

Cabrillo Project To Better The Waters Of Loch Lomond

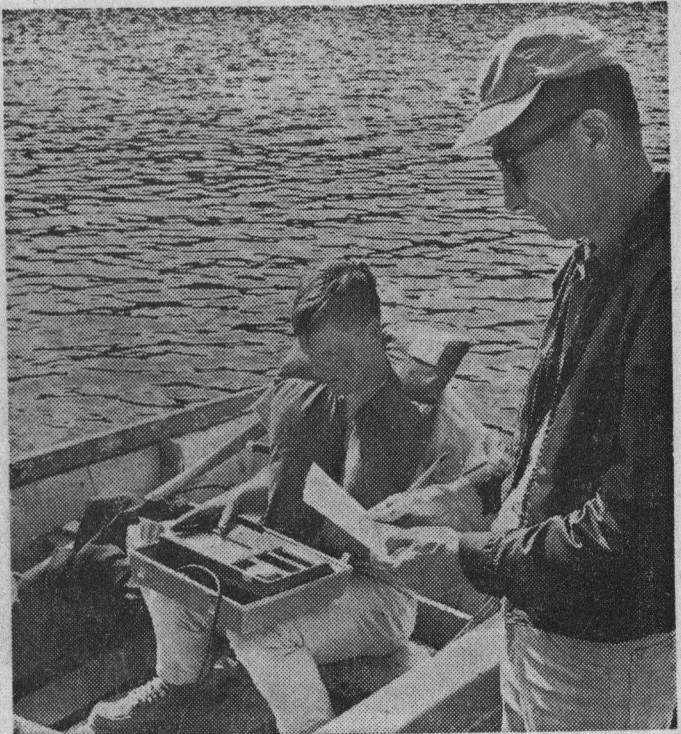
By Alan Pugh
Sentinel Staff Writer

A study under way now by a special projects class at Cabrillo college may well lead to future betterment of the waters of Loch Lomond—better for drinking purposes and better for the habitation of fish in the recreation area.

Bobbing around in a small boat on the surface of the city water department's San Lorenzo Valley storage reservoir, a team of four Cabrillo college biological sciences students has been taking various samples of the water and making a multitude of electronic surveys.

The data gathered by the four sophomore biology students, when completed and compiled, will give a comprehensive picture of the waters of Loch Lomond and ultimately will assist both the city and state in preparing applications for federal assistance funds.

Under direction of Professor Walter Kahn of the Cabrillo biology department, the



Cabrillo college professor Walter Kahn, right, studies figures on oxygenation of Loch Lomond as recorded by student Marvin Smith. The

student is holding the electronic device that measures electron flow between an anode and cathode deep in the lake.

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four students are determining the oxygen content of the lake at all levels—from surface right on down to the bottom. They are determining temperature levels. They are studying the amount of plankton—the minute organisms on which fish feed) that exists in the lake. And they are studying the chemical composition of the water.

"Fish need oxygen," Professor Kahn said, "and our study has indicated that a majority of the fish are in the first 20 feet throughout the lake." He said that through readings on an oxygen analyzer lowered into the lake at various levels, the oxygen content of the lake from top to bottom may be determined.

Findings from that study may ultimately lead to federal participation in a plan to oxygenate the entire lake. This would be done through a plastic pipe lowered to the bottom and with high-oxygen-content aid pumped into it. It would bubble out and filter through all the water.

"This would make all levels of the lake more habitable to fish," Kahn said.

"And it would make the water more potable and would reduce expense of treatment at the Graham Hill plant," Bob Wilcox, chief game warden at the lake, added.

Another aspect of the survey involves the amount of plankton in Loch Lomond. A plankton net is dropped to various levels and a reading and microscopic examination is made of the "take" at each level.

"Plankton needs light," Kahn said, "and we are finding great quantities at the upper levels." He added that the lake's "green hue" is another indication of a high plankton level.

Chemical analysis gives the lake's relative chemical composi-

tion, and since plankton needs a certain chemical balance to survive and since fish feed on plankton, it is vital that it be known what chemicals are in an abundance and which ones are needed.

"Phosphates, nitrates, carbonates and other chemicals are required for plankton life," Kahn explained. "Our chemical analysis will show how the balance rests and if more chemicals of one type are needed, they may be added in a form that is compatible to fish life."

At one time during a recent project on the lake, the oxygen analyzer was down about 200 feet and trouble was met in pulling it up. "We couldn't afford to lose that," Kahn said. "It's a costly piece of equipment."

He explained its operation by saying it measured the number of electrons that flow from an anode to a cathode pole on the instrument when it is lowered to various levels. The less flow—the less oxygen and vice versa.

The readings on the electronic devise are taken back to the college and correlated to figures on a scale which gives the actual oxygen reading. "It's somewhat of a complicated procedure," one of the students said.

Another test made involves a kemmerer, an instrument that obtains water samples from various levels—just as they were at the level test.

Acidity, salinity, alkalinity of the lake are also tested to determine what treatment will be needed at the Graham Hill plant," and also to determine a fish's chance of survival," Wilcox added.

Actually, the students are studying limnology, the science of lakes, and from the determination they show, their findings will be carefully and correctly reported.