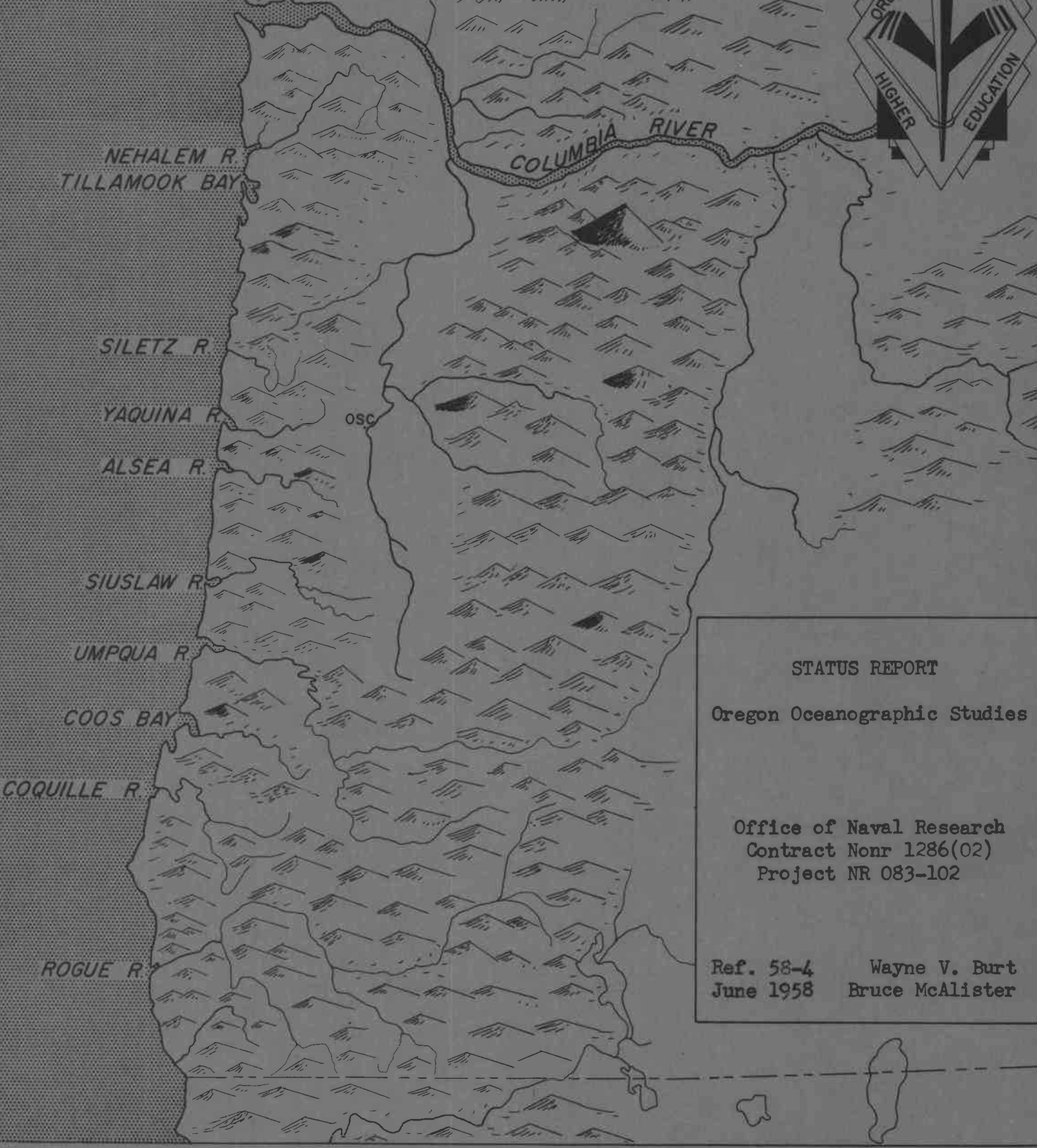


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PATTULLO STUDY
School of Oceanography
Oregon State University
Corvallis, Oregon 97331

SCHOOL OF SCIENCE OREGON STATE COLLEGE



STATUS REPORT
Oregon Oceanographic Studies

Office of Naval Research
Contract Nonr 1286(02)
Project NR 083-102

Ref. 58-4 Wayne V. Burt
June 1958 Bruce McAlister

Oregon State University, School of
Oceanography.
(Reference)

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June 27, 1958

Mr. Gordon G. Lill, Head
Geophysics Branch
Code 416
Office of Naval Research
Washington 25, D. C.

