

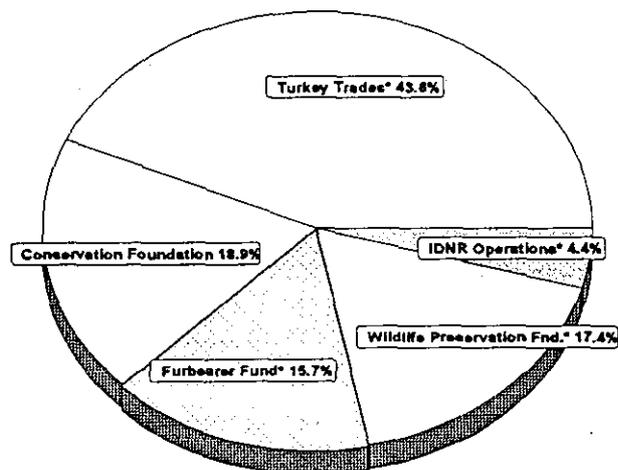
## River Otter Recovery Update

### Furbearer Program Management Note 97-1

Prepared by Bob Bluett, Division of Wildlife Resources, 5/97

Illinois' river otter recovery program began in 1994, when fifty wild river otters were purchased from a supplier in Louisiana by the State of Kentucky and traded to Illinois in exchange for seventy-five wild turkeys. A total of 346 river otters have been released since that time (Table 1).

One hundred and fifty otters were obtained through turkey trades with Kentucky; 196 were purchased directly through the Wildlife Preservation Fund, Furbearer Fund, Illinois Conservation Foundation and DNR-Wildlife Resources operational funds (Fig. 1).



\*A portion of expenditures from these sources were reimbursed through Federal Aid in Wildlife Restoration Project W-99-R

Figure 1. Funding sources for purchasing river otters for Illinois' recovery program.

### Mortality

Twenty-four otters have been recovered to date. Seventeen were males. Sources of mortality included hoop nets (7), vehicles (6), accidental captures in traps (4), and

dogs (1). Cause of death was unknown for six otters, but we suspected stress associated with transport and handling because the otters were recovered shortly after and in the immediate vicinity of releases. Four more mortalities caused by drowning in hoop nets were reported second-hand but unconfirmed.

Most losses occurred within three months after release, and were distributed among 12 of 15 release sites (Newton Lake (4); Golden Gate (2) (not including 3 suspected losses); Fox Ridge (3); Skillet Fork (3); North Fork Embarras (2); Vermilion River (1); Lake Shelbyville (1); Carlyle Lake (1); Shoal Creek (1); Spoon River (2); Mackinaw River (3); Quiver Creek (1); Sanganois (1 suspected)).

Recoveries probably underestimate actual mortality. Post-release radiotelemetry studies at two sites in Missouri yielded first year mortality rates of 12.5% and 22.8%. Researchers in Indiana found an observed mortality rate of 11% (primarily from recoveries) and an actual mortality rate of 29% (from radiotelemetry) during the first year after a release at Muscatatuck National Wildlife Refuge.

### Reproduction

Pups have been observed at 3 locations in the Wabash River Basin (North Fork of the Embarras (1996), Little Wabash (1996), and Skillet Fork (1996)) and one in the Kaskaskia River Basin (Lake Shelbyville (1997)).

Only 7 females (all released on the Little Wabash River in January 1994) had well

developed fetuses when released. The rest were either too young (females don't reach sexual maturity until 2 years of age) or had whelped in captivity before their release.

Pups observed on Skillet Fork and the North Fork of the Embarras were probably offspring of 2-year-old females that had bred in Louisiana before their capture and given birth in Illinois the following spring. Pups observed at Lake Shelbyville probably represented a more common scenario in which an adult female whelps in captivity, breeds the following spring and gives birth about 2 years after its release.

### Sightings

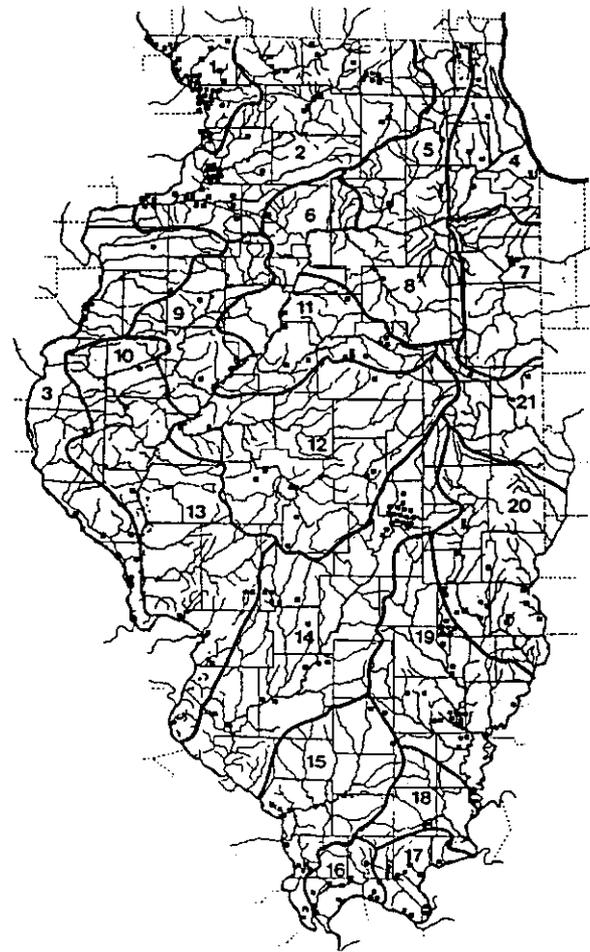
IDNR received 107 reports of sightings from the Wabash ( $n = 41$ ), Kaskaskia ( $n = 40$ ) and Illinois ( $n = 26$ ) River Basins since releases were made. Only twelve sightings were reported from these areas from 1983-1993.

