

### Conclusions

1. The problems associated with Lake Apopka are biological and over abundance of nutrients both artificial and natural entering lake.
2. Restoration level set by Governor's Lake Apopka Technical Committee after public hearing in Tavares April, 1967 as good game fishing, recreational use without body contact sports. Effluent and Lake water quality ideal standards set by Technical Committee to meet restoration level or Class III.
3. Orange County Commission enacted Lake Apopka trust fund to finance project. Chairman set up Lake Apopka work force to carry out continuous field studies.
4. The Lake Apopka restoration program under Florida Air and Water Pollution Control Commission with Chairman as Project Director.
5. Governor's Lake Apopka Technical Committee Restoration Project two-fold on nature to meet restoration level.
  - (a) Eliminate artificial nutrients from entering lake.
  - (b) Restore bottom muds-silts to stop recycling of nutrients and make it suitable for game fish speaqing and natural aquatic weed growth. Also restore water to eliminate algal blooms.
6. The Technical Committee in conjunction with Corps of Engineers have developed a plan for isolation and treatment of farming waste on North Shore. Anticipated isolation levee can be built in 3 - 5 years.
7. Winter Garden Citrus Products Co-op is building in accordance with Florida State Board of Health approved plans an Industrial Waste Control Facility that will include removal of nutrients from effluent.

8. City of Winter Garden has agreed to enact in conjunction with the Technical Committee a 100,000 gallon per day nutrient removal experimental treatment plant, remainder of effluent going into a polishing pond. Plans being drawn by Cities Consulting Engineers for Florida State Board of Health approval.
9. Rough estimate of enacting nutrient removal facilities on all types of waste set at between \$10.63 - 19.8 million.
10. The farming interests were requested and agreed to form one organization to represent them on Technical Committee. They have hired Consulting Engineering firm as requested to work with Technical Committee to determine extent of their nutrient load problem, variations in concentration time wise and enact nutrient removal research projects to determine economical and practical means of removing nutrients from agricultural waste.
11. The Lake Apopka Technical Committee work force has enacted many nutrient removal research projects and lake bottom and water restoration projects.
12. The Technical Committee in conjunction with East Central Florida Regional Planning Council has prepared Oklawaha River Basin Planning Grant which will include Lake Apopka and Oklawaha River Chain of lakes up to Marion County Line.
13. Samples of the Oklawaha River have been obtained by Lake Apopka work force and Florida Game and Fresh Water Fish Commission. Samples analyzed by Orange County Water Conservation Department, Florida State Board of Health, and Florida Game and Fresh Water Fish Commission lab.
14. Lake Apopka sampled once per month at 21 locations and Zellwood drainage district every other week at 5 locations both for chemical, physical and biological analysis.
15. A three (3) year pesticide sampling survey has been enacted by the lake Apopka Technical Committee work force, Florida Game and Fresh Water Fish Commission, Florida State Board of Health, Florida Department of Agriculture, and Federal Water Pollution Control Administration Pesticide Lab, Athens, Georgia to determine if there is a problem, if so how much or is it fluctuating during various seasons.



16. Gourd-neck spring and surrounding area being considered by Florida Park Commission as possible recreational park.
17. The spraying of hyacinths will be practiced only when they become a menace to navigation.
18. The Lake Apopka Technical Committee in conjunction with Florida Development Commission are reviewing possibility of enacting an aquatic weed fish meal operation for Lake Apopka.
19. Many summer research projects will be enacted by Lake Apopka work force (with addition of five (5) college students for summer) as specified by Technical Committee Members.
20. The Oklawaha River from Beauclair lock and dam up to Marion County line being surveyed at 24 different sampling locations to determine existing water quality. Also, to ascertain effects of Lake Apopka discharge water on said lakes vs. existing nutrient sources entering this portion of the Oklawaha Basin.

#### Recommendations

1. All agencies continue maintaining excellent cooperation with the Technical Committee.
2. Removal of artificial sources of nutrient entering Lake.
  - (a) The muck farming interest continue with the excellent cooperation with the Technical Committee and follow through with recommendations of said committee and their consulting engineers. Also, enact nutrient removal research projects on farms summer, 1968 with help from Lake Apopka Technical Committee and work force to determine various fluctuation in nutrient level in their waste, economical means of nutrient removal which can be enacted prior to isolation levee project being completed and determine means of nutrient removal in conjunction with isolation pool.
  - (b) Winter Garden enact nutrient removal research project in conjunction with the Lake Apopka Technical Committee and polishing pond as soon as possible.

- (c) The Winter Garden Citrus Product Co-op Industrial Waste effluent be monitored when completed to determine if this effluent is acceptable.
  - (d) Hyacinth only sprayed when becoming a menace to navigation.
  - (e) Any masses of dead fish removed immediately.
3. The farms on North Shore of Lake Apopka change planting practice where pesticide dusting 'cloud' will not drift or settle over lake.
  4. The maintenance procedures be changed by those persons operating motor and pumps within farms on North Shore of Lake Apopka. Whereas spent oil is retained and hauled for safe disposal.
  5. The three ( 3 ) year pesticide sampling program continues as scheduled. Study should be expanded to include column flow through work with peat from farm and an expert on pesticide retained to advise Technical Committee on overall three ( 3 ) year study and column studies.
  6. Every effort should be made by Technical Committee in conjunction with Florida Air & Water Pollution Commission to obtain a demonstration research grant from Federal Water Pollution Control Administration to help support Orange Counties work on economical means of removing nutrients from agricultural, domestic and citrus waste.
  7. The Florida Air & Water Pollution Control Commission in conjunction with Technical Committee and in particular the East Central Florida Regional Planning Commission apply for a comprehensive Basin Planning Grant from the Federal Water Pollution Control Administration to work on Lake Apopka and Oklawaha River up to Marion County Line.
  8. The Florida Air & Water Pollution Control Commission in conjunction with the Technical Committee apply for a restoration grant from Federal Government when they become available, to help finance Lake Apopka work forces various restoration research projects on a much larger scale. Further until said restoration grant becomes available, Orange and Lake Counties continue, through the Lake Apopka trust fund, studies.



9. The Florida Air & Water Pollution Control Commission give due consideration for approval of proposed budget for Lake Apopka project, as supplied by the Technical Committee Chairman.
10. Legal action be held in obedience at this time against those interest effluentng nutrients into Lake Apopka. This is based on the fact all are currently cooperating and meeting said request of Lake Apopka Technical Committee on this matter, by either adding pollution control equipment, hiring engineering firms or enacting various research projects. This attitude could change and any change of cooperating spirit by said interest will be brought to the attention of the Florida Air and Water Pollution Control Commission immediately, by Technical Committee.
11. The Oklawaha River Basin Water Quality study continues as scheduled.