

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
DANIEL J. EVANS JOHN A. BIGGS
GOVERNOR DIRECTOR

August 8, 1972

MEMORANDUM

TO: Marc Adam

FROM: Ronald Devitt

SUBJECT: Fisherman's Bay Survey, Lopez Island

Because of complaints received by this Department by residents of Lopez Island, samples were taken at Fisherman's Bay in an attempt to identify water quality problems that might possibly promote an algal bloom, "red tide", or other unaesthetic conditions.

On July 11, 1972, there was no "split pea" consistency of the water as described by Mr. Otis Perkins. These reported data represent the control survey conducted while the described condition was absent. Resampling should be conducted when the phenomena is present.

Sampling locations were established as designated by the scoping requests (12-7-71, John Hodgson and 5-30-72, Marc Adam). They are more specifically identified, proceeding south, by the descriptions below:

- Station #1. Outside of the bay, 50 yards from red buoy.
- Station #2. Midway between buoys #7 and #8.
- Station #3. 30 yards from "The Islander" dock.
- Station #4. 40 yards from the tavern dock.
- Station #5. Midway between white house and rocky point with trailer house.
- Station #6. Upper bay - not sampled.

Because samples were collected by float plane there was some drift (about 10 yards) during testing.

No sample was obtained at Station #6; the low tide level prevented access. Although the sky was overcast and light sprinkles were falling, visibility was extremely good (bottom could be seen clearly at all stations except #2 where the secchi disk reading was 24 feet). "Eel grass" was very abundant and gave the water a greenish appearance.

The attached data will be compared to values obtained in the proposed re-sampling.

