

**RED-SHOULDERED HAWK (*Buteo lineatus*) PREDATION ON  
MULTIPLE LIFE STAGES OF ANURANS IN BRYAN COUNTY, OKLAHOMA**

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On 14 April 2016 at 10:54 CDT, from approximately 20 m away, Caldwell (KC) observed a Red-shouldered Hawk (*Buteo lineatus*) taking a large tadpole (>5 cm in length) from the surface of an experimental pond tank at Southeastern Oklahoma State University in Bryan County, Oklahoma. The tank is one of 12 tanks in an outdoor aquatics facility, all of which are 6 m in diameter and 2.5 m deep. KC was unable to identify the species of tadpole; however, the only anuran species observed in the tanks at the time were bullfrogs (*Lithobates catesbeiana*) and southern leopard frogs (*L. sphenoccephalus*). The hawk immediately perched on top of the 2.5 m high perimeter fence surrounding the tanks and consumed the tadpole.

At the same site, on 19 April 2017 from approximately 14:15 to 14:30 CDT, from 50 m away, KC observed a Red-shouldered Hawk actively foraging among the tanks. It was initially seen standing on a floating platform or ladder rung in one of the tanks. It subsequently flew to the perimeter fence, and then made multiple passes over the tanks. It was observed to capture a prey item, which could not be identified, and subsequently consumed it while perched on the perimeter fence. At least twice it landed on a floating mesh-covered platform in one of the tanks. When the platform was subsequently inspected, a gray treefrog (*Hyla versicolor*) was visible under the mesh; it may be conjectured the hawk was attempting to capture it. Finally, in-flight, the hawk took a large adult anuran (Figure 1), tentatively identified as a bullfrog based on color and apparent skin texture, from one of the tanks. It perched

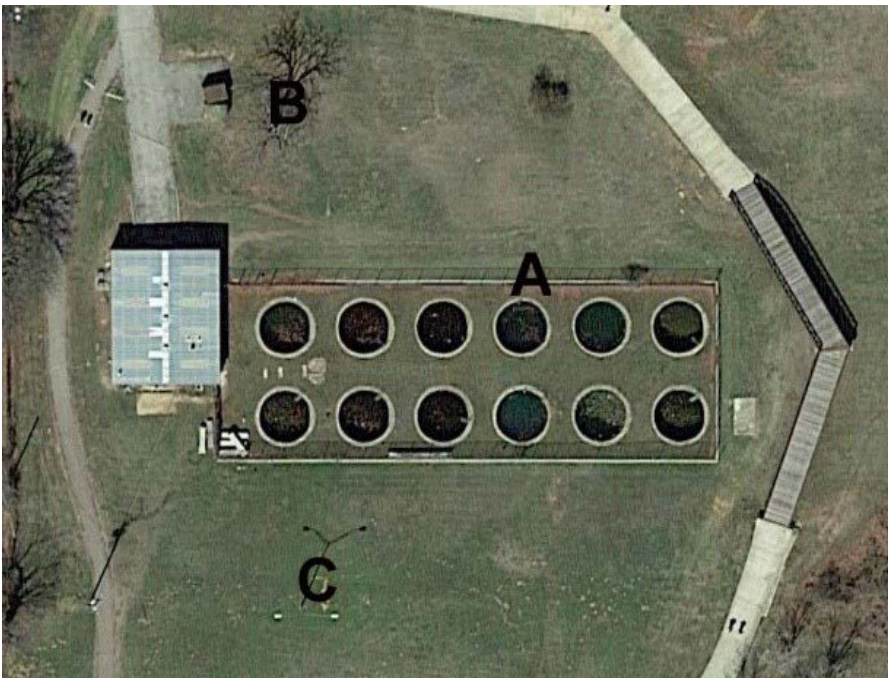


**Figure 1.** Red-shouldered Hawk (*Buteo lineatus*) grasping an adult anuran taken from the surface of a tank at the outdoor aquatics facility at Southeastern Oklahoma State University.

on top of the fence for <10 seconds and then flew northeastward out of sight. Considering the intense level of activity observed in this instance, we speculated that the hawk may have taken the captured anuran to feed a nesting mate or nestling.

A pair of Red-shouldered Hawks are known to frequently forage from the tanks each spring and nest in a wooded area traversed by Chuckwa Creek, located approximately 500 m northeast of the facility. When foraging, the birds are most frequently observed perched on the perimeter fence (Figure 2A), in the crown of a post oak (*Quercus stellata*) approximately 10 m from the ground (Figure 2B), or on top of a security light pole approximately 9 m in height (Figure 2C). This is largely consistent with behavior reported by Nicholson (1930) and Dykstra *et al.* (2008). Frogs were the only prey identified that were actively taken by the Red-shouldered Hawks from the tanks.

There are several citations in the literature of Red-shouldered Hawks taking amphibian prey. In Florida, Nicholson (1930) reported frogs to be a favored food item of Red-shouldered Hawks. Stewart (1949), as well as Portnoy and Dodge (1979), documented anurans among food items consumed by nestling Red-shouldered Hawks in the northeastern United States. An investigation, carried out from 1939 to 1942 by Ernst (1945), found amphibians comprised 18% of the diet of Red-shouldered Hawks in central New York. Strobel and Boal (2010) investigated regional variation in diets of Red-shouldered Hawks in eastern North America and found that amphibians were often the prey item most frequently taken by Red-shouldered Hawks at southern latitudes. Circumstantial evidence of Red-shouldered Hawk predation on larval amphibians has been reported in New York. Hamilton (1942)



**Figure 2.** Satellite image of Southeastern Oklahoma State University outdoor aquatics facility with letters denoting perches frequently utilized by Red-shouldered Hawks while foraging from tanks: a fence approximately 2.5 m in height (A); the crown of a post oak (*Quercus stellata*) approximately 10 m from the ground (B); and the top of a security light pole approximately 9 m in height (C).

observed a Red-shouldered Hawk standing among an aggregation of American Crows (*Corvus brachyrhynchos*) around an evaporating pool that contained larval amphibians. A day after the initial observation, American Crows collected at the site were confirmed to have consumed larval amphibians. We are not aware of any previously published records of Red-shouldered Hawks taking anuran larvae.

### ACKNOWLEDGMENTS

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