

# NOTICE OF PUBLICATION

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## RESEARCH REPORTS

TITLE XII POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

**Title:** Relationship between wind speed and reaeration in small aquaculture ponds.

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**Date:** October 1, 1993

**Publication Number:** CRSP Research Report 93-57

**Price:** The CRSP will not be distributing this publication. Copies may be obtained by writing to the authors.

**Abstract:** Two 1000 m<sup>2</sup> ponds at the El Carao National Aquaculture Center at Comayagua, Honduras were deoxygenated by treatment with sodium sulfite and cobalt chloride, and biological activity was suppressed by formalin and copper sulfate application. Wind speed and the change in dissolved oxygen concentration were monitored with a data logger system during reaeration period. Standard oxygen transfer coefficients were related to wind speed measured at 3-m height by the equation:

$$K_L a_{20} = 0.017X - 0.014; \quad r^2 = 0.882$$

where  $K_L a_{20}$  = standard oxygen transfer coefficient at 20°C (h<sup>-1</sup>) and X = wind speed (m s<sup>-1</sup>). A method for computing pond reaeration rate from the standard oxygen transfer coefficient is presented.

This abstract was excerpted from the original paper, which was published in *Aquacultural Engineering* 11:121-131, 1992.

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**CRSP RESEARCH REPORTS** are published as occasional papers by the Program Management Office, Pond Dynamics/Aquaculture Collaborative Research Support Program, Office of International Research and Development, Oregon State University, Snell Hall 400, Corvallis, Oregon 97331-1641 USA. The Pond Dynamics/Aquaculture CRSP is supported by the U.S. Agency for International Development under CRSP Grant No.: DAN-4023-G-00-0031-00.