

1985

## Science Notes - New Course in Natural History at Iowa Lakeside Laboratory

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### Recommended Citation

(1985) "Science Notes - New Course in Natural History at Iowa Lakeside Laboratory," *Iowa Science Teachers Journal*: Vol. 22 : No. 3 , Article 10.

Available at: <https://scholarworks.uni.edu/istj/vol22/iss3/10>

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## SCIENCE NOTES

### New Course In Natural History At Iowa Lakeside Laboratory

During the summer of 1986, a course in natural history, developed and first taught at the 1985 summer session, will be offered at Iowa Lakeside Laboratory.

The course focuses upon the major habitat types in Iowa: prairies, woodlands and wetlands. The objective of the course is to familiarize students with important species, community structure and function, and sampling techniques in each habitat. An experimental component asks students to carry out a research project. The course is taught by Dr. Paul Christiansen, Cornell College, and Dr. Richard Lampe, Buena Vista College, with help from Jean Prior from the Iowa Geological Survey.

To open the 1985 session, Jean Prior spent a day in the field with the class visiting local examples of significant landform types. This orientation provided a basis for evaluating the landscape as a factor in the distribution of plants and animals. Landforms representing glacial history, loess deposit and flood plain formation are within easy driving distance of Lakeside Laboratory, located on West Lake Okoboji. The Iowa Great Lakes area has typical "knob and kettle" topography with gravelly knobs in close proximity to wet potholes. A few miles to the west and south, the older Tazwell surface is dissected by streams and better drained. The loess hills bordering Iowa's western boundary north of Sioux City provide a unique habitat, much drier than surrounding land forms.

Northwest Iowa is particularly well suited for an introduction to the prairie. Two large preserves, Cayler Prairie and Freda Hafner Preserve, provide a spectrum of prairie habitats within a few miles of Lakeside Lab. At the lab, a 40-acre prairie in various stages of disturbance is ideal for comparison with the largely undisturbed preserved prairie. Activities on the prairies involved determination of cover and frequency of plants, primary productivity, soil characteristics, and analysis of relationships between sampled sites. Distribution, movement and population size of small mammals was determined along with observations of other prairie mammals and birds.

Several forest sites, particularly Milford Woods and Fort Defiance Park, contain a variety of age, aspect, slope and disturbance conditions which influence the existing forest community. A range of forest types from bur oak to sugar maple-basswood was sampled and compared using both plot and plotless techniques. The effect of edge on the species and activity of birds was correlated with profile diagrams of the vegetation in the zone of transition.

Ponds and sloughs abound in the Lakeside area. Nearby Jemmerson Slough is easily traversed by canoe and has examples of several types of wetland habitat. Observations of birds, muskrats, fish and aquatic organisms filled several days. Riffle and pool organisms in small streams on the lab property exemplified adaptations to contrasting environmental conditions. Using Lakeside's excellent equipment, studies were made of dissolved oxygen-temperature profiles, planktonic forms and bottom fauna of West and East Lake Okoboji, which contrast in size, depth and nutrient load.

All-day trips to Pilot Knob State Park, Fort Defiance State Park and Gitchie

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Manitou State Preserve and an overnight trip to the Loess Hills Recreation Area provided opportunities to observe landforms, habitats and organisms not available near Lakeside Lab.

Habitats on the laboratory grounds provided a wealth of potential research problems for class members. After an initial question-asking and question-refinement activity, students carried out investigations on such diverse topics as night vs. day activity of the jumping mouse, the effect of galls on the vigor of Canada goldenrod, and the effect of herbicide treatment on prairie plants. Time was made available during the five-week course for data collection and analysis. Research reports were prepared and oral presentations given.

The 1986 summer course will be given at Lakeside Laboratory by the same teachers. Details on registration, scholarships and other information are available from Dr. Richard Bovbjerg, Department of Biology, University of Iowa, Iowa City, IA 52244 or from the authors.

— Paul Christiansen, Cornell College, Mt. Vernon, IA 52314, and Richard Lampe, Buena Vista College, Storm Lake, IA 50588.

### National Youth World of Water Awards

The National Marine Educators Association (NMEA), a professional organization of educators representing all levels and disciplines of education, in conjunction with the Marine Technology Society, announces the third annual *National Youth World of Water Awards*.

Students in grades 9-12 during the 1985-86 academic year who are winners in local, state, national or international science fair competitions are eligible to submit their marine or aquatic science projects for consideration. Twenty high school science fair projects, representing the best in marine or aquatic research at their respective levels, will be selected by a team of eminent scientists and educators for this special recognition.

Winners of the student competition will be invited with their teachers to make poster presentations of their winning projects at the National Youth Conference on Marine and Aquatic Science and at the OCEANS '86 Conference and Exposition in Washington, D.C., Sept. 23-25, 1986. These conferences offer students who have been recognized for their excellence to meet with educators and scientists who can share their expertise.

The deadline for entries is May 1. Students and teachers should contact their Science Fair Directors for more information.

— K.L.C.