

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO 54, ILLINOIS.

9 1945

January 2, 1945.

MEMORANDUM for the Regional Director, Region Four.

For your information and that of the Superintendent, Crater Lake National Park, we are transmitting two copies of a report on the Park bear problem at Crater Lake which was prepared on December 14, 1944, by Joseph S. Dixon of the Fish and Wildlife Service.

In view of the facts presented by Mr. Dixon, and by Superintendent Leavitt in previous correspondence, we urge that every possible means be taken to construct an incinerator as soon as possible. We believe that this piece of equipment should be placed high on the Park project construction program for physical improvements. In the meanwhile, it seems that some benefit might be secured by treating all garbage with oil and burning it as soon as the waste is dumped in the pit each day.

It appears also that steps should be taken to exclude the public from the service road leading to the garbage pit as a safety measure and in order that a "show" may not be established.

(SGD) Hilory A. Tolson

Acting Director.

Enclosure 2535836.

In duplicate.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO 54, ILL.



ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

January 6, 1944.

Comment to accompany the Acting Director's memorandum of January 2 to the Regional Director, Region Four, on garbage disposal at Crater Lake National Park.

There is no need for having an open garbage pit so close in as presently located. It could be several miles away on some little, old road away from tourists--the garbage could be burned as suggested or the bears could eat it and thus satisfy their hunger and help keep them off the roads. The pit could also be fenced if there were: (1) a desire to do so; (2) funds; and (3) ability to secure the materials.

The matter of dead timber for firewood for the incinerator is not pertinent. Most of our new incinerators use oil as supplemental fuel.

(SGD) OLIVER G. TAYLOR

Chief Engineer.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

REPORT ON THE BEAR PROBLEM AT CRATER LAKE
NATIONAL PARK
December 14, 1944
by
Joseph S. Dixon

JAN 19 1945

The present bear study at Crater Lake is a current problem of wildlife research on public lands and was carried on cooperatively by the Fish and Wildlife Service and the National Park Service. From May 11th to June 9th, 1944 I made a special study of bears in relation to domestic livestock at Crater Lake. Bears had been reported destroying new-born calves and lambs in the important cattle producing area adjacent to the south boundary of the park. Therefore, the study was made at the critical time when the calves and lambs were small and most vulnerable to attack. The bears were then also hungriest, having just come out of hibernation. However, only one valid instance was found in which a bear had killed a calf and the actual loss found was light, being much less than reported.

During August and early September the relation of bears to people living in the Park was investigated. Because of war time restrictions on travel, gasoline, and tires and owing to its distant location far from centers of population, relatively few campers visited Crater Lake this year. The huckleberry crop was poor and because of the failure of both garbage and berry crops, the bears at Crater Lake seldom had the satisfaction of full stomachs. Because of this shortage of both natural and artificial foods the open-trench garbage pit was visited daily by the bears.

As explained in Assistant Superintendent T. C. Parker's memorandum of September 12th, 1944, "Because of the large visitor attendance during 1941, and

the resultant increase in the volume of garbage and refuse, the bears gathered around our headquarters area garbage pits in ever increasing numbers, which naturally caused considerable overflow of bears into the camp grounds, residential areas, and along the main highways. Crater Lake was fast becoming a "bear" park in the worst sense of the term. Forty bears were counted at one time in and around the garbage pit that summer". Because of limited funds, the pit or trench type of disposal was the only method of garbage disposal thus far available and has been continued until a more efficient method can be worked out and put into operation;

The outbreak of the war brought considerable relief through a decline in visitor attendance and a consequent reduction in garbage. The bear problem was thus reduced in the actual tonnage of bears and garbage involved but the bears that remained were ones that had become badly addicted to a garbage diet and lived largely on this unnatural food. Several bears learned that much of the present garbage originates in the garbage cans kept at the cabins occupied by park employees which are located a scant quarter of a mile from the open garbage pit, and naturally the bears proceeded to exploit this food supply. One bear invaded a cabin and refused to be driven away from the bacon and other food that it found on the kitchen shelves. This bear became a menace to the women and children, refusing to be driven away from food that it found in the houses, so it was permanently removed.

