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Field Biology at Algona High School, Summer, 1960

JOE E. COLLIER AND GEORGE J. BALLUFF¹

Abstract. The class was made up of seven junior and senior boys who had already successfully completed a regular one-year course in biology. The over all classroom time was 120 hours. Five hours were spent in the school and the remaining time was spent in the field. During the 5-week course, dove banding, wildlife survey of a section of land, gill-netting of fish, vegetation transect, and identification of birds, plants, fish, reptiles, amphibians, and mammals was carried on.

Classes for the field biology course started at 6 A.M. on the morning of the 9th of June. The schoolroom consisted of a 42-passenger school bus. Room was made in the bus for a 17-foot canoe, books, nets, microscopes and other equipment. There were seven junior and senior boys in the class. During the course the time spent in the field each day was not less than 4 nor more than 10 hours. Classes were conducted 5 days a week.

DOVE BANDING

Three locations were used for banding doves, all in Kossuth County. They included the Algona city cemetery, the Burt city cemetery, and a large evergreen grove on the Wayne Keith farm south of Burt, Iowa. Frank Tellier, the conservation officer of Kossuth County, gave instructions on proper banding of young birds.

Equipment included rear view mirrors on a long pole, banding pliers, step ladders, leg bands, needles, blotter-type blood sampling disks, and envelopes. The young doves were taken from the nest, and if their legs were large enough so that the band would not slip off, the band was attached to either leg. Blood samples were taken from the large wing vein. These samples were sent to the Cooperative Wildlife Unit at Iowa State University for a study on disease antibodies. Ninety-nine nestlings were banded between 9 June and 17 July. All banding was under the direction of Harold Burgess, Refuge Manager of Union Slough National Wildlife Refuge, Titonka, Iowa. Banding permit number 7024-B was used. At the time of this meeting no bands have been returned.

PLANT AND ANIMAL SURVEY

Section 32, Union Township, Kossuth County, Iowa, was

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selected as the site to study plants and wildlife. A complete coverage was made of the entire section (640 acres) by walking over the area, field by field. Records were made of the acreages of crops, size of the fields, principal wild plants, and dens and nests of animals of the area. Each student was required to make an accurate map of the area to show the information gathered. Four fox dens, 2 badger dens, 2 pheasant nests and many other smaller dens were found.

Work was started on a wooded section of land along the Des Moines River. However, due to rainy weather, study of this area was not completed.

The purpose of this survey was to observe the relationship of wildlife to the cover on the area.

FISH SURVEY

Fish survey work was done under authorization from the Iowa Conservation Commission, Scientific Collectors Permit 30. Nets were obtained from the Fisheries Research Unit at Iowa State University. Gill nets, bag seines and minnow seines were used. Most of the fisheries study was conducted on the Des Moines River and other smaller streams of Kossuth County. Fish were caught, identified, weighed, measured, scales removed for later age study, and then returned to the water. Two or 3 specimens of each kind of fish were kept and preserved in formalin for further study.

FIELD TRIPS

Field Trip to North Twin Lake

A 2-day trip was made to North Twin Lake in Calhoun County for the purpose of checking fish populations. A similar check has been made by the senior author for the past 5 years. Both gill nets and bag seines were used. During a 32-hour period of gill netting the nets were raised every 2 hours. Three walleye, 41 bullheads, 10 carp and 1 large mouth buffalo were taken. Bag seining along the shore at 2-hour intervals yielded many young-of-the-year perch, bullheads, bluegill, and a few crappie and walleye.

Bottom samples were taken by the students diving and bringing up double handfuls of bottom material. The only living things found in these samples after the material was sifted were a few oligochete worms.

Field Trip to Union Slough

An 8-hour field trip was made to Union Slough National

Wildlife Refuge near Titonka, Iowa, for the purpose of acquainting the students with plants of the marsh. A vegetation transect was made of the area. The boys were dressed in swim trunks and tennis shoes. Two canoes were used to facilitate keeping accurate and dry records during the crossing. Plant species found in the marsh were identified by Harold Burgess, refuge manager, and by Dr. William Green, Region Three Refuge Management Biologist. Following completion of the plant study, a drive to find nests of waterfowl on the area was conducted.

Miscellaneous Trips

A 1-day trip was taken to Spirit Lake for the purpose of observing rough fish removal by the Iowa State Conservation Commission crews and to visit the hatchery.

One-half of a day was spent at the Humboldt fish hatchery where the students were given information on rearing on catfish. The boys were shown the proper way to use kegs for nest boxes for catfish and were shown how the eggs should be removed from the kegs. A demonstration was given to show the technique for use of pituitary hormones to stimulate female catfish to spawn.

A full day was spent at Iowa State University at the Wildlife Research Unit, the Insectary, the Botany Department and the greenhouses. At each place the students received information from persons in charge of the area.

SUMMARY

It was the purpose of the course to give the students a better understanding of some of the duties and problems of a biologist in the field. The course included field identification of algae, weeds and grasses, trees, birds, mammals, amphibians, fish, and reptiles. At the end of the course 120 classroom hours of instruction had been completed. A 45-minute oral examination was given to each student. Results ranged from excellent to average. The apparent knowledge acquired by the students indicated that the course was a success.

The school is now planning to sponsor a second field biology class in 1961. It is felt that for good field work there should be not less than 6 students nor more than 14.

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