Distribution of the Goldeye and the Striped Bass in the North Fork of the Red River in Oklahoma

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Riggs and Bonn (1) reported the goldeye, *Hiodon alosoides*, in fair abundance in Lake Texoma after the lake was impounded in 1944. Martin (2) collected 89 specimens in 1948 and 817 in 1949 from Lake Texoma. Eight collections in 1981 and 1984 (Pigg, OSDH unpubl. data) contained 36 specimens from four sites. The largest number (27 specimens) was collected in the Washita River arm of the lake. A small population of goldeye persists in Lake Texoma.

Recent collections by OSDH personnel show an increased abundance of this species in the North Fork of Red River, east of Headrick in Jackson County. This may result from seasonal upstream migrations.

Miller and Robison (3) reported extension of the range for the goldeye upstream in the Washita River to Fort Cobb Lake in Caddo County. Riggs (unpubl. field notes) noted upstream migration in the Washita River in 1951 (goldeye in early spring at a dam near Chickasha). On 4 May 1951, Riggs *et al.* collected three adult males and three adult females and in 1958, ten additional specimens.

In seven collections between 1981 and 1986, Pigg (OSDH unpubl. data) did not collect goldeye from Fort Cobb. Nor did extensive sampling (47 collections) by Pigg (OSDH unpubl. data) in the Washita River between Pauls Valley and Dickson from 1976 to 1989 yield a single specimen. The population of goldeye in the Washita River must be small. Greg Summers, a biologist with Oklahoma Department of Wildlife Conservation Fishery Laboratory, reported catches of goldeye in 1988 from Rush Creek, a major tributary of the Washita River in Garvin County.

The known range of the goldeye was extended 140 miles farther west by Tyler and Mills (4). In 1976, 10 adult goldeye were collected from the North Fork of Red River near Tipton in Tillman County. Local anglers have caught this species for some 30 years at this site and call it "freshwater herring."

In 1976 OSDH established 11 long-term biotrend sites and made 255 collections in the Red River drainage above Lake Texoma. At only four sites and in only 13 collections was the goldeye collected. Most specimens (91%) were taken after 1984 (Table 1). However, at a site on the North Fork of the Red River east of Headrick in Jackson County, this species was obtained in small numbers nine times. Since 1984, 48 specimens have been collected at this site (16 trips). Of 65 total specimens taken between 1976 and 1989 above Lake Texoma, 53 were from the Headrick site.

Collections made in 1988 are consistent with a seasonal movement up the North Fork from the Red River. In 1984, 17 specimens were collected in March, six in May, one in July and none in September. All were taken in gill nets; eight were adults, nine juveniles. Juveniles were seined from the Red River north of Gainesville, Texas in 1988, and measured between 6.1 and 8.1 cm in length (cataloged into the OSDH museum, OSDH 3160). There are few records of young goldeye in Oklahoma. In only one of 269 collections from 37 different sites were young goldeye procured. Reproductive success is apparently very low in the Red River and its tributaries above Lake Texoma. The spawning migration occurs between mid-May and mid-June (5). The sampling program covered from early May through late November; if there were large numbers, they would have been found.

Extensive sampling (nine lakes, 24 collections) in the upper Red River drainage of Oklahoma by OSDH from 1976 to 1989 yielded no goldeye. Nor did Matthews and Taylor (6) find any during the summer of 1989 in the Red River drainage above Lake Texoma (87 sites). Lake Texoma is the only lake in the upper Red River drainage where goldeye is consistently found.

TABLE 1. Distribution records of the goldeye, *Hiodon alosoides*, in the upper Red River from 1976 to 1988.

Year	North Fork, Headrick				Red River, Waurika				Red River, Terral				Red River, Gainesville			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1976	0	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-
1977	0	0	2	0	-	-	-	-	0	0	1	0	-	-	-	-
1978	0	0	2	0	0	0	2	0	0	0	1	0	-	-	-	-
1979	0	0	3	0	0	0	3	0	0	0	3	0	-	-	-	-
1980	0	0	3	0	0	0	3	0	0	0	3	0	0	0	2	0
1981	0	0	3	0	0	0	3	0	0	0	3	0	0	0	2	0
1982	5	2	3	1.7	0	0	3	0	0	0	3	0	0	0	2	0
1983	0	0	3	0	0	0	3	0	0	0	2	0	0	0	2	0
1984	0	0	3	0	0	0	2	0	1	1	4	0.4	0	0	2	0
1985	9	1	3	2.2	0	0	2	0	0	0	2	0	0	0	2	0
1986	2	1	3	0.7	0	0	1	0	0	0	1	0	0	0	2	0
1987	0	0	2	0	1	1	3	1.0	0	0	2	0	0	0	2	0
1988	28	3	4	7.8	0	0	2	0	0	0	3	0	10	2	2	0.4
1989	9	2	4	6.5	0	0	2	0	0	0	1	0	0	0	2	0
Total	53	9	39	18.9	1	1	29	1.0	1	1	29	0.4	10	2	20	0.4

A = Number of goldeye collected. B = Number of collections containing goldeye.
C = Total number of collections. D = Total biomass of goldeye (kg).

Striped bass *(Morone saxatilis)* were introduced into Lake Texoma between 1965 and 1974 and have established a self-sustaining population (7). Extensive studies of the distribution of this species in Lake Texoma have been conducted by Matthews *et al.* (8). Little is known of the migration of this species into the Red River above Lake Texoma.

Jimmy Anderson, who has fished the North Fork of the Red River for more than 40 years, first encountered striped bass there in 1985 (pers. comm. to JDT). This was not far from his home in Tillman County, Oklahoma, 7 miles north and 4 miles east of Tipton.

On 9 May 1986, Wesley Webb, an Oklahoma Department of Wildlife Conservation ranger, observed a single striped bass below the Altus-Lugert Lake dam. This specimen was caught with a minnow for bait. Subsequently, he has seen 20-25 stripers caught by fisherman, always during the spring.

On 18 July 1988, Webb found a 2.5-3.0-lb striped bass in a small pool in the Salt Fork of the Red River south of Reed in Greer County. The river was drying up at that time.

In 1987, on Haystack Creek in Greer County northwest of Mangum, Webb observed a second striped bass. This fish probably came up Elm Creek.

Intensive sampling efforts of OSDH (255 collections) from 1976 to 1989 and by Matthews *et al.* (87 collections) in 1989 throughout the upper Red River drainage of western Oklahoma failed to yield a single striped bass. Evidently, this species is uncommon in the upper Red River drainage. These recent accounts are important in helping establish the extent of the upstream migrations of striped bass in Oklahoma.

SUMMARY

Goldeye and striped bass migration extends much farther upstream than earlier records show. The collection of juvenile goldeye in Red River provided information on the distribution of the species. Young goldeye have not been found in Lake Texoma, but adults are common.

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