During August, 1944 I found that certain bears spent much of their time at the open garbage pit which was approximately 120 feet long and 12 feet wide where they fed daily on the garbage. (See Fig.1.) Six bears were seen at the garbage pit at one time but rarely were more than three adults in the pit at the same time. Daily observations revealed that one large old "boss" male

bear (See Fig.2) always drove the other bears away from the fresh deposit of garbage until he had pawed it over and selected and eaten the choicest portions. Having eaten the choicest snacks, this bear usually retired to a cool shady spot beside the road where he waited. (See Fig.3), to beg contributions of candy or other food from the occupants of the private automobiles that regularly made the quarter mile side drive from the main highway into the garbage pit. Traffic was always better over the week-end with Sundays bringing the greatest number of cars to the park and over the little loop service road that lead to the garbage pit. The National Park Service gave no publicity to the bears at the garbage pit. However, counts made on various Sundays showed that about 30% of the cars that came into the park on the main highway drove down to the garbage pits. A check on the automobile license plates showed that most of the cars visiting the garbage pit were Oregon licenses and evidently belonged to local



Fig.1. Neg.#326-8. The existing open garbage pit showing three bears coming in to feed on freshly dumped garbage. Dixon's "Bears at Crater Lake", December, 1944.



Fig.2, Neg.#41-12. This largest old male "boss" bear always drove the other bears away and so got the choicest bits of garbage. Dixon's "Bears at Crater Lake", December, 1944.



Fig.3, Neg.#324-12. The "boss bear took it easy while waiting in the shade for a chance to beg food from park visitors. Dixon's "Bears at Crater Lake", Dec. 1944.

people. Very few "out of State" cars visited the garbage pit and apparently few of them knew of its existence.

Certain bears shared their garbage and permitted other bears to feed unmolested within a few feet of them (See Fig.4) but in the majority of instances the biggest bear ate his fill first then the next largest and so on down the line. The yearlings and the cubs waited either up a tree (See Fig.5) or at the end of the line.



Fig.4, Neg.#326-7. Certain bears were willing to share the garbage. Note rear bear eating grease-soaked paper, an unnatural diet difficult even for a bear to digest. Dixon's "Bears at Crater Lake", December, 1944.



Fig.5, Neg.#41-8. The cubs climbed trees and waited until the big bears had finished feeding. Dixon's "Bears at Crater Lake", Dec.1944.

Several bear fights resulted when bears came too close to each other at the garbage pit. (See Fig.6)

Fig.6. Neg.#326-4. You keep out of my garbage or I'll tear you apart. Dixon's "Bears at Crater Lake", Dec.1944.



In order to keep the bears from raiding the residential area, garbage was kept in the cabins and not placed in the garbage cans until just before the garbage truck made its daily rounds at 2.30 in the afternoon. This helped to keep down bear depredation but it had its draw-backs. One bear made life miserable by coming around just ahead of the garbage truck and raiding the garbage in the cans. Experiments proved that bears can detect the presence of "fragrant" garbage such as cantaloupe rinds, at a distance of 70 feet under favorable air conditions. Keeping the garbage in the cabins was a dangerous invitation to all hungry bears to break into the cabins for food kept there. One bear in particular hung around the housekeeping cabins and on many occasions when a meal was being cooked the bear would sit a few feet distant sniffing the tantalizing odor. (See Fig.7)

