

Job Completion Report

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Project No. M-8R-1

Date: July 15, 1959.

Project Name: Biological Survey of the Upper Laguna Madre, Baffin Bay and
Proposed Pass Area:

Period Covered: July 1, 1958 - July 1, 1959

Job No. C-4

Nutrient Analysis and Culture of Phytoplankton

Objectives: To determine limiting factors of phytoplankton production by the use of enriched cultures.

Procedure: Water samples from the Laguna Madre were placed in 250 ml. Erlemeyer flasks and combinations of nutrients were added. Each sample was run in triplicate. The additives were as follows:

Flask set 1 - One ml. 0.1 M. K_2HPO_4 per liter
One ml. 0.1 M. HNO_3 per liter
Five drops 0.1 M. $FeCl_3$ per liter.

Flask set 2 - K_2HPO_4
 HNO_3
No $FeCl_3$

Flask set 5 - HNO_3 only

Flask set 3 - K_2HPO_4
 $FeCl_3$
No HNO_3

Flask set 6 - K_2HPO_4 only

Flask set 4 - HNO_3
 $FeCl_3$
No K_2HPO_4

Flask set 7 - $FeCl_3$ only.

The flasks were then placed in a floating raft which was allowed to stay in the basin for ten days.

Findings: There was some response, particularly where phosphorus was present and iron absent. All samples with iron added failed to respond and even declined. Nitrate alone failed to grow phytoplankton. All samples soon became senescent and it was apparent that bacterial action was intense. In view of the impossibility of maintaining sterile working conditions and the absence of constant light and temperature sources the project was discontinued.

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Approved by:

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Date Approved:

21 July 1959