Research will be continued at the University of Wyoming concerning radiation and isotope accumulation, fat analysis, trace element analysis, complete elemental analysis of the parent rock strata, and chromatography analysis of various plant and animal tissues.

Assisted by Ralph Dimmick, University of Wyoming, and Allen G. Smith

Supported by the New York Zoological Society and the National Park Service. Cooperators were Grand Teton National Park, Teton National Forest, Yellowstone National Park, and the U.S. Geological Survey.

Population Study of Canada Geese in Jackson Hole, Wyoming

Ralph W. Dimmick
University of Wyoming
Project Number 113

General Objectives:

1. To determine the seasonal distribution, size, and productivity of the Canada goose population in Jackson Hole.

2. To evaluate the various factors influencing Canada goose habitat and productivity, i.e., variable stream flow, proposed water impoundments, hunter concentrations, etc.

3. To formulate a management plan suitable for protection of the habitat, optimum productivity, and wise harvest of the Canada goose population in Jackson Hole, Wyoming.

Results

Periodic censuses of the Canada goose population in Jackson Hole were made during the year. In 1961 the peak population occurred in late August and early September, when 733 geese were observed. The peak population was observed during September 10-14 when 855 geese were located. The goose population was lowest during the breeding season when 198 were counted on the study area. Approximately 44 per cent of the birds present on the study area during the period of nest site selection and incubation were actually engaged in the production of young.

A total of 40 Canada goose nests was located during the 1962 nesting season. The first nest was initiated April 4, with the peak of nest initiation occurring during April 11-20. The peak of hatching occurred May 16-30; the last clutch hatched June 15. The length of the nesting season was 73 days. Nest success was 62.5 per cent, with 29 nests hatching at least one egg. Mean clutch size for 34 nests believed to be complete was 5.5 eggs, and mean brood size was 4.8 goslings for 38 broods observed during a brood census.

Patterns of water releases from Jackson Lake Dam were examined to detect the influence of the dam upon goose production and movements. During the period 1956-62, these releases were believed to be not detrimental to Canada

goose production. No nest destruction on the Snake River could be attributed to flooding in 1962.

Returns from 1381 geese banded while moulting during the period 1955-1960 indicated a mean annual mortality of 8.6 per cent among adult geese. Of 284 returns from geese banded at Turbid Lake and Jackson Lake, 183 (64.4 per cent) were from birds harvested in Wyoming.

Of the climatological data examined, snow cover appeared to have the most effect upon the goose population. Locations of goose concentrations in Jackson Hole are directly related to food availability, and the covering of terrestrial food supplies forces the birds to utilize the aquatic food or to emigrate. The major wintering area for that portion of the flock which does emigrate is Roosevelt Lake, Arizona; 46 per cent of 101 foreign recoveries were from this area. The remainder were scattered along the route of migration.

Supported by the Wyoming Game and Fish Department.

The Ecology, Taxonomy, and Bionomics of Insects in the Grand Teton Area

J. Gordon Edwards
San Jose State College
Project Number 117

Several hundred insect specimens were collected and identified to Order and Family, and most were also keyed to the correct Genus and Species. These specimens will be left at the Research Station to serve as a reference collection to aid in the identification of additional local material in the future. Several interesting specimens were found including tremendous numbers of Mud-loving Beetles (Heterocerus) in certain mud-banks, two common kinds of Crawling Water Beetles (Haliplus) in almost every pond, an unusual caddis-fly larva of Family Hydroptilidae, and many interesting kinds of Coleoptera and Diptera larvae. Part of the study involved a cooperative program with Dr. Clarke involving collection and identification of insects from a series of beaver ponds in the Third Creek area. The identifications included the following:

Coleoptera
- Dytiscidae, 12 genera with several different species identified under many of these genera.
- Gyrinidae, 1 genus.
- Haliplidae, 1 genus, 2 species.
- Heteroceridae, 1 genus.
- Hydraenidae, 1 genus.
- Hydrophilidae, 5 genera.

Diptera
- Chaobridae, 1 genus.
- Chironomidae, 7 genera.
- Culicidae, 3 genera.
- Dixidae, 1 genus.
- Ephydridae, 1 genus.
- Heleidae, 2 genera.
- Tipulidae, 2 genera.