

Bird Census at Salinas River Restoration Area in Spring 1997

Census conducted and report prepared by
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Methods

A bird census was conducted on 3 June and 4 June 1997 to determine species composition in each of three vegetation types in the restoration area at Salinas River National Wildlife Refuge. One plot was established within each vegetation type; borders of the plots were not contiguous to reduce effects of a neighboring vegetation type upon species composition within a given plot. The plots were located southwest of the Salinas River (see enclosed copy of aerial photo with designated plots). All plots were censused by myself alone with a pair of 8 x 42 binoculars.

The vegetation types include: 1) "native", primarily consisting of a thick stand of coyote bush and very little if any grasses. This plot has not been altered in any way in this restoration project. It is the closest of the three plots to the ocean; 2) "mixed", composed primarily of scattered patches of coyote bush and a mixture of native and non-native grasses; 3) "non-native", largely consisting of non-native shrubs and grasses; wild radish and poison hemlock dominate this plot. This plot borders the river.

Each plot was censused once in the early morning by walking slowly through the area and recording all birds heard or seen within the plot boundaries. Birds flying over the plot at fairly low altitudes were recorded separately; seabirds were not included in the count. In the non-native plot, I walked along a single center line paralleling the river through the length of the plot. In the mixed plot, I began the count at the southeast corner of the plot approximately 20 m from the north edge and walked parallel to this edge (280° bearing). All birds heard or seen within approximately 20 m to either side of the census line were recorded, as well as birds overhead. I then walked approximately 40 m along the border perpendicular to the first census line to the second census line located down the center of the plot and censused along this line (100° bearing), again recording all birds within 20 m of the census line. Borders were flagged. The third and final census line in this plot was located approximately 40 m from the center line (280° bearing). Position of census lines were determined by pacing. The native plot was censused in a similar manner, with four census lines running parallel to the fence line south of the plot.

Surveys in subsequent years should be conducted at approximately the same time of day (between sunrise and 0930) and time of year (within approximately one week of this year's census dates), with a single observer conducting the census within the same plot boundaries. As soon as the area of each plot is determined, density of birds can be calculated for each vegetation type.

Results

Twenty species of birds were recorded in the entire area censused; 13 of these species were heard or seen within or on vegetation and 7 were observed in flight directly over the plot.

The "non-native" plot was surveyed on 3 June from 0710 h to 0735 h. The entire plot was mowed not long before the census; vegetation was approximately 6" to

10" high at the time of the census. Five avian species were recorded within the plot and an additional 4 species were observed in flight immediately over the plot (Table 1). The most common species was the House Finch, which feeds almost exclusively on seeds. The other species observed within this plot feed either exclusively on seeds (Mourning Dove) or feed on seeds as well as insects (European Starling, Brewer's Blackbird, and Song Sparrow). The Song Sparrows were observed along the river's edge most often perched in remaining hemlock shrubs. No mammals were observed in this plot.

The "mixed" plot was surveyed on 3 June from 0755 h to 0915 h. Approximately 1/3 of this plot appeared to have been mowed just prior to the census; height of mowed vegetation was approximately 6" to 10". Ten avian species were recorded within this plot as well as an additional 3 species in flight over the plot (Table 1). The most abundant species were the Red-winged /Tricolored Blackbirds (combined due to difficulty in distinguishing between individuals in large flocks observed), Brewer's Blackbirds and European Starlings. These species were observed in mixed flocks primarily near the south edge of the plot perched in coyote bush. The Grasshopper Sparrow and Savannah Sparrow are ground nesters which typically build their nests in a place where they are well-concealed by overhanging vegetation. This may explain their presence in this plot rather than in the completely mowed "non-native" plot. Mammals observed in this plot included 1 blacktail deer doe with 1 fawn, 1 jackrabbit and 1 brush rabbit.

The "native" plot was surveyed on 4 June from 0735 h to 0855 h. Six avian species were recorded within the plot, with an additional 7 species observed overhead (Table 1). The most abundant species within the plot was the Song Sparrow. A greater number of swallow species were observed in flight over the western portion of this plot than over the other plots; this is most likely attributed to the close proximity of a closed body of water surrounded by marsh habitat, potentially providing an abundance of insects. Only rough estimates of swallows were possible in all the plots due to their natural habit of continuous circling. No mammals were observed in this plot.

Generally, more diverse or heterogeneous plant communities support a greater variety of inhabitants. This may most reasonably explain the disparity in species diversity among the three vegetation types. The "non-native" plot was the most homogeneous of the three and, correspondingly, had the smallest number of avian species, whereas the "mixed" plot, which appeared to be the most diverse vegetatively, had the greatest number of avian species, as well as mammalian denizens.

Eileen Connors
10 June 1997

Table 1. Species composition and abundance in three vegetation types at the Salinas River restoration area in early June 1997.

"Non-native" plot

<u>Birds in plot</u> ^a	<u>Abundance</u>
House Finch	44
European Starling	8
Brewer's Blackbird	7
Song Sparrow	6
Mourning Dove	4

Low "fly-overs"^b

House Finch	7
Cliff Swallow ^c	5-10
Black-necked Stilt	3
Barn Swallow	2
Brewer's Blackbird	1

"Mixed" plot

Birds in plot

Red-winged/Tricolored Blackbird	40-50
Brewer's Blackbird	20-30
European Starling	23
House Finch	19
Song Sparrow	16
Grasshopper Sparrow	5
Bushtit	4
Savannah Sparrow	2
Brown-headed Cowbird	2
Mourning Dove	1

Low "fly-overs"

House Finch	10
Barn Swallow	6
European Starling	6
Cliff Swallow	5-10
Northern Harrier	1

^a birds heard or seen within or on vegetation within plot boundaries.

^b birds flying at low altitudes directly over plot; seabirds were not recorded.

^c only rough estimates of all swallow species were possible due to continuous circling of individuals over plot.

Table 1. (continued)

"Native" plot

<u>Birds in plot</u>	<u>Abundance</u>
Song Sparrow	10
House Finch	5
Bushtit	2
Common Yellowthroat	2
Mallard (on nest)	1
Allen's Hummingbird	1

Low "fly-overs"

House Finch	13
Cliff Swallow	5-10
Bank Swallow	3-5
Barn Swallow	3-5
Violet-green Swallow	3-5
American Goldfinch	2
Red-winged/Tricolored Blackbird	1
Northern Harrier	1



Salinas River mouth (1/10)
10/24/96: 6000', 35 mm