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History of Fishing in Yosemite

By A. E. BORELL
Naturalist

There are few sports which demand such world wide interest and encouragement as does fishing. Every year fishing takes millions of people away from the cities and gives them strenuous outdoor exercise and mental diversion. Since most varieties of fish can be reared and planted so successfully the fisherman does not have the feeling that he is contributing to the extermination of his game which often is the case with the hunter. A fisherman on the bank of a high mountain stream is at peace with the world.

There are several interesting things regarding the history of fish in Yosemite. When the first white men came into Yosemite Valley they found trout in the Merced River but none in the tributaries or lakes above the rim of the valley. The ancestors of our fish developed in the ocean and gradually certain species

worked out of the ocean into the fresh water streams. Some of these were destined to remain in the slow running water of the main rivers but others forced their way into the rapid mountain streams at the very headwater of the rivers. However, the fish which came up the Merced River found themselves confronted with the insurmountable waterfalls of Yosemite Valley. Trout belong to the salmon family or Salmonidae which means leapers. The trout and salmon are powerful leapers but cannot possibly get over such mighty waterfalls as Vernal, Nevada, Yosemite, Illilouette or Bridalveil.

The pioneers found also another condition which is quite different today. There were only two species of fish inside the boundaries of the present Yosemite Park. They were the Rainbow Trout and the Western Sucker. J. M. Hutchings in his book, "In the Heart of the Sierras,"

(1886) mentions this fact. He adds the interesting note that the best catches were made by using bits of sucker meat for bait and fishing at night. He says that the Indians used this method and brought large strings of trout to the hotels where they sold them for 25 cents a pound. Night fishing and sale of trout are now banned by state law.

Following the discovery of gold thousands of settlers moved into California. With this rapidly increasing population the streams of the Sierra were soon over-fished. Private individuals took up the work of rearing and planting trout in the depleted streams and in introducing trout into waters which were formerly barren. But the planting by private individuals was limited and did not meet the demands of the general public. To improve the hunting and fishing and at the same time conserve certain specimens of fish and birds and mammals from extermination the California Fish and Game commission was organized in 1870. Since that date the commission has been introducing, rearing and planting fish of many species throughout the state. Of recent years special attention has been given to the rearing and planting of trout.

According to Col. H. C. Benson, who has been responsible for much of the early fish stocking in Yosemite, the first distribution of trout in Yosemite Park was made in 1877. In

that year Mr. Kibbe planted trout in Lake Eleanor (species and number not known). In the following year John L. Murphy is supposed to have planted trout in Lake Tenaya. It is thought that even previous to this sheep herders may have moved trout from one stream to another so as to have fish near their summer camps.



**Chief Ranger Townsley
and a Big One.**

The California Fish and Game Commission made its first trout plant in Yosemite in 1892. In the fall of that year a shipment of Black Spotted Eastern Brook and Rainbow trout were shipped from the hatchery at Sisson (Siskiyou County) to Raymond by train and then hauled by stage by the way

of Wawona to Mono Meadows.

Here they were loaded on pack animals and taken to Ostrander and Merced Lakes, Bridalveil Creek and other creeks and lakes in the region. During the following years Col. H. C. Benson took an active interest and distributing trout throughout Yosemite Park with the aid of his soldiers. They seined trout in certain waters and planted them in barren streams and lakes. About this time Cap. A. E. Wood procured Eastern Brook trout and planted them in Alder Creek.

In 1895 a hatchery was built at Wawona by the California Fish and Game Commission. This hatchery continued to supply fish to the general region until 1927 when the new State Hatchery was built at Happy Isles, Yosemite Valley. The new hatchery took over the work and continued to stock new waters and restock depleted waters.

Today we find that practically all of the waters of the Yosemite region which will support fish have been planted. We find also that instead of the one species of trout which was found here originally there may be as many as ten species of trout inside the boundaries of Yosemite National Park. Rainbow, Eastern Brook, Shasta, Loch Leven, Cutthroat, Steelhead, German Brown, Black-spotted or Tahoe, Dolly Varden and Golden Trout have been planted here. Dolly Varden trout were planted in one of the Chain Lakes, near the southern boundary

of the park and in the Merced River. They are not held in esteem by fisherman and have not received encouragement since their original planting. For that reason they may now be extinct in the park. The Loch Leven and German Brown trouts are so much alike, at least in the Yosemite region, that both are usually classed as Loch Leven. Shasta trout is so much like the Rainbow that most fishermen do not recognize them. This leaves seven kinds in the park which are easily distinguished by the experienced fishermen. Eastern Brook, Loch Leven, and Rainbow are by far the most common trout of Yosemite but Steelhead, Black-spotted, Cutthroat, and Golden trout are the common species in certain waters.

