



Salton Sea Avifauna – A global perspective

Daniel S. Cooper

February 20, 2004

Updated December 2004

There are over 9000 recognized species of birds on earth, and about 600 of them have been recorded in California. Of these, about half are regular nesters (in spring/summer) in the state, and half occur only during migration (spring/fall) and/or winter (Small 1994). Two species of birds – the California Condor and the Yellow-billed Magpie, are found only in California, and a handful of others are largely restricted to the state, including Nuttall's Woodpecker, Allen's Hummingbird, Oak Titmouse, California Thrasher, Wrentit, California Towhee and Tricolored Blackbird.

Over 400 species of birds have been recorded in the Salton Trough, the low area that includes the Salton Sea, southern Coachella Valley, Imperial Valley, and northern Mexicali Valley. Just over 100 are nesters, and the remainder migrants and/or winterers. Only a few dozen are permanent residents, living year round in the area (Patten et al. 2003). This species total, and percentage of nesters, and number of permanent residents is almost identical to that of the Lower Colorado River Valley (Nevada to the Mexican border) (Rosenberg et al. 1991). Though no full species are restricted to the Salton Sea/Lower Colorado River ecosystem (though Abert's Towhee is nearly so), distinct races are several bird species are, including Clapper Rail, Song Sparrow and Savannah Sparrow.

Though 400 may seem like a high number, it is not atypical for a comparably-sized area in southern or central California. For example, the species checklist for tiny Ken Malloy Harbor Regional Park in south Los Angeles, which covers less than a square mile, is around 325 species, and that of Point Pinos, essentially a golf course along the coast near Monterey, CA, is similar, and with a comparable list of “vagrants” – species from around the world that fly off-course during migration.

What's more impressive (and more ecologically important) than the species diversity is the *large number of individual birds* using the Salton Sea and adjacent habitats year round. An internationally-significant stopover site for hundreds of thousands of transients moving north and south along the “Pacific Flyway,” and east into the Great Basin/Prairie Pothole region, the Sea is also the winter home for hundreds of thousands of individuals of numerous species from around North America, in particular several species of waterbirds.

The information below provides an overview of the value of the Salton Sea ecosystem to birds at various scales.

SS = Salton Sea

SESS = South End Salton Sea (incl. Wister, NWR)

NESS = North End Salton Sea (esp. Whitewater River mouth)

IV = Imperial Valley (incl. Finney/Ramer Lakes, agricultural fields)

Nesting: Building a nest, laying eggs and raising young (typically Mar. – June)

Foraging: Feeding, often during the day (can take place year-round)

Roosting: Gathering in large numbers to sleep/rest

Table 1. Sensitive Species of the Salton Sea area

Species	Where Found		Season	Importance of Salton Sea Area (various scales)		
	Key areas	Habitat		Global	U.S.	California
“Yuma” Clapper Rail	SESS (only on state and federal refuges/wildlife areas)	Permanent freshwater marsh at Salton Sea, IV and LCR. Marshes dominated by cattails (<i>Typha</i>) and bulrush (<i>Scirpus</i>); uncommon in giant reed (<i>Phragmites</i> , <i>Arundo</i>) and tamarisk	Year-round	Entire population at Salton Sea/LCR Delta, with majority of birds probably at Cienega de Santa Clara (Sonora, Mex.)	40% of U.S. population at SESS	Majority of CA population at SESS
“Van Rossem’s” Gull-billed Tern	SESS; Imperial Valley (formerly at NESS)	Nests on islands at SESS surrounded by shallow water; forages in agricultural fields (incl. fallowed fields) and irrigation ditches of northern IV and in adj. desert scrub	Mar. – Sept.	Entire breeding population restricted to 4-5 sites in SoCal and coastal NW Mexico.	Breeds in U.S. only at SESS and south San Diego Bay (<250 pr. combined)	Up to 85% of CA population breeds at Salton Sea
“Western” Burrowing Owl	Imperial Valley; nearly gone from Coachella Valley	Nests in un-lined (= dirt) irrigation drains and forages over agricultural fields, esp. plowed ones; avoids areas with shrubs or trees; nests associated with burrowing rodents	Year-round	Unk., but <i>majority of global population probably restricted to California and adj. Mexicali/Rio Colorado Valley</i>	N/A	70% of CA pop. resident in IV
Eared Grebe	Salton Sea, esp. SESS and NESS; IV at Finney-Ramer	Open water	Oct. – Apr.	1 – 3.5 million birds stopover or winter on Sea, <i>probably one of the largest aggregations in the world</i>	N/A	N/A

