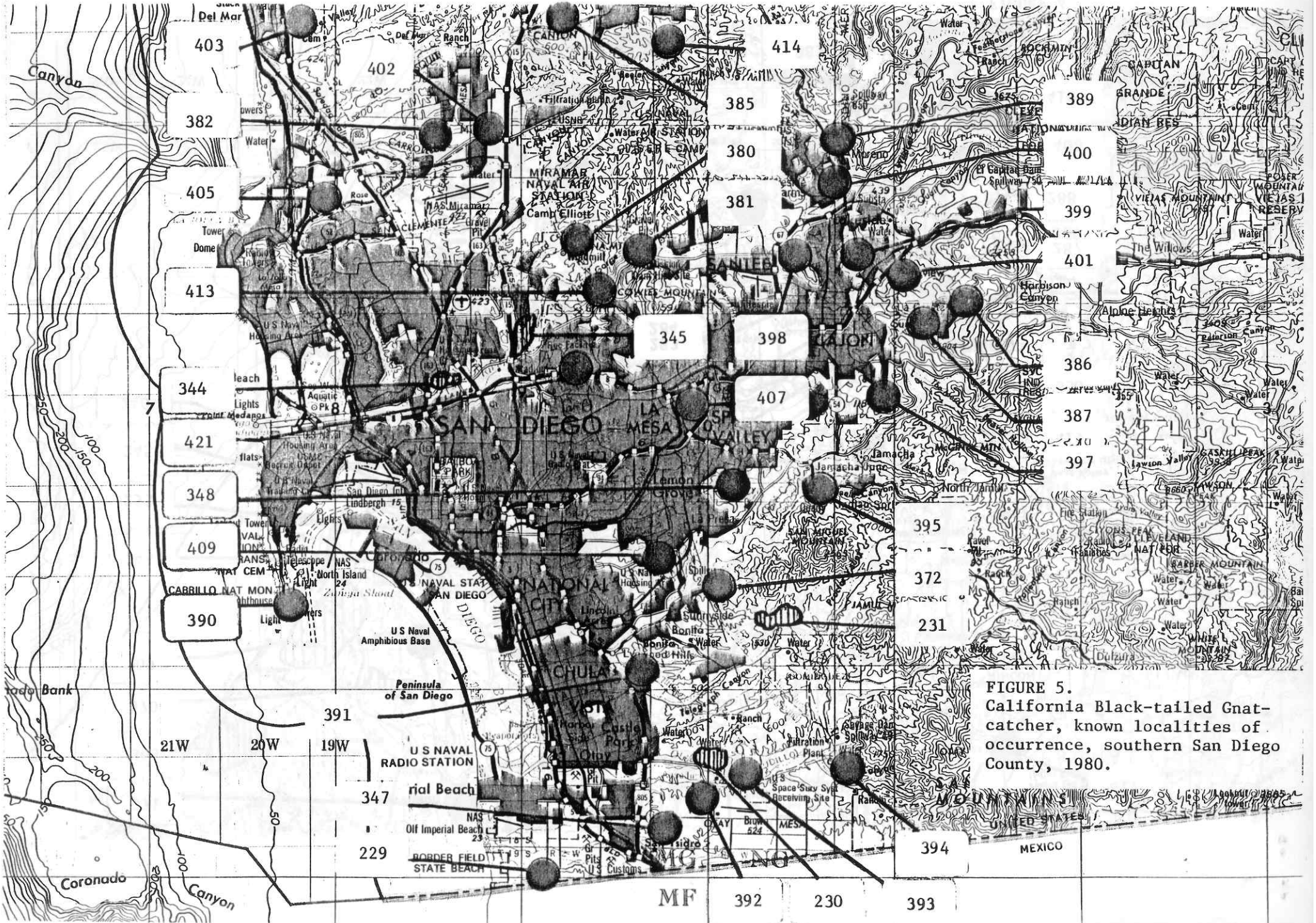

FIGURE 5.
California Black-tailed Gnatcatcher, known localities of occurrence, southern San Diego County, 1980.