Reference: Office of Naval Research
Contract Nonr 1286(02)
Project NR 083-102

Dear Mr. Lill:

This is a status report as of this date for the months of March, April, and May for the above contract. The nature of the work undertaken in terms of the contract has included current research and preparation of papers and reports for publication. This includes, but is not necessarily limited to, the following:

I Research in Progress.

1. The continuing quarterly survey of the Oregon estuaries was made during late March and early April for the Coos, Siuslaw, Umpqua, Alsea, Siletz, Tillamook, and Nehalem estuaries. The semi-monthly program in the Yaquina has been continued.

The mouth of the Columbia was sampled late in May near the date of highest river flow. The results show that a well-developed two-layered system exists in the Columbia River near the mouth at the time of highest river flow which may be capable of bringing silt into the channel.

2. Studies of the oxygen budget of the estuaries is progressing, which is of importance in all future pollution research. Estimates of photosynthesis, respiration, and diffusion have been made which show that the estuaries have very high rates of photosynthetic production. More are in progress which will provide independent measures of production and respiration to check the method of analysis of diurnal oxygen curves for tidal estuaries which have been developed.

3. Some oxygen data has been collected from the surf. No low anomalous oxygen values indicative of strong upwelling have been measured in the slightly warmer than normal coastal waters.
4. Preliminary work is proceeding on a monograph on "The Ecology of Coos Bay". The basis of the report will be the hydrographic and chemical data already obtained and the studies of oxygen and currents in the bay. It is planned that additional information on the distribution of the principle flora and fauna and their response to the environment will be obtained this summer. This will be the first report of this type for the West Coast of the United States between San Francisco and the Canadian border.
5. Arrangements have been made with the Coast Guard to make one day-trip a month in their small cutter off the mouth of the Yaquina River to gather oceanographic data. The first trip is scheduled for 30 June. This should furnish a start on the local coastal oceanography.
6. Chemical analysis of the EASTROPIC filtered material is progressing. It is too early to know if the results will be positive or not. It is planned to complete this work during the next quarter (see paragraph 1-5 of the last status report).
7. Mr. John Tyler of the Visibility Laboratory of Scripps Institution of Oceanography is endeavoring to calibrate the Tyndall Scattering Meter used on EASTROPIC. When the calibration becomes available, the scattering data from EASTROPIC can be worked up for publication.

II Reports and Papers Published.

1. Reprints of "Selective Transmission of Light in Tropical Pacific Waters" were sent out to the ONR-Oceanographic distribution list.
2. "Can Mid-Latitude Storms be as Severe as Tropical Typhoons and Hurricanes" was published in the Professional Notes section of the June 1958 issue of the U. S. Naval Institute Proceedings. It was thought that this article was of sufficient interest to order reprints to be sent out to the ONR-Oceanographic distribution list. A copy of the article is enclosed.

III Reports and Papers in Preparation.

1. A paper "Primary Production in a Coastal Estuary" was submitted to Limnology and Oceanography for consideration for publication. A copy of the manuscript is enclosed.

2. Estuarine hydrographic data collected since June 1956 are being typed for a data report.
3. An Atlas of Hydrographic Conditions in Oregon Estuaries is in the process of compilation. It will be submitted for publication to the Research Briefs of the Oregon Fish Commission.

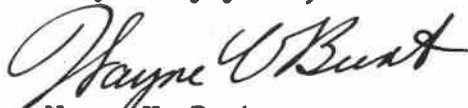
IV Meetings.

1. Dr. Burt and Mr. McAlister attended the spring meetings of the Oregon Marine Biological Association. Mr. McAlister presented a paper, "Primary Production in Oregon Estuaries," in which he discussed the results of oxygen studies in Oregon's coastal estuaries.
2. Dr. Burt attended the ONR sponsored symposium "The Ocean as an Operating Environment of the Navy" in San Diego during March.

V Miscellaneous.

1. Dr. Burt is planning to participate in the last half of Scripps Institution of Oceanography's third IGY cruise during September 1958 at the request of Mr. John Knauss.
2. Dr. Burt was elected President of the Pacific Section of the American Society of Limnology and Oceanography for the coming year.

Very truly yours,



Wayne V. Burt
Associate Professor of Oceanography

Bruce McAlister
Research Associate in Oceanography

cc: Dean Gilfillan
ONR San Francisco
ONR Seattle

Encl.

WVB:njt