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A Summer Travel Course In Field Natural History

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The most interesting, informative, and profitable course taken by the writer as an undergraduate (at Oberlin College) was a travelling field course through the northwestern states led by Dr. Lynds Jones, Professor of Ecology. In direct imitation of this, a similar course was conducted in the summer of 1955 by Iowa State Teachers College, which covered 6600 miles, from Cedar Falls to the northwest corner of the state of Washington, through the Badlands and Black Hills, and Yellowstone, Glacier, Mt. Rainier and Olympic Parks, returning by way of the Oregon coast, Crater Lake, northeastern California, Great Salt Lake, Dinosaur Monument, and Rocky Mountain Park. It was particularly appropriate to follow much of the trail of Lewis and Clark in this sesquicentennial year of their pioneer exploration.

A college bus was used for transportation, and overnight stops were made at motels and cabin camps, with almost all meals being eaten at restaurants. Fourteen students were enrolled (10 quarter hours credit), making a party of nineteen people. All of the students were school teachers, half of them having returned for graduate work. A preliminary week was spent on the campus, in preparation for the six weeks in the field, followed by another week at Cedar Falls on completion of the trip. A fee of $300 was charged, which included tuition, the two-weeks board on the campus, all lodging, transportation, admissions, and insurance. Books and personal incidentals (laundry, souvenirs, camera film) were not included, nor the cost of the meals enroute (average $110).

Most phases of outdoor science were studied, especially geography and climatology, geology and mineralogy, plant and animal taxonomy and ecology, forestry and dendrology, mammalogy and ornithology, herpetology and entomology, ethnology and archeology, reclamation and conservation, and agriculture. Photography (1500 snapshots) and collecting were emphasized, as the teachers were encouraged to bring back materials they could use in the classroom. Towards the end of the trip the large amounts of bulky (500 species of pressed flowering plants) and heavy (hundreds of rocks and minerals) specimens made it fortunate that the bus had started out with several empty seats. A small library was also carried.

In anticipation of the difficulty of every student studying in detail all of these subjects, each of the students agreed in advance

to be individually responsible for writing up, on the one hand, a geographical region (a state or a physiographic province), and also, on the other, a subject area (e.g., geological processes, Indians, mammals, forests, or wild flowers). The preliminary week was spent in advance reading, and the final week in taking examinations and compiling final reports. These reports were duplicated so that each student received a complete copy of all the observations and compilations of every member of the party, in the form of a volume with thirty-two chapters.

The single instructor attempted to direct most of the field observations, but 35 additional lectures and field trips were provided by park naturalists, forest rangers, teachers, museum curators, engineers, and other specialists.

After two short introductory field trips in the deciduous forest of the Cedar Falls area, two days were spent at the Iowa Lakeside Laboratory on Lake Okoboji, examining the tall-grass prairie, glaciation phenomena, and the lake habitats. Stops were made at Gitchie Manitou Park (Fig. 1), the Badlands of South Dakota, Mt. Rushmore, Crazy Horse Memorial, Legion Lake in the Black Hills, and Devil's Tower, Wyoming. Three days were spent in Yellowstone, studying the geyser basins and the bears (Fig. 2), and then the route went northwest, stopping at the headwaters of the Missouri River (Fig. 3), and the National Bison Range. Two days at the University of Montana Biological Station made possible conducted field trips on Flathead Lake (Fig. 4) and in the montane forest. At all such major stops an attempt was made to identify all conspicuous organisms that could be found, especially the trees, wild flowers, mammals, and birds, and to study environmental factors and ecological relationships.

Three days in Glacier Park allowed for an all-day fourteen-mile hike from the lowland forest (Fig. 5) on Lake McDonald (3000′) up through the subalpine forest to Sperry cirque (6500′), through deep snow on the Fourth of July. Then, after visiting the Plains Indian Museum in Browning, and Hungry Horse Dam, and spending a night in Idaho, crossing was made into Washington, stopping for tours of Grand Coulee Dam, the Sun Lakes area, and Ginkgo Petrified Forest. Several short field trips on Mt. Rainier included a visit to the terminus of Nisqually glacier, and a hike in the snow up Paradise Valley.

Along the west side of Puget Sound coniferous forests and water birds were studied (Fig. 6), and marine algae, starfish and molluscs collected. A hike out to Cape Flattery brought us to the extreme northwest corner of the United States. Two nights stay in the Indian Reservation at La Push afforded an opportunity for an ocean voyage to Carroll Island, where young glaucous-winged gulls were banded, puffins were disturbed in their burrows, oyster-catchers were found on the rocky shore, and sea