In addition to the seven species of trout another fine game fish, the Grayling, has been introduced. In 1911 a plant of this species was made in one of the lakes at about 10,000 feet elevation. Since that time Grayling have increased in the lake and have worked down the outlet stream. Introduction of Grayling had been tried here previously without success. So far there is no open season on this species in the park.

The Yosemite Hatchery with the aid of the Ranger department raises and plants about 1,500,000 fry each year. This heavy planting insures good fishing in the Yosemite region in spite of the tremendous number

of people who visit the region each year. The great majority of the visitors are not willing to hike very far. This, together with the continuous planting, provides excellent fishing for those who are willing to hike a few miles from the automobile roads.



California State Fish Hatchery at Happy Isles



YOSEMITE TREES

The Tree of Many Names

By **M. E. BEATTY**
Assistant Park Naturalist

The Douglas Fir (*Pseudotsuga taxifolia*) is probably the most mis-named tree in the world having something like twenty five different common names. The reason for this confusion is three-fold; the tendency for assigning local names, the use of trade names for lumberman and similarity to other species of trees.

A few of the common names of this tree are listed here to illustrate:

1. Douglas Fir, 2. Douglas Spruce, 3. Red fir, 4. Yellow fir, 5. Spruce, 6. Fir, 7. Red Pine, 8. Oregon Pine, 9. Puget Sound Pine, 10. Douglas Trees, 11. Cork-barked Douglas Spruce, 12. Red Spruce, 13. Douglas Yellow Fir, 14. Oregon Fir, 15. Pacific Coast Douglas Fir, 16. Montana Fir, 17. National Yellow Fir, 18. Golden Rod Douglas Fir, 19. Yellow Douglas Fir, 20. "Santium" Quality Fir, 21. Christmas Tree.

The genus *Pseudotsuga* is distinctive in that it is represented by only three species in the entire world, two in America and one in Japan. In botanical relationship it stands in an intermediate position among the spruce, hemlocks and firs, hence, the great variety of common names.

Pseudotsuga taxifolia as a name is taken from the (Greek) *pseuda* meaning false, (Japanese) *tsuga* or Hemlock's while (the Latin) *taxifolia* means foliage like a Yew. In other words, the scientific name of "False hemlock with yew like foliage."

The Douglas Fir as it is best known, is the chief lumber tree of the Pacific Northwest and is found from the Rocky Mt. to the Pacific and from British Columbia to Mexico. No other conifer yields wood of such lightness, strength, flexibility and durability.



Canada Goose, a New Bird for Yosemite

By Clare McGee
(Field School '33)

At noon on Saturday, March 10, 1934, a cool sunny day, a Canada Goose or Honker, (*Branta canadensis*) was seen feeding along the shores of the delta at the east end of Mirror Lake. The black and white pattern of the face, black neck and legs, and grayish body were less conspicuous against the sandy background than might be expected, and when the goose was motionless it was difficult to see.

When the find was reported to the Yosemite Museum in the afternoon, two members of the staff immediately went to the lake to see the bird and confirm the report of the first Canada Goose in the Yosemite Valley, a new bird to the check list. At 4:30 p. m. the goose was within one hundred yards of the place where it had first been seen.

One of the men attempted to get a photograph, but when he was within fifty yards it took flight and with powerful strokes of its tremen-

dous wings and loud, deliberate honking was soon out of sight down the river. Five minutes after the goose had flown, it returned and was seen soaring and circling about five hundred feet overhead showing the broad wings with several flight feathers on each wing conspicuously lacking. It lost altitude rapidly as it circled, and after several circles, it arched its wings very strongly downward, forming almost a perfect half circle, dropped rapidly and landed heavily near the east end of the lake. It then swam toward the shore where it had first been seen, moving its head back and forth deliberately as it swam.

