

BIRD POPULATIONS IN A BLACK COTTONWOOD  
COMMUNITY, GRAND TETON NATIONAL PARK

Kenneth L. Diem  
Department of Zoology and Physiology  
University of Wyoming  
Laramie

Baseline information on the avifauna of the riparian communities in Grand Teton National Park is sparse. Consequently, the objective of this project is to collect information on the composition, density, distribution and habitat of the bird species inhabiting a portion of the black cottonwood, Populus trichocarpa, community in Grand Teton National Park. The study was initiated in June 1980 on a portion of the western floodplain of Pilgrim Creek. The southeast corner of this 300m x 400m (12ha) plot is identified by a metal post. This post can be located on a bearing line of 4° E of N. 77 mm from the fiducial center of the infrared aerial photo N 31 (U.S. Bur. of Reclamation Series B/R17, 7-16-79).

This floodplain community is predominantly black cottonwood with scattered trees of quaking aspen, Populus tremuloides, engelmann spruce, Picea engelmannii and lodgepole pine, Pinus contorta. In restricted moister areas several small patches of alder, Alnus incana occur under the larger trees and a few patches of willow, (Salix, sp.) are located in moist openings of the woodland.

### Methods

The mapping census plot was subdivided into 12 square 1 ha plots, with a 30 in. metal post at each hectare corner. Painted wooden stakes were used to mark the 50 m intervals between each corner stake.

All censuses were begun at 7:30 am and ended between 9:30 and 10 am following procedures set forth by the International Bird Census Committee (Svensson, 1970). Each bird observation on the plot was recorded as to species, number, sex and age and activity of the individuals and location. Movements of the census taker through each plot were such that at no time was the width of the area being censused greater than 33 m. This was accomplished by the census taker using a census pattern which moved through nine square subunits approximately 33 m on a side.

### Results

Study plot censuses were taken on June 10-15 and on July 7-10. A summary of the numbers of birds in the 24 species observed is presented in Table 1. Numbers of two species declined sharply, the American Robin (-56%) and the Western Wood Pewee (-87%) when compared to the  $\bar{X}$  of the 1980-81 seasons. It may be, that late spring and early summer being very wet was a factor in these

Table 1. Species, number and frequency of birds on a 12 ha riparian mapping census plot, Pilgrim Creek, Grand Teton National Park, June 10-15 and July 7-10, 1982.

| Species                       | No. of Birds |           | Frequency (%) |           | Birds/km <sup>2</sup> |           |
|-------------------------------|--------------|-----------|---------------|-----------|-----------------------|-----------|
|                               | June 10-15   | July 7-10 | June 10-15    | July 7-10 | June 10-15            | July 7-10 |
| Hummingbird (Unknown Species) |              | 1         |               | 8         |                       | 8         |
| Common Flicker                | 1            | 5         | 8             | 42        | 8                     | 42        |
| Yellow-bellied Sapsucker      | 5            | 9         | 25            | 50        | 42                    | 75        |
| Hairy Woodpecker              | 4            | 4         | 17            | 33        | 33                    | 33        |
| Dusky Flycatcher              | 13           | 3         | 58            | 8         | 108                   | 8         |
| Western Wood Pewee            | 1            |           | 8             |           | 8                     |           |
| Tree Swallow                  | 6            |           | 25            |           | 50                    |           |
| Common Raven                  | 2            | 4         | 8             | 8         | 17                    | 33        |
| Clarks Nutcracker             |              | 2         |               | 17        |                       | 17        |
| Black-capped Chickadee        |              | 2         |               | 17        |                       | 17        |
| Mountain Chickadee            | 5            |           | 25            |           | 42                    |           |
| Chickadee (Unknown Species)   | 1            | 4         | 8             | 25        | 8                     | 33        |
| Red-breasted Nuthatch         | 1            |           | 8             |           | 8                     |           |
| House Wren                    | 2            | 1         | 17            | 8         | 17                    | 8         |
| American Robin                |              | 6         |               | 33        |                       | 50        |
| Ruby-crowned Kinglet          |              | 1         |               | 8         |                       | 8         |
| Warbling Vireo                |              | 13        |               | 67        |                       | 108       |
| Yellow Warbler                | 9            |           | 42            |           | 75                    |           |
| Yellow-rumped Warbler         | 3            |           | 17            |           | 25                    |           |
| McGillivray's Warbler         | 3            |           | 8             |           | 25                    |           |
| Black-headed Grosbeak         | 1            | 3         | 8             | 25        | 8                     | 8         |
| Pine Siskin                   | 2            | 2         | 17            | 8         | 17                    | 17        |
| Dark-eyed Junco               | 19           | 16        | 58            | 75        | 158                   | 133       |
| White-crowned Sparrow         | 3            | 5         | 8             | 17        | 25                    | 42        |
| Song Sparrow                  | 1            | 1         | 8             | 8         | 8                     | 8         |
| Unknown Species               | 1            | 4         | 8             | 25        | 8                     | 33        |

declines. Of the 24 species on the study area, the Dark-eyed Juncos and the Warbling Vireos were the most abundant. Also, these two species and the Yellow-bellied Sapsucker were likely to be encountered anywhere on the study area.

Literature Cited

Skaar, P. 1969. Birds of the Bozeman latilong. 501 S. Third, Bozeman, Montana. 131 p.

Svensson, S. (Editor). 1970. Bird census work and environmental monitoring. Swedish Natural Science Research Council, Redaktionstjansten, Stockholm. 52 p.