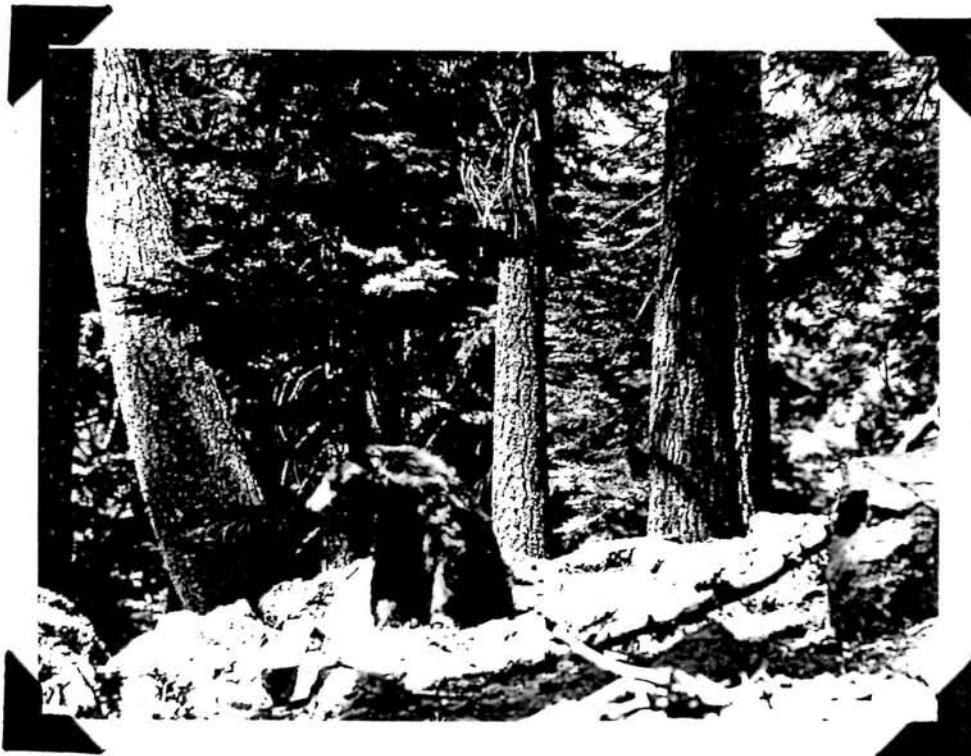


Fig.7, Neg.#325-3. A hungry bear sniffing the tantalizing fragrance of a stew cooking in a nearby cabin. Dixon's "Bears at Crater Lake", Dec.1944.

One day while I ate lunch in our cabin, a bear came up and tried to claw the screen off the cabin door. This bear later tried to open our cabin door while I was sitting 6 feet away from it and may have been the one that broke into and seriously damaged an empty, parked and locked car.

It should be stated that the 1944 huckleberry crop was poor at Crater Lake. I followed various bears about for many hours while they sought huckleberries. (See Fig.8)



Fig.8, Neg.#325-8. The huckleberry crop was short this season and the bears worked hard for a few berries. Dixon's "Bears at Crater Lake", Dec.1944.

Although these bears worked diligently, they were able to gather relatively few berries, not enough to satisfy their hunger. It was their usual custom to locate huckleberries through the sense of smell. Having located the berries, the bear then grasped the huckleberry branch loosely in its mouth and by a twist of its head dragged the branch through between its teeth, thereby

securing several berries plus some green leaves. (See Fig.9). Examination of bear feces indicated that the bears swallowed some huckleberry entire without chewing them.



Fig.9, Neg.#325-10. In gathering huckleberries, this bear would take a sprig 12 to 20 inches long in its mouth. Then, with a side swipe of its head strip the berries off the branch and swallow them often without chewing them. Dixon's "Bears at Crater Lake", Dec.1944.

In order to see how the bears were behaving on the National Forest lands adjacent to and comparable to the Park lands, I made a trip to Huckleberry Mountain which lies west of Union Peak just outside the park. Here, on August 25th, I found that the people in the Forest Service camp ground were having considerable trouble with bears. Investigation revealed that there were many extensive patches of huckleberry but that the berry crop was light and spotty. Tracks and droppings showed that most of the bears had given up the berry patches in favor of the garbage that they found at the various camp grounds.

I found some places where garbage had not been properly disposed of but had been thrown into squirrel holes, under stumps, where it had later been dug up and eaten by the bears which thus encouraged proceeded to raid the food supply of the campers. Three well trained dogs had been unable to keep the bears out of one camp ground after the bears had started raiding the campers food supplies. One large bear had been killed but still serious depredations continued. Garbage draws bears just as honey attracts bees and there is little doubt that as long as garbage is dumped in an open trench as at Crater Lake, they will continue to have a bear problem.

RECOMMENDATIONS.

On August 29th, 1944, Superintendent Leavitt, Assistant Superintendent Parker, Chief Ranger Gilbert and I visited the proposed incinerator site on the west side of the Middle Fork of Anna Creek near the lower end of Munson Valley. Here just below the 6000 foot contour at the head of a small unnamed creek there is excellent open flat land with lots of dead, beetle killed, lodgepole pines, handy and suitable fuel (See Fig.10) for the incinerator. A simple road, which could be kept closed to the public use, has been built to service the electric power line, that leads directly from park headquarters, a distance of two miles, south to the incinerator site. Clearing of necessary timber along this power line has already been done. Electric current is readily available and water could be pumped from the Middle Fork of Anna Creek. I would favor the development of a gravity flow of water for the incinerator at the head of the little unnamed creek.

Following studies and conferences with engineers and landscape architects at the Regional Office, I concur strongly in Superintendent Leavitt's



Fig.10, Neg. #49-9. A suitable site for the proposed incinerator was found at the lower end of Munson Valley along the Park electric power line. The lodgepole pines, shown in the foreground were killed several years ago by bark beetles. They afford a good fuel supply for the incinerator and water and electric power are readily available. Dixon's "Bears at Crater Lake", Dec.1944.

memorandum of Sept.12,1944, recommending that as soon as possible an incinerator be constructed at the above site. Proper removal and incineration of garbage will go a long way toward solving the bear problem at Crater Lake.

Joseph S. Dixon
Joseph S. Dixon,
Field Naturalist.

Berkeley, California.
December 14th,1944.