Since the discovery of the goose, Mirror Lake has been visited almost daily by some member of the Museum staff. Each observer reports the goose near the east end of the lake. It was still there on March 20th.

A flock of geese were seen flying over Wawona several weeks before by Robert Beal, but they were too high to identify as to species.

A Rare Hawk in Yosemite

By A. E. Borell, Naturalist

There are days in spring when an office seems like a prison and we long to be out on the trail. April 17, 1934 was such a day, and I was fortunate to be on my way to Half Dome.

It had been a mild winter and there was little snow left below 8,000 feet. Light tips on the ends of the branches of pines and firs indicated the amount of this year's growth. The booming of the Sierra Grouse and the antics of a pair of Red-breasted Nuthatches indicated that the mating season of at least some species of birds was at hand.

Upon reaching the foot of the cable which is about 8,400 feet in elevation, I surveyed the panorama which laid below me. A passing shadow called my attention to a large bird soaring above. It was obviously a Falcon but I could not identify it as to species. However this individual was obliging and continued to circle about in a great spiral, getting lower and lower until it flew slowly past at eye level. Then I could see distinctly the black bar down the side of the face and the dark color of the back which identified it as a Duck Hawk (*Falco peregrinus*). It continued to circle and disappeared to the south.

The Duck Hawk is a comparatively rare bird throughout California and is decidedly rare in Yo-

osemite. According to our records this species has not been recorded in the Park since June, 1926, and only twice previous to that date. All of the former observations were made in Yosemite Valley.

The Duck Hawk lives mainly on the sea coast and about large bodies of water. It is powerful and fast in flight and is the species which was most used in falconry.

CAN SNAKES DISGORGE PARTIALLY SWALLOWED PREY?

(By Guy Van Duyn)
Field School '32

There is a prevalent belief that snakes due to the barb-like, rearward tilt of fangs and maxillary teeth, cannot disgorge a victim of their appetite, once the process of swallowing is well under way.

One hears creditable-sounding tales of two snakes with like intentions seizing upon the same prey from opposite ends, the alleged ultimate outcome being that the larger snake must and does swallow the smaller, which later, even though finding its mistake, cannot relinquish the morsel.

With certain exceptions this general belief is without foundation the exceptions being traceable to characteristics of the prey rather than to the dentition or other shortcomings of the snake. Occasional fatal

instances of optimistic rattlers attempting to swallow over-sized horned lizards are matters of authentic record. If the lizard is small enough it will in due time be swallowed but in cases where the almost miraculous elastic qualities of the snake's mouth and throat are overtaxed by the broad, chunky body of the lizard, the snake will be in a bad way. The rearward slant of the spines of "horns" on the lizard's head act like so many barbs, imbedding themselves in the snake's distended throat, sometimes even penetrating the skin.

The ordinary type of lizards, frogs and small rodents give a snake no difficulty should he for any reason change his mind about the desirability of the meal, when half swallowed.

Very good evidence of this was seen (July 19, 1933) in the case of a small pacific rattler which made a meal of a good sized microtus mouse. The meadow mouse was half swallowed when the snake was removed from its cage and placed in the open, for the purpose of photographing the swallowing process. The snake showed no desire to rid itself of the mouse at this stage as might have been the anticipated result of being disturbed. On the contrary, upon being released, it increased its effort to complete the repast and it appeared doubtful whether the cameras could be foc-

used before the mouse disappeared. Several pictures were taken, however, and the hind-quarters partly engulfed when the rattler for some obscure reason suddenly decided to reject the meal.

The disgorging proceeded at a rate greatly exceeding the swallowing. Whereas the latter had consumed some fifteen or twenty minutes up to this point, the former would have required only a matter of seconds. The snake literally backed off from the mouse with a series of opening and twisting motions of its jaws.

The process was interrupted by the writer for the benefit of the photographers who were not yet satisfied with their results. As the head of the mouse was about to reappear the snake was quickly seized by the neck and the mouse gently pushed back to its erstwhile position.

This operation had to be repeated three times before satisfactory pictures were obtained.

The snake was then gently replaced in the cage with its fellows, the mouse being firmly held in position for some thirty seconds. Pressure was then very gradually released on both diner and dinner and they left undisturbed for a time. When the writer returned to the scene an hour later the snake was complacently digesting the troublesome repast now merely a prominent bulge amidships.



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Dan Anderson