M E M O R A N D U M

TO: John W. Woods, Chief Fishery Division

FROM: Leesburg Fisheries Experiment Station

SUBJECT: "Summary Report of Lake Apopka" by J. E. Burgess, Florida State Board of Health, February 18, 1964.

DATE: May 28, 1964

This report is good in that it covers most of the causes of pollution. However, the arrangement and presentation of the various topics makes it difficult to follow the authors line of thinking.

The author has given the listed causes of pollution equal stress. He should have differentiated between the major and minor causes, the natural and man-made effects, and between geologic and historic time in the existence of the lake.

Some possible pollution factors, i. e. suspended solids, he does not discuss as a pollutant. A summary of citrus waste characteristics from the Peace River Basin reports that a citrus processing plant can discharge in excess of 7500 pounds of suspended solids per day. Data is not available at this time on water quality of the waste being discharged from citrus processing plants but observations of the practice of spraying discharge over a wooded area apparently resulted in the death of shrubs and trees.

Quoting from the author regarding the control structure on the Apopka-Beauclair Canal, "(it has) in effect, changed the lake into an impoundment, a situation for which there was no prior precident in the management of a sports fishery in a sub-tropical environ". According to Dr. George Reid, Dr. William Erwin and others, the rather stable water level of Lake Apopka is not an undesirable phenomenon. Certainly most fisheries management practices are based on relatively stable water conditions.

It is doubtful that the three events (1) Hurricane of 1947, (2) Hyacinth removal, (3) Shad removal, could have had the effect on the economy of the lake that the author claims.

Certainly these events had an effect on the lake but data on the other pollutants such as suspended solids, runoff fertility, domestic sewage, possible toxic citrus discharge, insecticides are too overwhelming to be passed over lightly.

The author agrees that the Winter Garden sewage treatment plant is "a constant source of plant growth materials". He also lists weights of available nutrients from domestic sewage, shad treatment and hyacinth control. He estimates that prior to 1947, 3.97 pounds of nitrogen per acre were added to this lake in a 25 year period. He further estimates that in 12 years after 1947, approximately 8.4 pounds of nitrogen per acre was added and considers this "significant". We recommend fertilizing small lakes and ponds at a rate of over 8 pounds of nutrient/acre many times per year.

No recent data is available on the bottom fauna but in 1956 vast numbers of red and green-colored chironomid larvae were present as evidenced on seines which were used in the middle of the lake.

This is purportedly a technical report, it cites authors but does not list their works which is supposedly quotes and conclusions ex cathedra are made with little or no supporting evidence. The author makes such statements as "the mass mortality of shad (of May 16, 1963) could not have been directly caused by these practices". (i. e., insecticide sprays).

It should be noted that Mr. Lee was misquoted by the press regarding the report. Mr. Lee said the report is "rather inclusive" rather than "inconclusive" as the papers said.