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352

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INLAND FISHERIES MANAGEMENT

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64. GOLDEN SHINER

Robert J. McKechnie

The golden shiner (Notemigonus crysoleucas) has become important in California because of its wide use as bait. California law prevents the use of wild minnows (except in a few designated waters) as bait, the result being that nearly all bait minnows are artificially reared. This represents a growing industry, particularly in California's Central Valley and along the Colorado River.

Three subspecies of the golden shiner are currently recognized: the eastern (N. c. chrysoleucas), the southwestern (N. c. seco), and the western (N. c. auratus). The latter two are found in California.

DISTRIBUTION

The native range of the golden shiner extends throughout the eastern United States, west to the Dakotas and south to Texas. The western subspecies is most common west of the Alleghenies and north of Arkansas. It is the only one occurring in the states surrounding the Great Lakes. The golden shiner was introduced in California in 1891 in San Diego County (Kimsey and Fisk, 1964). It has since spread widely and is now established in the Sacramento-San Joaquin river system (Kimsey and Fisk, 1964).

TABLE 2

Early Age and Growth^{1/}

Age (days)	10	20	30	40	50	60	70
Length (inches)	0.3	0.6	0.9	1.2	1.5	1.8	2.1

^{1/}Dobie et al., 1956.

RELATIONSHIPS

The golden shiner is a valued forage fish, often raised to feed warmwater game fish in rearing ponds. Crappie and largemouth bass utilize them extensively. Golden shiners may become large enough to feed on young game fish. Their food habits are similar to fingerling bass so direct competition may also occur (Cornell, 1957).

PROPAGATION

The golden shiner is particularly suited to artificial propagation because of its long spawning season, its ability to produce large quantities of young, and its tolerance to pond life with low oxygen levels. Production as high as 250,000 fish per acre was recorded in an Iowa pond (Davis and Wiebe, 1930). Best production occurs in fertilized ponds with supplementary feeding. The fish should also be transferred from brood ponds to rearing ponds for maximum growth (Prather, 1957). Table 3 offers further comparisons of production figures.

TABLE 3

Golden Shiner Production

Acreage	Stocking rate per acre	Production per acre		Location	Reference
		Pounds	Number of fish		
0.071	507	-	250,000	Iowa	Davis & Wiebe, 1930
0.073	466	300.0	32,000	Iowa	Davis & Wiebe, 1930
1	200	245.0	64,925	Minnesota	Dobie et al., 1948
5	70	85.6	22,734	Minnesota	Dobie et al., 1948
-	+100	-	6,000	Missouri	Bauman, 1946
-	+100	-	50,000	Missouri	Bauman, 1946
1.11	-	130.6	72,976	West Virginia	Dobie et al., 1948
0.11	1,818	-	192,708	Wisconsin	Dobie et al., 1948
1	50	21.3	18,500	North Carolina	Hueske, 1949

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