required to achieve nutrient limitation in the lake depends on the effectiveness of the restoration techniques implemented both within the lake and in the drainage basin.

Thursday, 2:15 pm Polk City Room

Fish Consumption Advisories: The Old and the New

Robert E. Reinert *(School of Forest Resources, University of Georgia, Athens, GA 30602; e-mail rreinert@uga.cc.uga.edu)*

In the past several years, a measure of the increased concern about the possible public health effects of contaminants in sportfish has been an increase in the numbers and types of fish consumption advisories issued by the states. These advisories have caused a great deal of concern among the general public and especially among anglers. One of the most controversial aspects is the accuracy of the newer cancer-based fish consumption advisories. Unfortunately, our ability to detect trace amounts of contaminants in the environment far surpasses our ability to predict the health effects caused by these trace concentrations. Because of the lack of epidemiological data, mathematical models are most frequently used to estimate the cancer risk of low levels of contaminants to humans. Because of many assumptions built into these models, they produce, at best, very crude, very conservative estimates of the actual health risk. It is imperative that fisheries professionals understand how these advisories work so they can do a better job of informing the public. A poor understanding of fish consumption advisories can result in undesirable behaviors by anglers that at one extreme can result in a total disregard of the advisories and at the other extreme a fear of eating fish from any body of water. Through proper risk communication, we can put health risk associated with eating contaminated fish in prospective by comparing them with other types of risk. We can also inform anglers of various alternative behaviors that decrease the health risks associated with eating contaminated fish, such as changing their fishing habits and proper techniques for cleaning and cooking fish. With proper risk communication, we can increase anglers' concern for water quality, protect their health, and still encourage their enjoyment of the fishery.

Friday, 10:30 am Casselberry Room

First Year Analysis of the Effects of Phosphorus Enrichment on Slough Communities of the Everglades: An Experimental Approach Using a Solar Powered Dosing System

Curtis J. Richardson *(Duke University Wetland Center, School of the Environment, P. O. Box 90333, Durham, NC27708; 919-613-8006; e-mail CurtR@ENV.DUKE.EDU)*, **Robert G. Qualls** *(Duke University Wetland Center, School of the Environment, P. O. Box 90333, Durham, NC27708; 919-613-8036; e-mail jerryq@ENV.DUKE.EDU)*, **Panchabi Vaithiyanathan** *(Duke University Wetland Center Laboratory, 16139 Okeechobee Blvd., Loxahatchee, FL,33470; 407-790-0843)* and **Jan R. Stevenson** *(University of Louisville, Louisville, KY 40292; 502-852-5938)*

The Everglades is a phosphorus limited system that historically received most inputs of nutrients via rainfall but has more recently been impacted by over 200 metric tons of P per year from agricultural drainage. To determine a threshold level of phosphorus responsible for changes in community structure and ecosystem processes, a replicated solar-driven, in-situ mesocosm experiment was conducted during 1992-1993. Twelve channels, each 10 meters long, were dosed with 0, 30, 50, 75, and 150 µg/L of PO_4 -P (Na_2 HPO_4). Control SRP concentrations averaged 5.8µg/L (±3.9) while channels receiving highest inputs (150 µg/L of P) displayed varying P levels that averaged between 58 and 61 µg/L of P 1 meter from the source but varied with water depth, season and distance down the channel. Density or percent cover of all dominant macrophytes was lower in the channel segments with highest average SRP concentrations (58 to 61µg/L PO_4 -P). *Chara* appeared to reach its maximum percent cover at an average concentration of about 20 µg/L PO_4 -P. Two hundred and twenty-nine algal species, dominated by diatoms and blue-green algae, were observed. Increased SRP levels enhanced periphyton standing crop in certain microhabitats.