Species	Where Found		Season	Importance of Salton Sea Area (various scales)		
	Key areas	Habitat		Global	U.S.	California
Ross' Goose	Imperial Valley at edge of SESS	Impoundments and fields planted to attract and feed waterfowl	Oct. – Feb.	2000+ birds winter adj. to Sea; top 5 wintering areas in world	N/A	N/A
Mountain Plover	Imperial Valley	Extensive (1000s of acres) tracts of burned, plowed, or grazed (typically by sheep) Bermuda grass and alfalfa fields; avoids areas with structures or plants higher than c. 1 ft.	Oct. – Mar.	30-40% of global population (3000+ birds) winters in IV	N/A	c. 75% of CA pop. winters in IV (the rest mainly in Central Valley)
Long-billed Curlew	Imperial Valley	Extensive (100s of acres) alfalfa and other grass crops of IV; irrigated or not, plowed or not; grazed pasture (often seen with sheep).	July – April	least 20% of global population (40K birds) winter in IV	3 major U.S. winter pop. centers: Central Valley (of CA), Imperial Valley and coastal TX	Up to 50% of California's birds winter in IV
Am. White Pelican	Salton Sea, Imperial Valley at Finney-Ramer	Inshore waters of sea, with largest concentrations at deltas at NESS, SESS; formerly bred at SESS	Year-round, most common in winter	30% of global pop. (40K birds) winter(ed) at Sea	N/A	30% CA winter pop. occurred at SS in 2002-03 (CBC data)
White-faced Ibis	Imperial Valley, with some roosting along shore at SESS	Extensive alfalfa and other grass crops of IV; irrigated or not, plowed or not; grazed pasture (often seen with sheep); Breeds in small #s in dense, permanent freshwater marshes	Year-round, most common in late summer	At least 30% of global population (30K birds) occur in IV during fall migration, and c. 15% in winter	N/A	Half the CA pop. probably winters in IV.
“Western” Snowy Plover	Salton Sea (shoreline)	Sandy beaches and salt pans at edge Salton Sea	Year-round	N/A	Largest wintering pop. in interior U.S. at Salton Sea (c. 200 birds)	Largest breeding pop. in CA at Salton Sea (c. 300 pr.); one of largest wintering pop. also here

Species	Where Found		Season	Importance of Salton Sea Area (various scales)		
	Key areas	Habitat		Global	U.S.	California
Double-crested Cormorant	Salton Sea; IV at Finney-Ramer	Shallow open water, with islands and/or snags	Year-round	N/A	Breeding pop. (>5,000 pr.) in recent years poss. largest in w. North America	In recent years, the largest breeding concentration in the state occurred at the Salton Sea.
Snow Goose	Imperial Valley at edge of SESS	Impoundments and fields planted to attract and feed waterfowl	Oct. – Feb.	N/A	N/A	10,000+ birds (late 1990s – fewer now?); top 5 wintering areas in CA
Least Bittern	Imperial Valley; SESS (Wister W.A.)	Permanent freshwater marsh with a mix of standing (or slowly-flowing) open water and cattails/bulrush.	Year-round	Unk.	Unk.	Unk., but most common in Calif. (and western U.S.?) along LCR
Black Tern	Salton Sea, Imperial Valley	Forages over shallow water of SS, over impoundments, and over flooded agricultural fields	Apr./May and Aug. to Nov.	10% of global population (>15K birds) in fall	One of two key staging areas in the West (other being Klamath Basin)	Just 4150 birds breed in CA, so SS/IV supports birds mainly from out of state
California Brown Pelican	Salton Sea	Inshore waters of sea, with largest concentrations at SESS; Recent breeding attempts on islands at SESS	Year-round, most common in late summer/fall	N/A	N/A	Post-breeding #s erratic from year to year; nearly 2,000 recorded 1999.
Black Skimmer	Breeds on islands at SS (formerly in IV at Ramer Lk.)	Islands surrounded by shallow water for nesting; forage mainly along shoreline	Apr. – Dec.	N/A	N/A	SS and sw Calif. only; ½ CA population (400 – 500 pr.) at SS
Sandhill Crane	Imperial Valley	Wet agricultural fields for night roosts; wet and dry fields for diurnal foraging	Oct. – Mar.	N/A	N/A	c. 30,000 birds; widely extirpated from southern Calif. c. 300 winter in IV

