

Transport Crate Facilitates Goat Removal

By Bruce B. Moorhead

Wildlife problems in parks can lead to need for safe and practical means of translocating animals. Crates or other enclosed containers, tend to quiet as well as secure captured animals in transit. Emphasis, however, is often on strength (and weight) more than portability and animal care. An experimental program to translocate non-native mountain goats from Olympic National Park has led to the development of a maneuverable, 90-pound crate that is easy to make and may be adaptable to other wildlife species.

In three years of capture operations, 25 of these crates have been used repeatedly in translocating more than 150 goats from the park. The crates have survived much wear and tear, requiring only minor repairs. Animals are placed in them as soon as possible after capture and transferred successively by helicopter and truck to release sites 100 – miles from the park.

The crate is scaled in design to goat dimensions, and measures 48 x 17 x 49 inches exteriorly. The narrow, rectangular shape encourages goats to remain upright and expel ruminant gases, and discourages them from twisting around and becoming injured in transit. The sides and top are constructed from a sheet of $\frac{1}{2}$ inch exterior plywood. Sides also are reinforced at three locations with $\frac{3}{4}$ inch wide metal strapping; interior joints are reinforced with 1 inch chamfer strips. The floor is $\frac{3}{4}$ inch plywood; longitudinal tread-ing is optional to improve footing and encourage internal drainage.

Animals are loaded through a vertically sliding gate at one end. Gates at both ends of the crate aid in unloading animals, but also require added reinforcement (and weight) to the crate. Openings are spaced along the sides, top, and on the floor to provide ventilation and to drain urine and melt water from crushed ice placed beneath the animal as a coolant and water source. A wooden cleat on the gate protects fingers when the gate is being lifted or closed. The gate is fastened, up or down, by lock bolts mounted atop the crate to fit through matching holes in the gate.

The crate exterior is painted with a light-colored latex to reflect sunlight and counter heat build-up within. A number code stenciled on the top, sides, and door, aids in keeping track of the animals. Vital information about each animal (size, medications, etc.) is stapled to the respective crate in a zip-lock bag. The empty weight of the crate is stenciled on the top and sides to assist in rapidly calculating helicopter loads.

Crates are moved to and from capture locations, 2 to 4 at a time, in helicopter slingloads. Loaded crates are maneuvered at helicopter landing sites by 2 to 4 people lifting them (like a sedan-chair) with lengths of plastic pipe suspended through nylon loops on the sides of the crate. Most goats weigh in the 75 to 200 pound range. Large males over 250 pounds have been successfully transported, but a bit confined by a crate of these dimensions.

This design was adapted from a standard crate for hooved animals described in the *Animal Restraint Handbook* by D. Jessup and W. Clark of the California Department of Fish and Game. The improvements

are a collaborative effort by park rangers, scientists, veterinarian Jim Foster, and park carpenter Spence Thompson.

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