Wednesday, 10:45 am Casselberry Room

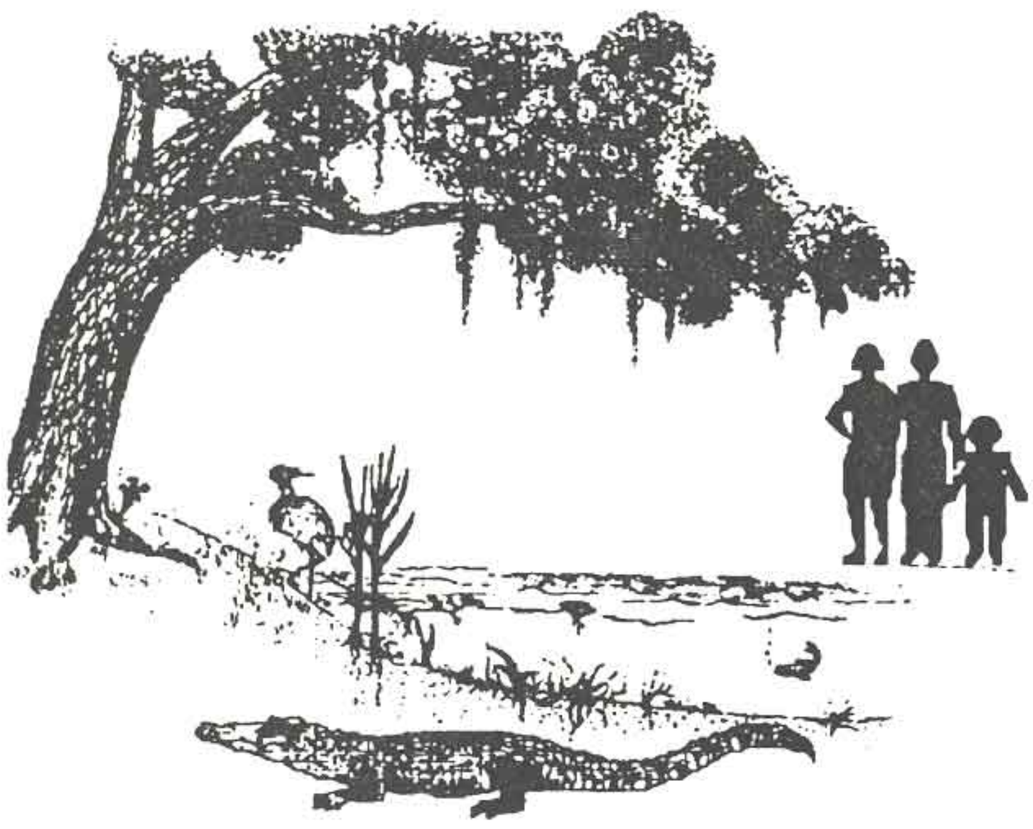
The Effects of Fire and Its Management on Southwestern (USA) Fishes and Aquatic Habitats

John N. Rinne *(U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, Southwest Forest Science Complex, 2500 South Pineknoll Drive, Flagstaff, Arizona 86001, 602-556-2001; Fax 602-556-2130)*

Based on case histories from 5 headwater streams on two National Forests in Arizona and New Mexico, the effects of naturally-caused wildfire on aquatic habitats, fishes and their food supply may be marked and long-lasting. Hydrologic events following recent (1989-90) wildfires in Arizona and New Mexico effectively extirpated two populations of brook trout (*Salvelinus fontinalis*), one of rainbow trout (*Oncorhynchus mykiss*) and one of Gila trout (*O. gila*). Aquatic macroinvertebrates densities effectively declined to zero within a month after the Dude Fire, and diversities 25 to 70% a year later. Trout re-introduced one year after the fire declined 85 to 97% in a two-year period. Suppression of fire in forests of the Southwest has resulted in increased fuel loading on watersheds and more large, hot, crowning wildfires. Removal of 60% or more of forest vegetation, extensive exposure of bare soil, and large accumulations of ash, followed by annual summer monsoon storms (July-September), result in flow events that have a high probability of totally removing a stream fish population and/or dramatically altering a potential food source, aquatic macroinvertebrates.

Lake and Reservoir Management

Volume 9, No. 2, October 1994



Program Issue

Program and Abstracts

14th Annual International Symposium

Orlando, Florida

October 31 - November 5, 1994

Symposium Co-sponsors

U. S. Environmental Protection Agency
U. S. Army Corps of Engineers
United Nations Environmental Programme
Southwest Florida Water Management District
University of Florida

an international journal of the

North American Lake Management Society