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## RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

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**Title:** Water use in aquaculture

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**Abstract:** The Food and Agriculture Organization (FAO) of the United Nations has provided an annual series of world aquaculture production statistics since 1950. The FAO is interested in including information on land and water use in aquaculture in their statistics. An expert consultancy on land and water use in aquaculture was convened at FAO headquarters in Rome, Italy, from 7-10 October 2002. It was apparent during the consultancy that variables related to water use should be defined. The purpose of this paper is to define water use variables for aquaculture, give examples of water use calculations and consider methods and benefits of water conservation in aquaculture.

Water use in its broadest definition should include all of the water needed to produce an aquaculture crop. However, some of the water introduced into aquaculture production units subsequently is discharged and available to downstream water users. In cage and net pen culture, water simply passes through production units and only a small quantity is removed in biomass at harvest. Brackishwater or seawater availability usually is not diminished by coastal aquaculture. Therefore, the greatest concern should be consumptive water use by freshwater aquaculture, for this reduces the volume of water available for other beneficial uses. The volume of water consumed per unit of aquaculture product would be a helpful variable, for it would allow estimates of the economic value of the water in aquaculture.

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