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NOTES

Prey Remains Identified in River Otter, *Lontra canadensis* (Schreber), Latrines from Eastern Kentucky—Information concerning the historic range of river otters in Kentucky is limited, but they probably once inhabited every major waterway in the Commonwealth (Cramer 1995). Otters were extirpated from Kentucky by the early-to-mid 1900s by the combined influences of unregulated harvest, habitat destruction, pollution, and human encroachment (Cramer 1995). In 1991 the Kentucky Department of Fish and Wildlife Resources initiated a river otter restoration project with the goal of restoring self-sustaining populations of otters throughout suitable habitat in the eastern half of the state. A total of 359 river otters was released statewide, with 155 of the animals being released at various sites throughout the Eastern Coal Field Region of Kentucky (Cramer 1995).

To gain an insight into the predatory role river otters play in Kentucky's rivers and lakes, portions of the drainages associated with six river otter release sites in the Eastern Coal Fields physiographic region of Kentucky—i.e., Little Sandy River, Red River, Tygarts Creek, Paintsville Lake, Middle Fork of the Kentucky River, and the Little Sandy River—were surveyed between June and December 1998 in order to locate *L. canadensis* latrines. River otters establish marking sites called latrines. Latrines, also known as pulling-out places (Liers 1951), sprainting areas (Erlinge 1967), haul outs (Mowbray et al. 1976), and landings (Melquist and Hornocker 1983), are shoreline locations where otters leave the water to defecate, urinate, and/or scent mark. Fecal material (scat) left at latrines contain the indigested portions of prey items consumed by river otters, e.g., fish scales and crayfish exoskeletons (Poole 1954).

In this study, otter scats associated with a latrine site were combined into one sample, dried, broken apart, and a subsample consisting of approximately 10% of the entire sample randomly selected for analysis. Items were identified based on exoskeleton parts, bones, scales, and microscopic characteristics of hair. All food items were recorded and diet composition determined based on frequency of occurrence. Analysis of 162 otter latrine samples revealed crayfish, fish, mammals, and insects were present in 98%, 57%, 6%, and 2% of the samples, respectively. No other animal remains, i.e., bird, reptile, amphibian, were found.

Serfass et al. (1990) found that 93% of otter scats in northeastern Pennsylvania contained fish, while crayfish were found in 4% of the scats. In Montana, Greer (1955) reported fish were most prevalent in scats, being detected in 93% of the scats examined; however, no crayfish remains were found. In coastal lakes in northern California, Modafferi and Yocum (1980) found that starry flounder (*Platichthys stellatus* 70% occurrence) and crabs (*Cancer* sp. 51%) were the most prevalent prey items in otter scats. In central California, Grenfell (1974) concluded crayfish were the most important food item for otters, being found in 98% of the scats examined. The major prey items identified in river otter latrine sites in eastern Kentucky, i.e., crayfish and fish, seem to reflect the general dietary pattern of the species throughout its range.

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Blue Crabs, *Callinectes sapidus* Rathbun, in Tennessee River Reservoirs—Mainstem reservoirs provide ideal habitats for invasive species of both plants and animals (Thornton et al. 1990; Yurista et al. 2000) but only rarely is the leap made between saltwater and freshwater habitats. The blue crab is widely distributed along the Gulf and Atlantic coasts of North America. Although reproduction must occur in salt waters (salinity >20 ppt) and females occur primarily where salinity is high, males are often found in low salinity estuaries to freshwaters (Guillory et al. 2001). Gunter (1938) recorded blue crabs as far as 305 km upstream in the Atchafalaya River, Louisiana, and there are a number of other distinctly freshwater records (Odum 1953; Wurtz and Roback 1955; Gunter and Hall 1963). To date, there had been no authenticated records of blue crabs from the Tennessee River or elsewhere in the Ohio River Basin.

The first record was a capture by a fisherman in Wheeler Lake near the Wheeler Dam, 28 June 2006. The crab was a female measuring 170 mm across the carapace (tip

