



# WILDLIFE NOTES

## Kokanee salmon

### *Oncorhynchus nerka*

Ages ago young sockeye salmon were migrating downstream, heading for the ocean. Their parents had beaten a torturous path to the spawning grounds from the ocean the previous fall. After making redds (nests), they spawned the eggs for these smolts (young) and then died. Now the smolts were completing the second phase of sockeye life cycle.

But something was different. The smolts came downstream into a large lake their parents had not had to traverse. A large rockslide, or earthquake, had created a huge dam and lake. The water, seeping through the dam, continued on to the Pacific; but the smolts could not follow.

Making the best of the situation, they stayed in the lake. After living in the lake three years and growing to about a third of the size reached by their ocean cousins, they started maturing. The females developed eggs. The males formed a hump back and hooked jaws, an appearance altogether fierce.

Both the males and females had an irresistible urge to return to the place where they hatched. They fought the current upstream to the spawning grounds, spawned, and died, just as their parents had. This cycle was repeated many, many times.

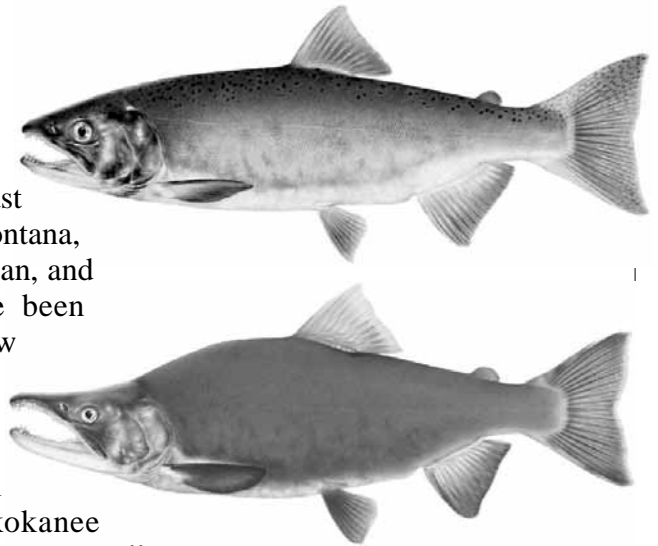
The kokanee's original range was lakes on Pacific Coast drainages in Idaho, Montana, British Columbia, Japan, and Siberia. They have been widely stocked, and now most western states have kokanee populations. Neighboring Colorado has several waters with good kokanee populations, and the state annually takes millions of eggs for stocking other suitable waters.

New Mexico's first kokanee were stocked in 1963 in the Pine River, which was flowing into Navajo Reservoir. Now kokanee fry are routinely stocked into five of New Mexico's northern lakes.

Kokanee fry come from eggs given to, traded to, or purchased by the Department of Game and Fish and hatched at a department hatchery, usually Parkview. Eggs are also obtained from Department of Game and Fish's own spawning operations, usually conducted at Heron Reservoir.

Kokanee prefer cool (near 50 degrees F), well-oxygenated water. That is why they are found at 50-foot depths during the summer, and near the surface in the spring and fall.

They feed almost exclusively on zooplankton (small water organ-



isms), although large adults will prey on small fish. They have from 28 to 40 gill rakers (rainbow have 17 to 21) with which they strain zooplankton from the water.

In New Mexico kokanee usually mature in three years. Maturing kokanee change drastically. Their scales become embedded in a thick outer secretion surrounding the body. Males turn from a silver to a brilliant reddish orange color, develop hooked jaws and a pronounced dorsal hump. Females turn a coppery color. These are the kokanee taken by snaggers when they school in shallow water in November and December.

