S U M M E R P R O J E C T 1 9 6 9

THE BIRDS OF THE BURN

"The fire demon has done his work,....nothing remains of the grand forests but an unsightly array of gaunt skeletons and fallen monarchs."

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TITLE

"THE BIRDS OF THE BURN" is the title of a study of bird succession on the Vermilion Pass burn in Kootenay National Park. Eventually it will provide an accurate, relevant description of bird succession and, along with other data, reasonable explanations for the event on this Engelmann spruce/subalpine fir burn.

JUSTIFICATION

As part of a natural ecosystem, the birds of the burn are closely interrelated with their biotic and abiotic environments. It is therefore impossible to fully appreciate the burn ecosystem without some knowledge about its birdlife.

The researchers on the burn aim to correlate their data to determine the successional pattern. The elucidation of how and why birds fit into this scheme will enhance the burn study as a contribution to science and to the natural history of Kootenay Park. And a better informed interpretive service means an improved public understanding of the wilderness concept as it applies to the National Parks system.

CURRENT RESEARCH

The status of current research pertinent to bird succession on burns is unclear at the present time. There is an extensive literature on forest vegetation, but I have found very few recent articles on the birdlife of coniferous forests and burns (nothing, in fact, on the birds of strictly Engelmann spruce/subalpine fir communities). The list of references that concludes this report shall be supplemented as the bird study progresses.

I wish to thank Drs. P. K. Anderson, M. T. Myres, and R. T. Ogilvie, all of the University of Calgary, for providing the titles of some important works and guidelines for finding others.

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LOCATION

On my birdwalks across the Vermilion Pass burn I followed the Stanley Glacier Trail. It passes through an area that seems fairly representative of the burn on the Kootenay Park side, and is easily accessible and well maintained. The trail originates 2.4 miles northeast of Marble Canyon on the south side of the Banff - Windermere Highway. Here a person crosses the Vermilion River by a walk bridge (at 5100 feet), and the trail trends eastward roughly parallel to and a mile north of the fireguard which checked the fire's southern front. For 1.4 miles the trail winds up and then over the lip of the hanging valley below Stanley Peak. There one meets another bridge, which crosses the Stanley Creek at an elevation of about 5600 feet. From there the trail meanders through some unburnt forest and a boggy area until it disappears on the rock slides and talus slopes beyond. I traversed that part of the trail between the two bridges (see map on next page).

PROCEDURE

A survey was conducted along the Stanley Glacier Trail to discover what birds were frequenting the area. This involved walking a specified section of the trail, stopping for 15-minute intervals at particular places to listen and watch, and recording all observations on special cards. Each field trip required four hours; two on the trail and two on the highway. Friday mornings were set aside for the project. Visits were made on August 8 (8:30 - 12:30), and on August 15 and 22 (6:00 - 10 :00).

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Location of Stanley Glacier
Trail on Vermilion Pass Burn.

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OBSERVATIONS

(a) Northern Three-Toed Woodpecker

22 August, 8:15 A.M., 5600 feet.

One, probably an immature, was seen 1 1/8 mile up the Stanley Glacier Trail about 100 yards before the second walk bridge. It was moving upwards on the trunk of a charred Engelmann spruce tree, knocking off chips of bark. Weather: clear and sunny, calm and cool (50°F.).

(b) Clarke's Nutcracker

15 August, 8:23 A.M., 5600 feet.

One was observed 50 yards west of a little pond near the upper bridge on the trail. It flew from tree to tree, calling loudly. Then it disappeared from sight to the northwest. Weather: 70% overcast but sunny, slight west wind (must have been very strong overhead because clouds were rolling quickly eastward), 65°F.

(c) Red-Breasted Nuthatch

15 August, 8:07 A.M., 5500 feet.

One was heard 60 yards north of the little pond on the Stanley Glacier Trail near the upper bridge. Weather: (See Clarke's Nutcracker).

(d) Pine Siskin

8 August, 11:20 A.M., 5400 feet.

One was flying below the tree-tops about 1.1 miles along the trail. Weather: overcast, calm, 60°F.

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(d) Pine Siskin (con't)

15 August, 7:22 A.M., 5300 feet.

One was heard as it flew overhead about 0.3 miles along the Stanley Glacier Trail. Weather: (See Clarke's Nutcracker).

In addition to the above, other species were observed on the burn although not along the Stanley Glacier Trail. They include the sparrow hawk, boreal chickadee, robin, mountain bluebird, Townsend's solitaire, myrtle and Audubon's warblers, slate-colored junco, and perhaps a pine grosbeak (if I can confirm the song). These species records are mentioned in Part Two of this report on "BIRDS IN KOOTENAY NATIONAL PARK".

DISCUSSION and SUMMARY

The objectives here are to point out some drawbacks of the bird succession study, and to outline various improvements.

Regardless of the many merits of studying bird succession on the Vermilion Pass burn, the study may have to be abandoned if the output of data does not increase. Whether or not this increase is realized depends largely on the design of the bird study itself.

In its present state, the study has too limited a framework within which to function. The Stanley Glacier Trail for example, is convenient, but it does not adequately serve its purpose, and the timetable for field work is not a product of my experience on the burn. In view of these and other hindrances to productivity (including the scarcity of birds), a more refined scheme is needed that is closely adjusted to the burn environment. This requires planning and research.

Initially, one must acquire a knowledge of the literature pertinent to the bird succession study. (Hence, the reference list in this report.) In reading background information, and subsequently in recording observations, the ecological

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amplitude of each species warrants the most attention because it determines a bird's distribution. What birds require in the way of food, cover, nesting sites, nesting materials, singing perches, water, and soil is disclosed, at least in part, in the literature.

The next step is to familiarize oneself with the range of environmental conditions on the burn. Then a route can be chosen that touches as many different habitats as possible in a reasonable distance. It is this pathway that will be followed time and again during the bird study.

Concurrently, one must decide on the best time to visit the burn. When, in relation to dawn or dusk, are the birds there most active? Once this question is answered, a practical timetable can evolve.

Other things to consider in this bird study are (1) making a detailed vegetational/topographic, grid-type map, and smaller maps for spot-checking birds; and (2) comparing the birdlife of the burn with that of adjacent areas in terms of population, distribution, behavior, etc. The literature will provide additional ideas for intensifying the project.

The data from the bird succession study will of course be exposed to yearly re-examination, and comparison with new information. So it is important that a common denominator be developed for those who will carry on the bird study in the future.

To summarize, in spite of the lack of an abundant and varied birdlife on the Vermilion Pass burn, I am confident that much valuable information is at our disposal there. By researching the literature, refining the methodology, and by enriching the field observations, that information can be secured.

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