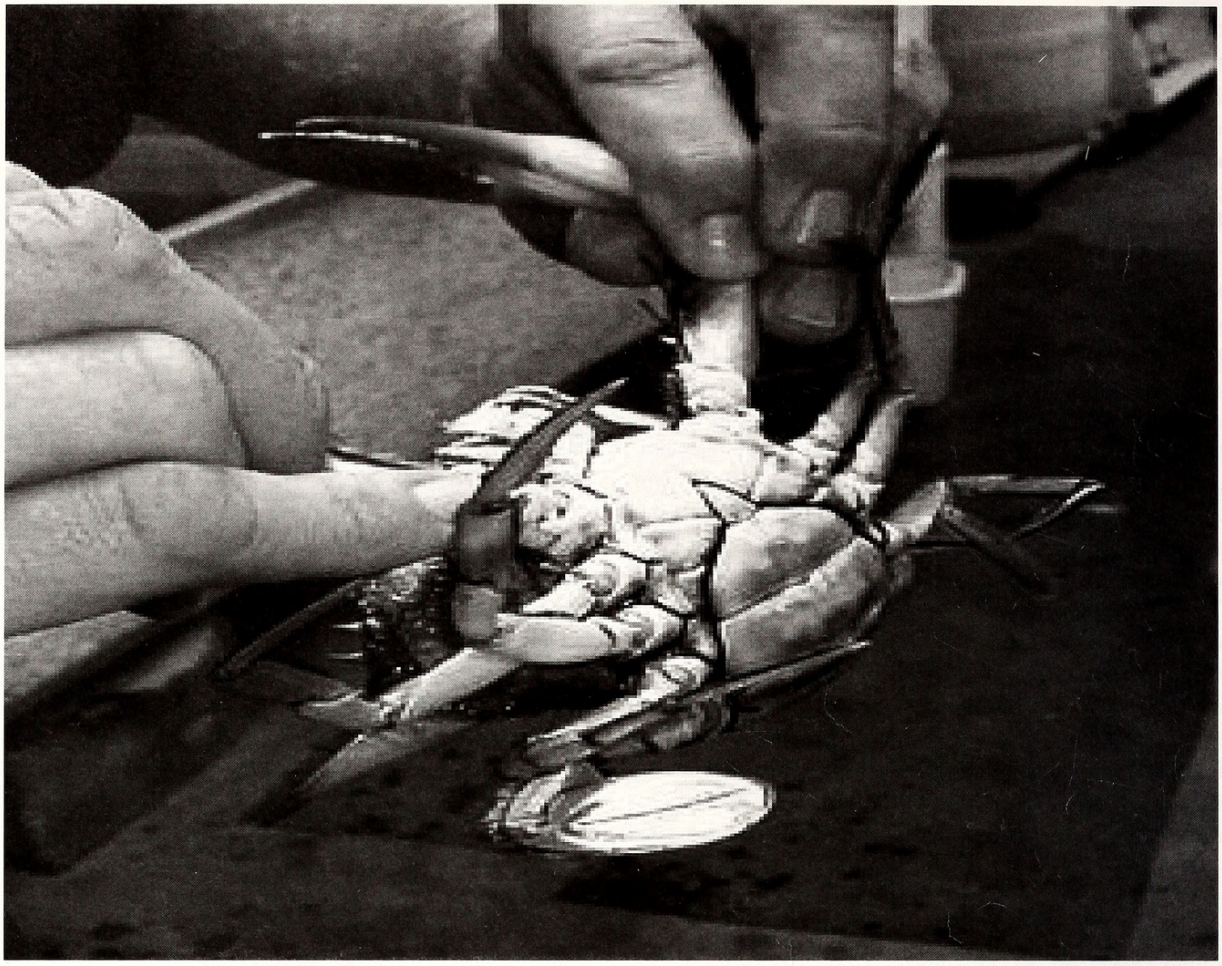

Figure 1. Female blue crab captured in Wheeler Lake, 28 June 2006. Photograph courtesy of Pat & Tim's Bait & Tackle at Fisherman's Resort, Joe Wheeler Dam.

of spine to tip of spine, Jivoff 1977) (Figure 1). It was kept alive at Pat & Tim's Bait & Tackle at Fisherman's Resort and lived 12 days in a fresh water minnow tank. The specimen was frozen after it died. A story on the crab written by Bryan Brasher appeared on 26 July 2006 at http://citizen.commercialappeal.com/theedge/2006/07/blue_crab_in_the_tennessee_riv.html.

On 21 August 2006, Mr. Jimmy Quillin of Big Sandy, Tennessee, captured a male blue crab in his commercial fishing net in Kentucky Lake (Tennessee River) near the Harmon Creek embayment, Benton County, Tennessee. The crab was captured in about 3 m (12 feet) of water in a weedy area (primarily *Ceratophyllum*). The crab was seemingly healthy (Figure 2) and was returned alive to Murray State University's Hancock Biological Station on Kentucky Lake. According to Mr. Quillin, it was the second blue crab he had caught, although the first had been much smaller. Alive, the crab weighed 513 g and measured 244 mm across the carapace (tip of spine to tip of spine). In comparison with other records (e.g., Guillory 2001), this was a very large specimen and may have been 4 or more years old (Tagatz 1968). The specimen has been preserved and archived in the collections of the Biological Station.

How and when the crabs arrived in the Tennessee River are open to speculation. If the crabs arrived as young adults, they must have been capable of surviving for several years. Larval and young crabs are known to have been dispersed accidentally in ballast water (Guillory et al. 2001) or by hitching rides on boats. Tennessee-Tombigbee Waterway provides direct shipping access from the Gulf of Mexico via the Mobile River to the middle reaches of the Tennessee River. While it is possible that males might survive that length of time, it seems doubtful that females would survive too long. Other potential explanations include escapees from crabs held for a later crab boil onboard the barge tugs and vacationing families releasing them into the reservoirs. It is safe to assume there aren't thousands of crabs in the river, but how is it that the few that are out there seem to be getting caught? We strongly suspect that the numbers of blue crabs in the Tennessee River system may be higher than one might expected.

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Figure 2. Male blue crab captured 21 August 2006 in a commercial fishing net in Kentucky Lake.

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