

CENSUSING AND COLLECTING MARSH RACCOONS VIA AN AIR-BOAT

by

MICKEY FOUNTAIN

Soil Conservationist, Soil Conservation Service
Hazelhurst, Georgia

ABSTRACT

An air-boat was used successfully to collect raccoons in a tidal marsh. Three hundred and four raccoons were seen and collected for 68 man hours expended with the air-boat as compared to 62 raccoons seen and collected for 56 man hours expended with the John-boat. During one two-hour collection, 39 raccoons (approximately one every three minutes) were collected with the air-boat. The number of raccoons seen and collected on each tide was closely correlated to tide height.

INTRODUCTION

Raccoons occur in great abundance in tidal marshes along the Georgia coast and constitute an important element of the marsh ecosystem (Johnson *et al.*, 1975). Many types of studies require the assessment of raccoon populations in tidal marshes.

DESCRIPTION OF THE PROBLEM

The extensive tidal salt marshes are vegetated with smooth cordgrass (*Spartina alterniflora*) and inundated by the tides twice daily. Normal high tides vary from 1.6 to 2.7 meters with tides above 2.3 meters covering most of the flats vegetated with the dwarf form of the cordgrass. Cordgrass on the natural levees, formed along the marsh creeks, stands above even the highest tides (Johnson *et al.*, 1975).

On low tides raccoons feed along the creeks. As the tides rise, they seek refuge on the levees and remain there as the rising water floods the flats. When the tidewater ascends the levees, the raccoons gather stems of cordgrass and climb out of the water. As they near the top, the cordgrass bends over bringing other stems into reach. These are then gathered together to form a platform for resting. Raccoons also lay on mats of dead cordgrass and driftwood snags when available.

While the high tides tended to concentrate raccoons, they were not readily available for observation or collection by a conventional boat equipped with an outboard motor. This report describes the advantages of using an air-boat.

MATERIALS AND METHODS

The study was conducted on approximately 4,000 hectares of marsh adjacent to Little St. Simons Island, Georgia between November, 1972 and February, 1973 and again in May, June, and August, 1975. Raccoons were collected from a 12-foot aluminum John-boat with a 10-horsepower outboard engine or a 14-foot marine aluminum air-boat with a 260-horsepower airplane engine.

Local tide tables were used to select days for collecting. Tide tables are computed for tides at the outer bar. The time lag existing between the outer bar and the marshes was compensated for accordingly. Wind direction also played an important role in tide heights. Tides were increased by east and north-east winds and decreased by west and south-west winds.

Since too much cordgrass protrudes above the water line when the tide is below 2.3 meters, raccoons were only surveyed on tides above that level.

Collections and observations ran from one hour before high tide until one hour past high tide. Raccoons were shot with a .22 caliber rifle or were caught with a dip net, examined, and released.

Since the same area was hunted with the John-boat, then the air-boat, the air-boat samples were biased by prior collections.

Dr. A. S. Johnson, Institute of Natural Resources, University of Georgia reviewed the manuscript, Libby Campbell acted as observer, and Loretta Fountain served as observer and typist.

RESULTS AND DISCUSSION

Comparison of the air-boat and John-boat data showed more raccoons were observed and collected with the air-boat than the John-boat (Table 1). From 1 to 39 raccoons were collected in a two-hour

period. As expected, more raccoons were encountered during the highest high tides with the fewest found on the lowest high tides.

Table 1. Comparison of the number of raccoons seen and collected per two hours with the John-boat and the air-boat.

<i>Height of Tide (In Meters)</i>	<i>JOHN-BOAT</i>		<i>AIR-BOAT</i>		
	<i>Raccoons Seen (Daytime)</i>	<i>Raccoons Collected (Daytime)</i>	<i>Raccoons Seen (Daytime)</i>	<i>Raccoons Collected (Daytime)</i>	<i>Raccoons Collected (Nighttime)</i>
2.30			10		
2.33	1			7	
2.35	4		14		
2.38		1	11		14
2.43	3	1		8	
2.48				9	20
2.51		2		9	39
2.53	5	4	16	21	
2.59			16		
2.61	4			10	10
2.64		5	20	14	
2.66	7	8			
2.69	8		22		
2.71	9		34		

Collecting animals from flats and dead trees with the John-boat presented numerous problems:

1. It was usually necessary to stop the engine, tilt it, then pole to reach the raccoon. In many instances, the raccoon escaped into dense stands of cordgrass along the creek.
2. Many raccoons were not encountered because it was necessary to stay in the stream channel away from the vegetation to keep from fouling the propeller.
3. Slow speeds reduced the frequency of fouling, but limited the range and the number of animals seen.

The air-boat offered several advantages over the John-boat:

1. The air-boat engine and steering mechanism are above the water, eliminating fouling with vegetation.
2. A higher speed increased range, resulting in a larger number of animals collected per man hour.
3. The air-boat was used to ride down cordgrass along creek channels, thus increasing the vulnerability of resting raccoons.
4. The high seats provided greater visibility of raccoons bedded behind the dense growths of cordgrass away from the creek.

The main disadvantages of the air-boat were noise and fuel consumption.

The air-boat was by far the fastest and most successful method of observing and collecting animals.

Adequate samples of animals were observed and collected on 2.4 meter tides and higher by two men using an air-boat in a two-hour period.

Raccoons seemed to congregate on islets during May, June, and August which reduced the number of raccoons collected in the marsh during the daylight hours. Therefore, these islets were hunted with the air-boat at night with a spot light. It was a simple process to circle and hunt these islets with the air-boat, but it would have been almost impossible to hunt some of them with a John-boat. Due to the number of raccoons seen at night, no attempt was made to count them.

LITERATURE CITED

Johnson, A. S., H. O. Hillestad, S. F. Shanholtzer, and G. F. Shanholtzer. 1975. The ecology of the Georgia coast. USDI National Park Service — Scientific Monograph #3. In press.