

POPULATION STRUCTURE OF STEELHEAD IN THE KLAMATH RIVER BASIN, AND CONSEQUENCES OF THE HALF-POUNDER LIFE HISTORY.

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A unique variation in steelhead life-history found in the Klamath Basin is the “half-pounder”, a term introduced by Snyder (1925), which is now commonly used to reference small (250-410 mm FL) migratory steelhead (Hopelain 1998, 2001). The half-pounder life history is unusual for steelhead in that these predominately immature fish make an “amphidromous” (McDowall, 1997) migration, in which they overwinter in freshwater for approximately six months after spending only a summer (2-4 months) at sea (Kesner and Barnhart 1972, Everest 1973, Hopelain 1998, Savvaitova 2005). Although existence of the half-pounder life history has been well documented, no consensus exists as to what ecological conditions promote this life history (Quinn 2005), nor does a consensus exist as to what selective pressures favor the continued expression of this life history (Busby et. al. 1996).



Research is proposed to determine the current population structure of steelhead in the lower Klamath River with respect to age, growth, size, fecundity, incidence of repeat spawning, and incidence of the half-pounder life history. In addition, the fitness consequences of the half-pounder migration will be explored by comparing the relative growth and absolute size of fish that do and do not make the migration, while also considering the effect of size on fecundity in females. Steelhead will be captured throughout the lower Klamath River Basin by hook and line methods and at fish handling facilities operated by the California Department of Fish and Game (CDFG). Research will provide fishery managers with a current profile of the population structure in the basin, as well as provide a means for comparing current results to those of historical studies. Research will also provide life history information pertinent to predicting population responses to management strategies.

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