

SUMMER MOVEMENTS OF TWO RADIO-MARKED HEN TURKEYS ON CRAB ORCHARD NATIONAL
WILDLIFE REFUGE

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ABSTRACT.--Two radio-marked hen turkeys displayed exaggerated movement patterns possibly reflecting marginal habitat quality.

Turkeys were probably extirpated in Illinois by the 1920's. Attempting to reintroduce them, the Illinois Department of Conservation released pen-reared and, later, wild-trapped birds in several southern counties (Calhoun, 1972). By 1967 turkeys began to appear on Crab Orchard National Wildlife Refuge, Williamson County, Illinois (Personal Communication, Crab Orchard National Wildlife Refuge personnel).

In April, 1972, a subadult hen (hen-1) and a mature hen (hen-2) were live trapped and radio marked (Lancia, 1974). Seventy-seven locations were determined for the subadult hen during the 20-week period its transmitter was operating. Sixty-five locations were determined for the mature hen during a 17-week period before it was found dead.

After trapping, both turkeys stayed in the Grassy Bottoms area (Fig. 1). The subadult hen occupied a 250-acre range for 13 weeks, during which time she nested and re-nested. Shortly thereafter she made an excursion of 4 miles to the east side of the Refuge, where she stayed for 1 week before returning to Grassy Bottoms. Since hen-1 was located only three times while on the east side of the Refuge, no range was calculated. After returning to Grassy Bottoms the subadult hen used an area of 200 acres. Thus, this bird moved a total of 8 miles roundtrip through 2,000 acres in a 20-week period.

The mature hen roamed over 590 acres within Grassy Bottoms during a 3-week period prior to moving 5.5 miles to a 40-acre woodlot (Fig. 1). Hen-2 stayed within a 30-acre range inside the woodlot for about 2 weeks before moving 2 miles northeast along a wooded creek bed to a narrow belt of lowland woods bordering the creek. Eighty percent of the time hen-2 was found within this narrow belt; however, some locations were as far as 0.7 mile from the creek. Thus, the range of 180 acres for this period is inflated. After approximately 4 weeks the mature hen returned to Grassy Bottoms. During the monitoring period this bird did not nest. In summary, the mature hen moved a total of 13 miles roundtrip through 7,200 acres in a 17-week period.

Ellis and Lewis (1967, p. 579) in Missouri found that turkeys did not wander daily over their entire range. Instead, radio-marked birds used only

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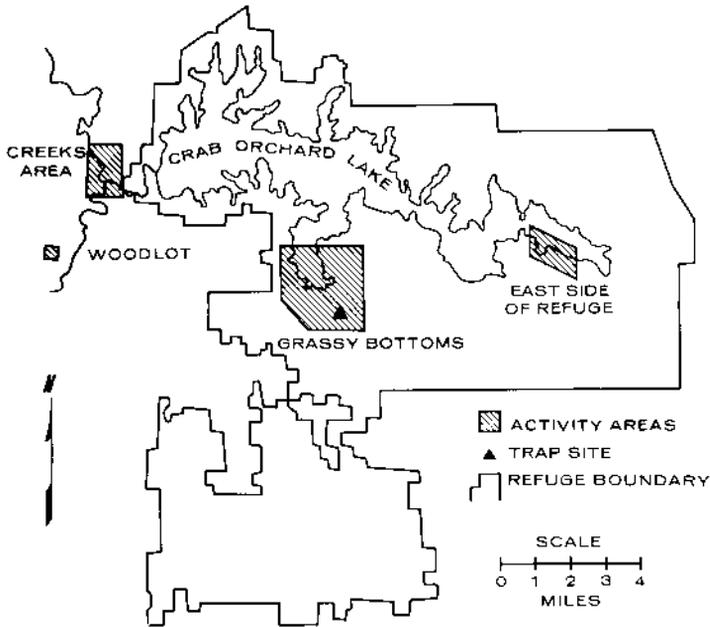


Figure 1.--Schematic representation of summer activity areas of two hen turkeys, Crab Orchard National Wildlife Refuge, 1972.

a small portion of 200-400 acres for 1-3 weeks before moving 1-3 miles to another activity area. The turkeys in our study showed the same, but exaggerated, movement pattern--moving as much as 5.5 miles between activity areas.

Hillostad (1973, p. 109) in Alabama found the average spring and summer range for four nonnesting hens to be 194 acres and for eight nesting hens, 370 acres. We also determined the average minimum distance between extreme locations for the same nonnesting and nesting hens to be 2.75 miles and 1.7 miles, respectively (Hillostad, 1973, p. 113, 115). The ranges occupied and the distances moved by the hens in our study were much greater.

Range sizes and movement patterns found in our study might reflect the suitability of the habitat. Turkeys thrived in the Missouri study area (Ellis and Lewis, 1967, p. 579), and in Alabama the turkey population was expanding rapidly (Speake et al., 1969); however, turkeys were rare in our study area. Since our study area was on the extremity of occupied turkey range in Illinois, perhaps the marginal quality of the habitat along the periphery of the range was reflected in the exaggerated movement patterns.

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