

NOTICE OF PUBLICATION

RESEARCH REPORTS TITLE XII POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

Title: Hydrology of fish culture ponds in Gualaca, Panama

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Date: 14 December 1988 **Publication Number:** CRSP Research Reports 88-9

Price: The CRSP will not be distributing this publication. Copies may be obtained by writing to the author(s). Direct correspondence to: Dr. Teichert-Coddington, Department of Fisheries and Allied Aquacultures, Auburn University, Alabama 36849, USA.

Abstract: During 1985, rainfall, evaporation and seepage were measured in 12 experimental fish culture ponds at the Gualaca Freshwater Aquaculture Research Station, Gualaca, Panama, to provide baseline pond hydrology data for the area and a water budget for the station. Mean monthly rainfall ranged from 0 to 27 mm/day, while pond evaporation ranged from 1.4 to 8.4 mm/day. An equation was developed to predict pond evaporation from solar radiation measured by photometry. Among the 12 ponds, mean seepage ranged from 19 to 58 mm/day and averaged 31 mm/day. Seepage accounted for 87% of water lost from the ponds. A regression equation was developed to predict the quantity of water gained by runoff into ponds during rainfall. Monthly water balances for the station ranged from -39 to 14 mm/day and averaged -13 mm/day. Water deficits occurred during 9 of 12 months. The annual water deficit could be reduced to zero should seepage be reduced by 66%. Particular attention needs to be given to pond construction on kaolinitic soils, which although high in clay, may be very porous.

This paper was published in *Aquacultural Engineering* 7 (1988) 309-320.

CRSP RESEARCH REPORTS are published as occasional papers by the Program Management Office, Pond Dynamics/Aquaculture CRSP, Office of International Research and Development, Oregon State University, Corvallis, Oregon 97331 USA. The Pond Dynamics/Aquaculture CRSP is supported by the U.S. Agency for International Development under CRSP Grant No.: DAN-4023-G-SS-2074-00.