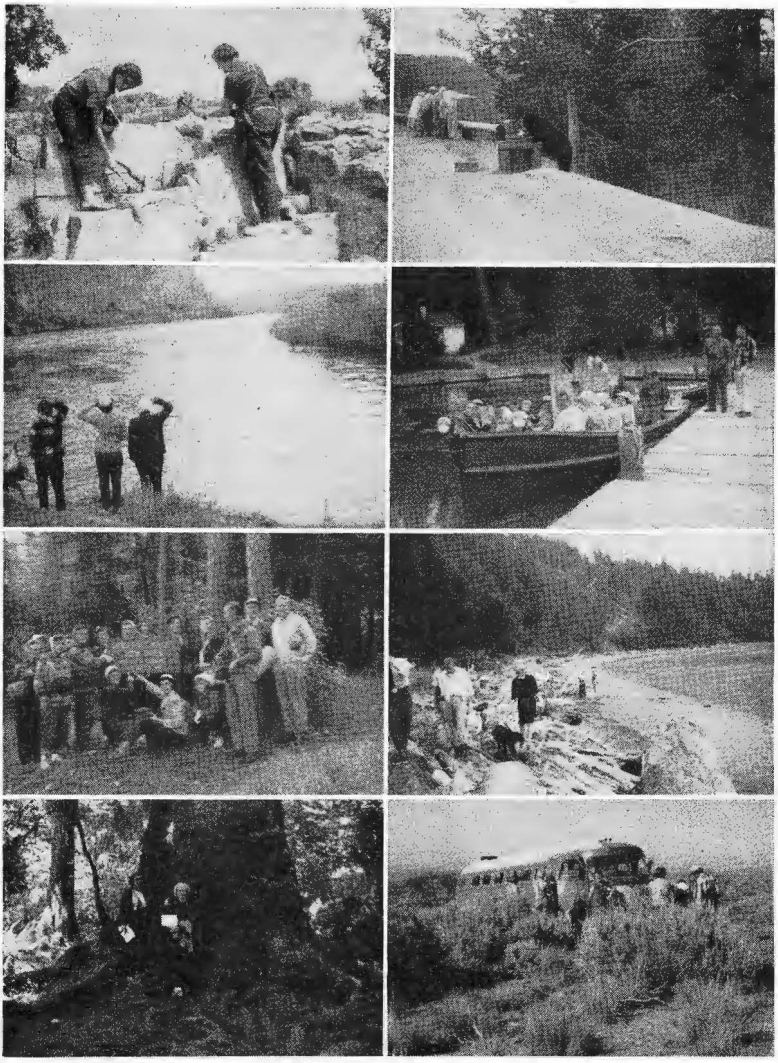

Figure 1. Sioux quartzite, Gitchie Manitou Park, Iowa.
Figure 2. Black bear, Yellowstone Park.
Figure 3. Source of the Missouri River, Three Forks, Montana.
Figure 4. Class at Montana Biological Station, Flathead Lake.
Figure 5. Start of hike to Sperry Glacier, Glacier Park.
Figure 6. Puget Sound coniferous forest.
Figure 7. Sitka spruce, Hoh forest, Olympic Park, Washington.
Figure 8. Desert scrub, Lava Beds Monument, California.

lions and bottle-nosed whales were approached. The dense Hoh rain forest of the Olympic Peninsula was possibly the most novel forest type observed on the trip, with tremendous western red cedars (up to twenty feet in diameter), Douglas-fir, and Sitka spruce (Fig. 7).

A ferry took us across the mouth of the Columbia River, and several stops were made along the Oregon coast to observe marine life, from giant rays to mussels. A tour around the rim of Crater Lake followed, and then Lava Beds National Monument (Fig. 8) and the Tule Lake Bird Refuge in northern California were visited. Down to Reno and across to Salt Lake City was next, with a swim in the lake, and a visit to the Bingham copper mine.

Dinosaur National Monument provided an excellent opportunity to see large fossil skeletons in situ, and the next major stop was in Rocky Mountain Park, where the alpine meadow was in full bloom, and pine grosbeaks and paint-brushes were conspicuous red features of the trail above Bear Lake. Both ends of the Adams Tunnel through the Rockies were visited and the Big Thompson Reclamation Project was observed in many of its parts. The return trip led across Nebraska.

No attempt will be made to summarize the many vegetational associations studied, nor the many species of woody plants, herbs, ferns, bryophytes, and thallophytes collected.

Black bear, raccoon, mule and white-tailed deer, elk, bison, pronghorn, sea lion, brown bat, porcupine, pika, dolphin, prairie dog, marmot, and various rabbits, hares, squirrels and voles were observed.

Field notes were made on 220 species of birds, including, by families, 33 finches, 24 ducks, 12 woodpeckers, 12 blackbirds, 10 sandpipers, 9 jays, 8 each of hawks, fly-catchers, thrushes, and warblers, 7 herons, 6 gulls, and 6 swallows. Daily estimates of the numbers of individuals were made, the greatest being the Brewer's blackbird, with 2840, followed by, with over a thousand each, the redwing, bronzed grackle, mallard, cinnamon teal, cliff swallow, California gull, barn swallow, glaucous-winged gull, house sparrow, mourning dove, violet-green swallow, and purple martin. Over 500 each of nine other species were seen, and for 28 species, only one individual was noticed. These rarer birds included the snow goose, golden eagle, duck hawk, sooty grouse, prairie chicken, rufous hummingbird, Natalie's sapsucker, white-headed woodpecker, arctic three-toed woodpecker, western flycatcher, coast bush-tit, prothonotary warbler, and Macgillivray's warbler.

Nests were found of 26 species of birds, including the osprey, tufted puffin, alpine three-toed woodpecker, Hammond flycatcher, mountain bluebird, Audubon's warbler, yellow-headed blackbird, and white-crowned sparrow. Many water and game bird parents

were found with their young, e.g., eared and western grebes, Canada goose, redhead duck, and valley quail. A more complete ornithological summary of the trip has been published (M. L. Grant, 1955. Bird study in a field course in natural history. Iowa Bird Life 25: 48-50).

Altogether there were visited 12 national parks and monuments, 7 wild-life preserves, 33 national forests, 9 Indian reservations, 10 reclamation, power, and flood-control projects, 8 state parks, and several mines, museums, biological stations, memorials, bridges and dams. Other experiences included desert heat, mountain snowstorms, rain and hail, mosquito bites, sunburn, snowburn, waterburn, sea-sickness, and bus and boat breakdowns. All in all, it was an extremely interesting, but busy (too busy!) trip, overwhelmingly full of magnificent sights and rich experiences with many aspects of nature.

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