

MOVEMENTS AND REPRODUCTIVE SUCCESS OF BLACK BEAR INTRODUCED INTO ARKANSAS

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Between 1959 and 1967, 254 black bear (*Ursus americanus*) were transplanted from northern Minnesota and Manitoba, Canada to the Ozark and Ouachita National Forest areas of northern and western Arkansas. Two release sites were in the predominately oak-hickory forest types of the Ozark National Forest in the Black Mountain and Big Piney Creek areas. One release site was in the predominately pine forest type of the Muddy Creek area of the Ouachita National Forest.

Tag returns and confirmed sightings indicate that transplanted bears frequently made random and occasionally long distance moves from the point of release. There have been confirmed bear sightings and or bears killed in every county of the state since bear stocking was initiated in 1957. Missouri Department of Conservation personnel reported an increased number of bear sightings in south and central Missouri in 1969 that probably were a result of Arkansas' bear stocking efforts (Personel communication). The following tag returns are examples of long distance moves:

S-253, an adult male, was released near Mena, Arkansas, 16 July 1968 and was killed 260 linear miles east, near Horn Lake, Mississippi, 21 April 1969.

S-292, a yearling female, was released near Mena, Arkansas, 9 August 1968 and was killed 160 linear miles north, near Branson, Missouri, 27 October 1968. This bear had gained 63.5 kilograms (140 pounds) in the 79 day interval between release and death.

S-289, an immature male, was released near Russellville, Arkansas, 2 August 1968 and was live-trapped 100 linear miles east, near Mountain View, Arkansas, 23 May 1969.

The Black Mountain stocking area in the Northern Ozark National Forest area has been classed as a failure, with no evidence of sustained reproduction and only an occasional confirmed sighting in the last five years.

The Piney Creek release site north of Russellville, Arkansas in the Ozark National Forest has been classed as a successful effort based on numerous confirmed sightings and adequate confirmed annual reproduction. This release of bear has expanded significantly in both inhabited range and population density.

The Muddy Creek area in the Ouachita National Forest near Mena, Arkansas has been classed as a success, since numerous confirmed sightings of adults and cubs have been made annually since 1966.

The major problems encountered in attempting to reintroduce black bear into Arkansas have been the extensive random movements from the point of release that makes management and adequate protection impossible and the poor public acceptance of the bear as a native species. The age, sex, physical condition of the bear and the type of habitat at the point of release has no apparent bearing on whether the individual bear would remain in the area of release or travel long distances. Bears in the same release and of the same age and sex of bears involved in long distance moves have been observed in the general area of release three years after stocking. Illegal kills have been impossible to document accurately, but we feel that sizable numbers of stocked bears have been destroyed by the public.

Bear restoration efforts have resulted in the establishment of two black bear populations. There is a native population of black bears on the White River

National Wildlife Refuge estimated to number 35-50 animals (Personal communication, Raymond MacMasters). Arkansas has a population of 600-700 bears at this time. Population increases have been slow and at no time in the foreseeable future do we anticipate any type of legal hunting for black bear in Arkansas.

Arkansas abandoned its bear restoration program in 1968 due to high costs of trapping and transporting bear and the increasing public opposition to the presence of bears in the state.

A NEW TECHNIQUE FOR LIVE TRAPPING OF NUISANCE ALLIGATORS

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Local increases in the abundance of the American alligator (*Alligator mississippiensis*) have occurred since adequate protection of the species was achieved through its placement on the rare and endangered species list and the extension of the Lacey Act which prohibited interstate transportation of hides. With an increase in numbers a corresponding increase in requests to Southeastern Game and Fish Departments for removal of nuisance alligators has occurred.

During a radio-telemetry study by the senior author of the American alligator on a ten square kilometer reservoir, near Aiken, South Carolina, low capture success was obtained using published capture techniques (Jones 1965, Chabreck 1963). A technique was sought which would reduce the number of man-hours required to capture an animal in an area of low alligator density where approach by man was unusually difficult. A baited snare trap was developed that eliminates man as an active part of capture. In addition, the trap must be checked only once per day.

The snare trap consists of a simple trigger, guide boards and a flexible pole to set the snare (Table 1). Figure 1 illustrates a typical set. Two 1 m by 30 cm plywood boards, with two stakes attached to each board, are set in a V shape perpendicular to the shoreline. There should be 10 cm of water at the shore side and 30-40 cm of water at the water side. The boards are 15 cm apart at the narrow portion of the V and 60 cm apart at the wide portion. The boards guide the alligator through the snare, located in the wide end, in its approach to the bait, located in the narrow end. The bait is attached to a trigger which holds the snare pole in place until the bait is taken (Figure 2). Once captured, the animal is held by a one quarter inch nylon rope attached to the snare and anchored to a tree on shore.

In fifty-six trap nights, twenty alligators were captured. This represents .35 animals per trap night. The average length of the alligators captured was 2.74 m. All but eight sets were tripped the first night. Of the traps which were tripped (48), 10.4% were tripped by other animal species, 14.6% resulted in trap malfunctions, 33.3% failed to capture the alligator and 41.7% resulted in capture.

¹In cooperation with the School of Forestry, Stephen F. Austin State University.