Species	Where Found		Season	Importance of Salton Sea Area (various scales)		
	Key areas	Habitat		Global	U.S.	California
“Large-billed” Savannah Sparrow	SESS	Shoreline	Summer, fall and winter	Largely restricted to Gulf of CA, with small numbers to Salton Sea and sw Calif. coast	In U.S., most common at Salton Sea (several dozen each year)	N/A
Stilt Sandpiper	SESS, Imperial Valley	Shallow impoundments at edge of Salton Sea; flooded agricultural fields	Sept. – Mar.	N/A	N/A	SESS/IV only; up to 100 birds in fall/winter
Wood Stork	SESS, Imperial Valley	Quiet freshwater pools surrounded by dense vegetation at river mouths (e.g. Alamo River) or in impoundments of IV (esp. Finney Lake)	July – Nov.	N/A	N/A	SESS/IV only; up to 50 birds
“Saltonis” Song Sparrow	SESS/NESS/IV	Marshes and wet brushy areas	Year-round	Restricted to LCR/Salton Sea	N/A	N/A
“California” Black Rail	Imperial Valley	Permanent freshwater marsh with shallow standing water, esp. at seeps along canals	Year-round	N/A	Nearly entire population of this race found in California	In southern Calif., only in IV/LCR
Crissal Thrasher	Imperial Valley, extreme southern Coachella Valley (formerly?)	Relatively large tracts of native desert scrub, esp. along watercourses	Year-round	N/A	N/A	Southeastern California only; small and probably declining pop. in IV
Gila Woodpecker	Imperial Valley	Date palm orchards, ranchyards, residential areas	Year-round	N/A	N/A	10% of CA population in IV (5-10 pr.)
Fulvous Whistling-Duck	Imperial Valley	Permanent freshwater marsh, dominated by cattails and bulrush; Not found in giant reed (<i>Fragmites</i> ; <i>Arundo</i>) and tamarisk	May – Nov.	N/A	N/A	SESS/IV only; may be extirpated as a nester at the Salton Sea; very rare in recent years
Vermilion Flycatcher	Imperial Valley	Riparian woodland, ranchyards	Apr. – Aug.	N/A	N/A	Most of Calif. population (50-100 pr.) along LCR; a handful in IV

Summary of major habitats and the sensitive birds dependent upon them.

Salton Sea – open water: Double-crested Cormorant, American White Pelican, Brown Pelican, Eared Grebe, Black Tern

Salton Sea – islands surrounded by shallow water: “Van Rossem’s” Gull-billed Tern (nesting), Black Skimmer (nesting)

Salton Sea – shoreline: “Western” Snowy Plover, “Large-billed” Savannah Sparrow

Shallow impoundments along shore of Salton Sea: White-faced Ibis (roosting), Snow Goose, Ross’ Goose, Stilt Sandpiper

Freshwater marshes at deltas, creek mouths and impoundments: “Yuma” Clapper Rail, Least Bittern, White-faced Ibis (nesting), Wood Stork, “California” Black Rail, Fulvous Whistling-Duck, “*Saltonis*” Song Sparrow

Agricultural fields - dry: “Van Rossem’s” Gull-billed Tern (foraging), “Western” Burrowing Owl (foraging), Mountain Plover, Long-billed Curlew, White-faced Ibis (foraging), Sandhill Crane (foraging)

Agricultural fields – flooded: “Van Rossem’s” Gull-billed Tern (foraging), Long-billed Curlew, White-faced Ibis (foraging), Sandhill Crane (roosting), Stilt Sandpiper

Drains and canals: “Western” Burrowing Owl (nesting, roosting), Least Bittern

Native desert scrub: Crissal Thrasher, Vermilion Flycatcher

Ranchyards: Gila Woodpecker