A Study of the Plant Ecology of the Willow Flats

William C. Edwards
University of Nebraska
Project Number 121

This was the second summer of a proposed three summer research project on the Willow Flats area west of the Research Station. The majority of research involved two main lines: a continuation of work on the willows and associated species of vascular plants in the area and research on the life cycle of the bog birch Betula glandulosa Michx.

The willows which were collected and tagged last year were relocated and recollected. In addition several species which were not collected last year were collected and tagged. The willows collected last summer were sent to Dr. George Argus during the winter, and his identifications will accompany the specimens which will be deposited in the Rocky Mountain and Grand Teton Park Herbaria.

An area was located where the bog birch was relatively abundant, and 100 sites were established and information was obtained on height, catkin production, growth pattern and associated species of vascular plants. Weekly for eight weeks 100 twig samples of birch were collected and information on growth rate, duration and pattern plus leaf production was obtained. Twig and shoot collections were also made and these will be kept alive for greenhouse studies to be conducted at the University of Nebraska. A seed collection of birch was made and germination tests and observations on seedling growth will also be made at the University of Nebraska.

Information on distribution of the birch was also obtained by extensive reconnaissance in the valley floor and up into several high mountain valleys.

Both Yellowstone and Grand Teton Park Herbaria were also utilized extensively for obtaining information on distribution and identification of the specimens collected.

Next summer the work will be continued on the willows, birch and identification and analysis of the rest of the vascular flora in the area.

Supported by the New York Zoological Society.