

**Design and Performance of a Laboratory Scale Closed Seawater
Recirculating System for Korean Rockfish *Sebastes schlegeli* Culture
Part 2. Performance of the Seawater Recirculating System**

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Performance of a laboratory scale closed seawater recirculating aquaculture system was evaluated. Twenty-kg Korean rockfish (130 fish) with an average body weight of 153.8 g was stocked. Over 107-day culture period, fish reached final density of 51.7 kg/m³ (initial density, 33.3 kg/m³) on the culture tank volume basis. On a daily basis, water addition was 3.4% of the total water volume in the system. Total ammonia nitrogen (TAN) concentrations were below 1 mg/L and nitrite nitrogen (NO₂-N) concentrations were within the range of 1-3 mg/L on most sampling days. TAN was removed in bead and sand filters and it was removed or produced in the sedimentation basin. Basically, NO₂-N was removed in the bead and sand filters while it was either removed or produced in the sedimentation basin. Nitrate nitrogen (NO₃-N) was produced in the bead filters and removed in the sand filter and sedimentation basin. Foam fractionator performed well in the recirculating system. The maximal daily removal values for total suspended solids (TSS) and protein were 10.9 g and 1.4 g, respectively. Whole water quality parameters were within the levels commonly recommended for fish culture on most of the sampling days. However, further studies are needed to evaluate the commercial feasibility of this system because of the small-scale system used in present experiment. At least, present study still provides some basic information for further studies of this kind of system.

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