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PAST OCCURRENCE OF EULACHON, *THALEICHTHYS PACIFICUS*, IN STREAMS TRIBUTARY TO HUMBOLDT BAY, CALIFORNIA

MARK R. JENNINGS¹
 Department of Fisheries
 School of Natural Resources
 Humboldt State University
 Arcata, California 95521-9905

The substantial decline of eulachon, *Thaleichthys pacificus*, in northern California over the past two decades has stimulated efforts to document past occurrences of this fish at the southern edge of its range (Moyle et al.² 1995). The most southern spawning run of eulachon was in the Mad River, Humboldt County, California (Odemar 1964). South of this drainage, eulachon have occasionally been found during the winter in Humboldt Bay (Barnhart et al. 1992), but there are no reports of adults in tributary streams. I present evidence that, in the recent past, eulachon spawned in streams tributary to Humboldt Bay.

On 10 May 1977, I found a dead, spawned-out, male eulachon (211 mm total length [TL]) on the screen of a McBane downstream migrant trap located on Jolly Giant Creek, a small stream that flows into Humboldt Bay approximately 7 km south of the Mad River. Four days later, Mr. W.G. Harper collected a second male eulachon (212 mm TL, 53 g) in spawning colors from a McBane trap on Jacoby Creek, 1.5 km south of Jolly Giant Creek. Both specimens were identified by R.A. Behrstock (formerly of Humboldt State University) who reported six other adult eulachon observed by Harper in the same McBane trap on Jacoby Creek (R.A. Behrstock, pers. comm.).

Previous records of eulachon in Humboldt Bay are rare (Emmett et al. 1991). Gotshall et al. (1980:229) reported this species as an "occasional visitor" and Samuelson³ (1973) collected one adult from South Bay on 23 April 1970. Larval stages of this fish are poorly described (Young⁴ 1984) and this may contribute to the lack of historical larval collections in the bay (e.g., see Eldridge and Bryan 1972).

¹ Current address: National Biological Service, California Science Center, Piedras Blancas Field Station, P.O. Box 70, San Simeon, California 93452-0070.

² Moyle, P.B., R.M. Yoshiyama, J.E. Williams, and E.D. Wikramanayake. 1995. Fish species of special concern in California (second edition). California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California, USA. Final Report under Contract 2128IF.

³ Samuelson, C.E. 1973. Fishes of south Humboldt Bay, Humboldt County, California. M.S. Thesis, Humboldt State University, Arcata, California, USA.

⁴ Young, J.S. 1984. Identification of larval smelt (Osteichthyes: Salmoniformes: Osmeridae) from northern California. M.S. Thesis, Humboldt State University, Arcata, California, USA.

Three other osmerids, *Hypomesus pretiosus*, *Spirinchus starksi*, and *S. thaleichthys*, are relatively common in Humboldt Bay and their larvae have been frequently noted during past surveys (DeGeorges⁵ 1972, Emmett et al. 1991, Barnhart et al. 1992).

Spawning of eulachon in streams tributary to Humboldt Bay may be natural or the result of straying from large populations in the Mad River during the early to mid-1970s (see the accounts in Moyle et al.² 1995). Until about 2,000 years ago, the Mad River flowed into Humboldt Bay (Vick⁶ 1988) and, as recently as the 1850s, a canal connected the Mad River to Arcata Bay (Coy 1929). Such activities may have allowed the straying of eulachon into Humboldt Bay streams to produce intermittent spawning runs.

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