Kokanee have a strong homing instinct, but at the same time are weak swimmers compared to other salmon. This creates a contradiction: They know where they want to go but don't have a strong urge to swim against heavy cur-

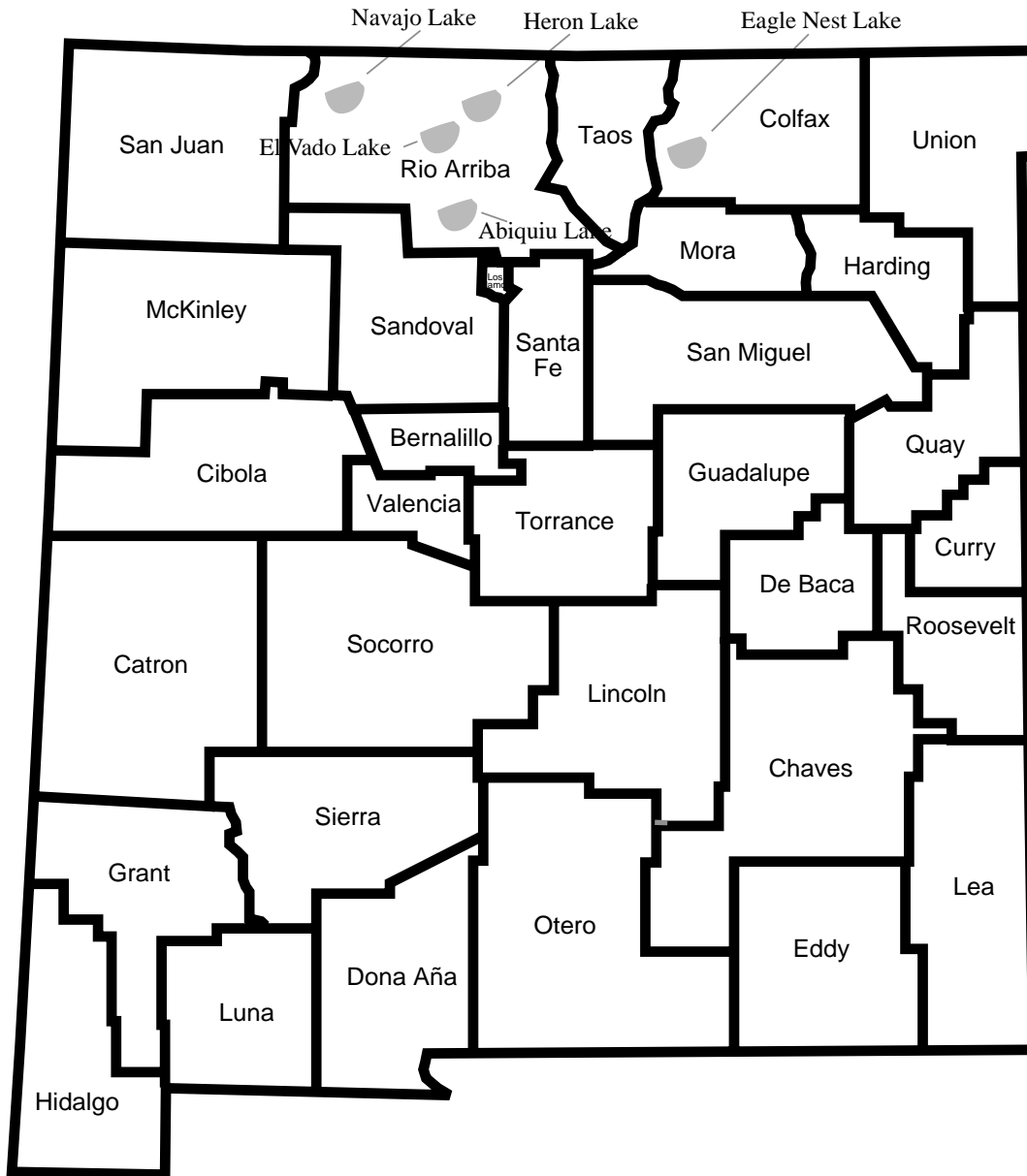
rents to get there. They are not good jumpers either; an 18-inch high barrier effectively prevents passage.

They prefer one-half to four-inch gravel beds for spawning and can successfully reproduce in lakes. Kokanee will unerringly return to stocking sites in lakes; but if spawning conditions are not present, they cruise looking for good gravels. They are known to have spawned at depths of up to 25 feet.

They run in the fall from September through December, with the peak of the spawn usually in mid-November. After spawning, the kokanee die.

Maximum sizes are about 24 inches and three to four pounds. Growth depends on population density, lake productivity, water temperatures and competition from other fishes.

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