A New Technique for the Daytime Capture of Adult Alligators

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Abstract: Gill-nets were used to live-capture otherwise elusive adult alligators (*Alligator mississippiensis*) in coastal Georgia. In all of 55 cases, nuisance alligators >1.8-m in length were successfully captured. Advantages of this technique include selective efficiency and effectiveness during daylight hours.

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Numerous hunting and trapping methods for capturing American alligators (*Alligator mississippiensis*) have been described (Chabreck 1963, Jones 1965, Murphy and Fendley 1973, Dewhurst and Chabreck 1987). Shooting with rifles and baited hooks are probably the most effective means of harvesting alligators. However, these techniques often result in the incapacitation or injury of the alligator or sale parts in addition to being viewed negatively by the general public. Methods used in Georgia to capture nuisance alligators must minimize public disturbance, be non-lethal, and encourage selectivity for specific animals. As such, these 2 techniques are employed only as a last resort in extreme situations.

As reported for crocodiles (Webb and Messel 1977), alligators become more difficult to approach and capture with increased hunting pressure, age, learning experience, and capture history. Consequently, trapping with set-snare or box-trap is the only effective method of capturing crocodilians that cannot be approached at night (Hutton et al. 1987). However, trapping is less effective than other nighttime capture methods including the use of harpoons and noosing (Hutton et al. 1987). As such, the capture and removal of adult nuisance alligators with capture histories can be extremely difficult and time consuming.

Although haul seines, and cast-nets have been used to capture elusive alligators in deep water (Chabreck 1963), the use of gill-nets to live-capture alligators has not been described previously. This paper reports the successful use of gill-nets, similar to techniques reported for crocodiles (Webb and Messel 1977), to capture otherwise elusive adult alligators.

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Methods

From January 1989 through December 1990, alligator trappers under contract with the Georgia Department of Natural Resources used gill-nets to capture and remove nuisance alligators after other techniques failed. Nets used were identical to those used by sturgeon fishermen and were floating nets constructed of 15 or 18 cord nylon fish netting. Nets were sewn 20–30 meshes deep with mesh sizes ranging from 23–40 cm stretched. Capture was facilitated when the mesh opening allowed the penetration of the alligator's head but prevented the shoulder and legs from passing.

Exact location and size-class of the alligator was determined first to facilitate the proper mesh-size selection. Nets then were used to encircle or "hem up" the alligator in the corner of a pond or lake. Once the net was in place, the individual was driven into the net with the aid of a small boat and pole. Targeted individuals approached the netted barrier and attempted to cross. Once the head was through the mesh opening and resistance perceived, and/or the individual was prodded with a pole, the characteristic "roll" that followed further constrained the alligator by entanglement. In most instances, the alligator quickly fatigued offering little additional resistance.

Results and Discussion

From January 1989 through December 1990, 60 nuisance alligators were captured in coastal Georgia using gill-nets. Gill-nets 23 cm stretched worked best on alligators 1.9- to 2.4-m in length. Alligators ranging from 2.4- to 3.0-m and 3.0- to 3.6-m in length required gill-nets 30 and 40 cm stretched, respectively, for most efficient captures. Fifty-six of the 60 alligators captured (93%) were captured alive. In all instances, previously-attempted capture techniques included the use of snares, box-traps, and set-hooks failed. Of those captured, 45 alligators were >2.4-m in length. Most captures (67%) occurred during daylight hours.

In all cases, targeted individuals were captured successfully. Although several captures required repeat attempts, the majority of alligators (>75%) were captured on the first try. Maximum number of attempts was 4, and as many as 3 alligators were captured simultaneously. Minimum time required for capture was 30 minutes; maximum time required seldom exceeded 3 hours per attempt. The most time-consuming aspect of this technique involved determining the precise location of the target alligator.

On 4 occasions alligators became restrained underwater and drowned. This technique works best in relatively open areas and in small ponds. In areas with high snag densities, this technique may not be applicable.

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