Publication No. 73-e58

WA-13-0030

June 28, 1973

Memo to: Ron Pine, Scott Jeane, Greg Cloud, Hans Cregg, and Jim Armstrong

From: Ron Devitt

Subject: Scoping for July 2, 1973 Budd Inlet Dye Survey

Objective

To determine existing water quality of lower Budd Inlet prior to expansion of Olympia STP facilities and to track and define the dispersion of sewage on the survey date.

Introduction

The survey will involve a coordinated sewage treatment plant survey, a receiving water survey, and an aerial photographic survey. The STP sampling will begin at about 0730 hours and run for eight hours.

The receiving water survey will start about 0800 and run through about 1400 hours.

The airplane is chartered from 0800 to 1200 hours. About 60 pictures will be taken during this time. Infared, color, and black and white film will be used.

TENTATIVE SAMPLING STATIONS IN RECEIVING WATER

The following locations are suggested for sampling sites (1-5 are routine monitoring stations BUD 001 - BUD 005, Station 6 is Health Department #6).

Station	Location
1	(Southernmost) Midchannel at Olympia Yacht Basin. Center of most seaward pier.
2	Midchannel between southern end of Olympia port dock and Buoy #18.
3	Channel side adjacent to Buoy #10.
4	Channel side of light Buoy #6.

5	Southern side of Olympia Shoals adjacent to flashing red light at horn.
6	Ellis Cove south of Priest Point Park.
7	Eastern fork of Budd Inlet near State Street (probably will have to be moved during low tide).
A	Directly over outfall at Jacaranda.
B	Highest concentration of dye midway to toe of cloud.
C	Highest concentration of dye at toe of cloud.

Stations 7, B, and C will be moving stations. Attempt to pinpoint locations each run by triangulation from land marks.

The first run after adding dye there may be no station B or C. During the latter part of the survey when the maximum dispersion occurs, it may be desireable to add stations D and E, etc.

SURVEY PROCEDURES

Plant Survey

The STP survey will be the standard efficiency survey. Influent and effluent composite samples will be proportioned to flow. Samples will be analyzed for BOD, COD, pH, conductivity, turbidity, and solids. Grab samples will be taken for coliform, settleable solids, pH, conductivity, temperature, and chlorine residual.

In addition, the actual chlorine contact time before reaching Budd Inlet will be determined.

Receiving Water Survey

This is intended to be a proposed schedule and workload only. Due to the many variable factors, the proposals will be modified as circumstances dictate.

Sample each station at surface and about three feet from bottom using the hydrolab (pH, DO, temperature). Use the salinometer to determine salinity. Coliform samples will be hand dipped at the surface. Samples for flourescene should be taken in glass bottles at the surface and near the bottom if time permits.

Barometric pressure, depth, air temperature, wind velocity, and direction should be recorded.

At some of the deeper stations it would be useful to have middepth readings and flourescence samples.

Aerial Survey

Pictures will be taken from a selected location and elevation determined by weather conditions.

Frequency will be determined by dye travel but approximately 20 pictures of each film will be taken during the four hours. The airplane will also be in communication with boat personnel and assist in establishing stations B, C, etc.

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