Post-release sightings tended to be grouped near release sites (Fig. 2) during the first three months. Thereafter, sightings become less common and distributed more widely. This pattern suggests dispersal along major waterways and tributaries, which is consistent with radiotelemetry studies of post-release movements in other states.

### Discussion

#### *Reintroductions*

Illinois' River Otter Recovery Plan identified the Illinois, Kaskaskia and Wabash river basins as top priorities for reintroductions. This phase of the recovery process was completed during March, 1997. While it's probably too early to judge the overall success of reintroductions, we know that populations have persisted and reproduction has occurred at or ahead of anticipated timeframes.



**Figure 2.** Recent (1994-1996) river otter sightings in Illinois.

Documented losses are unfortunate, but probably don't pose a threat to recovery goals. Seventy-one percent of recoveries were males. Given a preponderance of males among released animals and a social structure that favors polygony, losses seem tolerable even if the actual mortality rate is 2-3 times greater than the observed rate.

Recovery efforts in adjoining states are likely to aid Illinois'. During January 1997, Indiana released 50 otters in the Wabash River Basin. Anderson (1995) suggested that populations established through releases in Missouri and Iowa were probably responsible for increasing numbers of reports from the Rock, Middle Mississippi

and Big Muddy River Systems. These trends continue, and are likely to aid recovery of populations in 3 of the 4 landscape management units where otters weren't released.

### Monitoring populations

Implementing a standard survey to monitor the distribution and relative abundance of river otters is the next step in achieving the recovery goal. The Cooperative Wildlife Research Lab (CWRL) at Southern Illinois University is evaluating survey methods and will make recommendations in a final report for Federal Aid in Wildlife Restoration Project W-122-R, which is due by September 1997.

### Conserving key habitats

CWRL developed two computer models to identify key habitats using remotely sensed data. One is a PATREC model, suitable for identifying important landscape features. The other is an HSI model capable of identifying important local features. Both models were used to evaluate available habitats in the Shawnee, Kaskaskia and Wabash Landscape Management Units. A final report will be submitted by September 1997.

### Literature Cited

Anderson, E. 1995. Status in the Midwest and Illinois. Pages 23-32 in R. Bluett, ed. Illinois river otter recovery plan. Ill. Dep. Nat. Resour., Springfield.

Table 1. River otter releases in Illinois, 1994-97.

River basin	Release site	Date	No. otters released
Wabash	Little Wabash River (Newton Lake)	1/94	25 (15 M, 10 F)
Wabash	Little Wabash River (near Golden Gate)	1/94	25 (15 M, 10 F)
Wabash	Embarras River (Fox Ridge SP)	3/95	18 (10 M, 8 F)
Wabash	N. Fork Embarras River (near Casey)	4/95	19 ( 9 M, 10 F)
Wabash	Skillet Fork (near Helm)	3/95	20 (10 M, 10 F)
Wabash	Vermilion River (Kennekuk Co. Park)	4/96; 3/97	30 (18 M, 12 F)
Wabash	Combined		137 (77 M, 60 F)
Kaskaskia	Lake Shelbyville	3/95; 4/95	24 (12 M, 12 F)
Kaskaskia	Carlyle Lake	2/96	25 (15 M, 10 F)
Kaskaskia	Shoal Creek (near Litchfield)	2/96	23 (14 M, 9 F)
Kaskaskia	Combined		72 (41 M, 31 F)
Illinois	Spoon River (near London Mills)	4/96	24 (12 M, 12 F)
Illinois	Mackinaw River (near Hudson)	4/96	28 (13 M, 15 F)
Illinois	LaMoine River (near Brooklyn)	3/97	24 (15 M, 9 F)
Illinois	Illinois River (Sanganois CA)	3/97	26 (14 M, 12 F)
Illinois	Illinois River (De Pue)	3/97	25 (14 M, 11 F)
Illinois	Quiver Creek (near Havana)	3/97	10 ( 6 M, 4 F)
Illinois	Combined		137 (74 M, 63 F)
Statewide	Combined		346 (192 M, 154 F)