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AGE, GROWTH, AND RADIOMETRIC AGE VALIDATION OF THE BLACKGILL ROCKFISH, *SEBASTES MELANOSTOMUS*

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Melissa Morgan Mahoney

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ABSTRACT

As nearshore fish populations in the eastern Pacific Ocean become depleted, many commercial fishers shift their efforts toward deeper continental slope habitats to target fishes for which biological information is limited. One such fishery developed in the early 1980s for the blackgill rockfish, *Sebastes melanostomus,* a deep-dwelling (300-800 m) species that congregates over rocky pinnacles, mainly from southern California to southern Oregon. Growth zone-derived age estimates from otolith thin sections were compared to ages obtained from the radioactive disequilibria of ^{210}Pb, relative to its parent, ^{226}Ra, in otolith cores of blackgill rockfish collected off the U.S. west coast in 1985 and 1998-2000. Age estimates were validated up to at least age 41, with a strong pattern of agreement supporting longevity exceeding 90 years. Age and length data fitted to the von Bertalanffy growth function indicate *Sebastes melanostomus* is slow-growing ($k = 0.045$) and that females grow slower than males, but reach a larger asymptotic length. Estimates of age at 50% maturity, derived from previously published length-at-maturity estimates, are 17 years for males and 21 years for females. Results of this study agree with general life history traits already recognized for many *Sebastes* species, such as long life, slow growth, and late age at maturation. These traits may undermine the sustainability of blackgill rockfish populations when heavy fishing pressure, such as that which occurred in the 1980s, is applied.

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