RCD:bj

Attachment

DATA REPORT FORM

Location: Fisherman's Bay, samples taken at a depth of 1 foot

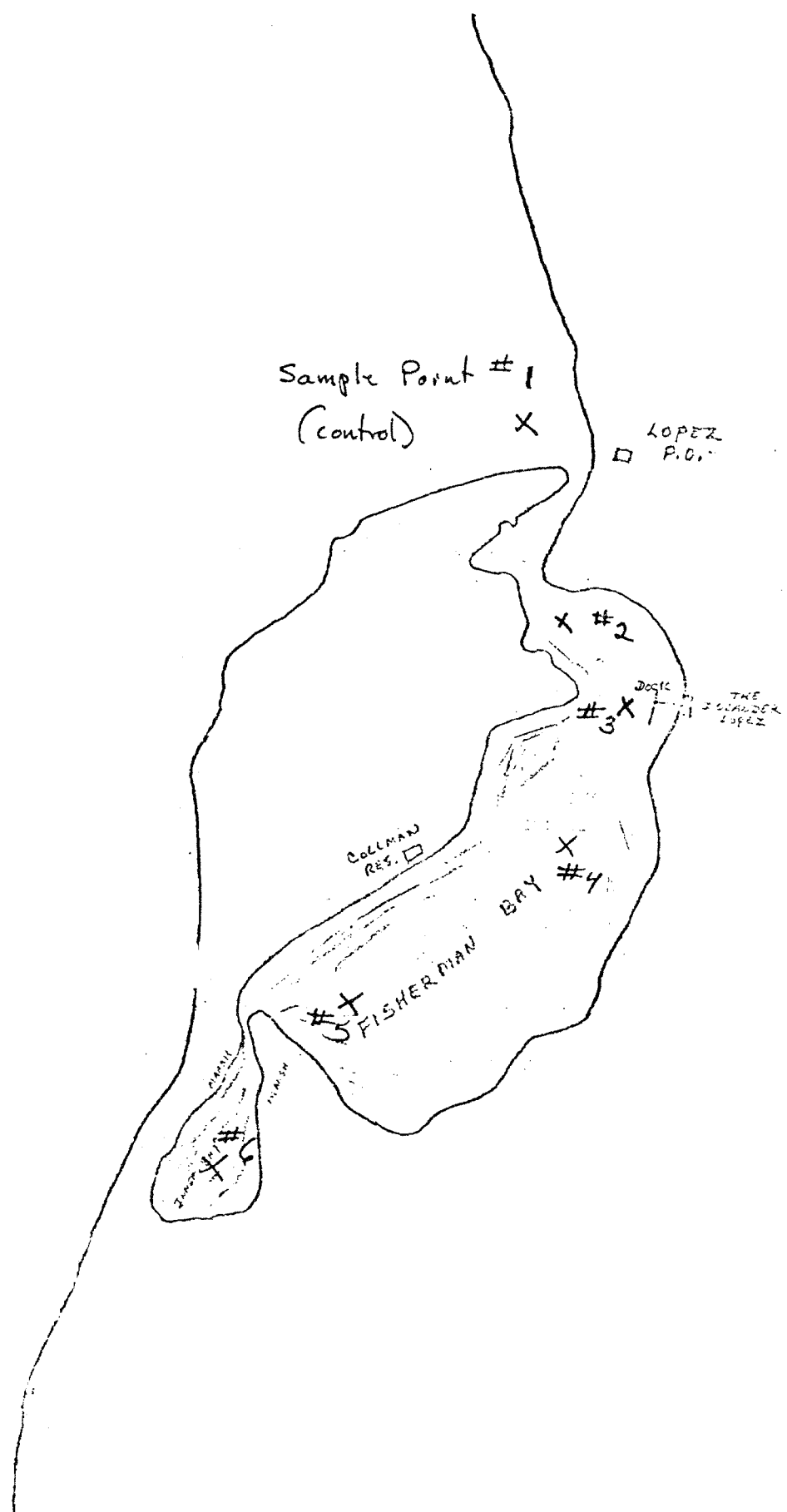
Station and Log number

Field Results	1	2	3	4	5
Time	1300	1307	1320	1330	1337
Cond. (millimhos/cm)	34.0	35.4	35.5	35.5	37.2
Salinity (%)	31.6	31.1	31.6	31.6	31.2
Temperature °C	9.0	11.1	10.9	10.8	13.2
D.O. (ppm)	6.4	6.9	6.8	7.2	9.0
Secchi Disk (feet)	*12	24	*7	*7	*5

Lab. Results

pH	7.8	7.9	7.8	7.9	8.0
Colonies/ Total Coliform, 100 ml	<20	<20	<20	<20	<20
Colonies/ Fecal Coliform, 100 ml	<20	<20	<20	<20	<20
Chlorophyll a (pph)	0.14	0.23	0.56	0.43	0.14
b (pph)	0.13	N.D.	N.D.	0.18	0.27
c (pph)	N.D.	N.D.	0.19	N.D.	0.51
Astacin Carotenoids	N.D.	0.01	0.04	N.D.	0.03
Non-Astacin Carotenoids	0.27	0.15	0.19	0.14	0.07

* Feet from water surface to substrata.



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO:
R. DeWitt.....
COPIES TO:
.....
LAB FILES.....

DATA SUMMARY

Source FISHERMAN'S BAY

Collected By RCD

Date Collected 7/11/72

Goal, Pro./Obj. 3.2.21

Log Number:	72-	2520	2521	2522	2523	2524	2525					STORET
Station:	1	2	3	4	4A	5						
pH	7.8	7.9	7.8	7.9	-	8.0						00403
Turbidity (JTU)												00070
Conductivity (umhos/cm)@25°C												00095
COD												00340
BOD (5 day)												00310
Total Coliform (Col./100ml)	<20	<20	<20	<20	-	<20						31504
Fecal Coliform (Col./100ml)	<20	<20	<20	<20	-	<20						31616
NO3-N (Filtered)												00620
NO2-N (Filtered)												00615
NH3-N (Unfiltered)												00610
T. Kjeldahl-N (Unfiltered)												00625
O-PO4-P (Filtered)												00671
Total Phos.-P (Unfiltered)												00665
Total Solids												00500
Total Non Vol. Solids												
Total Suspended Solids												00530
Total Sus. Non Vol. Solids												
Chlorophyll a (ppb)	0.14	0.23	0.56	0.43	0.14	-						
" b "	.13	ND	.42	.18	.27	-						
" c "	N.D.	ND	.19	ND	.51	-						
'ASTAXIN CAROTENOIDS'	N.D.	.01	.04	ND	.03	-						
NON- " " "	.17	.15	.09	.14	.07	-						

Station 4 & 4A prepared for micro determination
 Station 5
 Star 5
 Star 4 & 4A
 RCD
 7-11-72

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
 Convert those marked with a * to PPB (PPM X 10³) prior to entry into STORET
 Reference for Chlorophyll Analysis:
 Manual of Seawater Analysis, J. D. H. Summary By Stephen D. Roll Date 7-31-72
 SIRICRANA & T. R. PARSONS, 1960

M E M O R A N D U M

TO: Pete Hildebrandt, John R. Raymond and Files

FROM: John Hodgson

SUBJECT: WATER QUALITY SURVEY - FISHERMAN BAY, LOPEZ ISLAND,
December 7, 1971 SAN JUAN COUNTY

DATE:

Mr. Otis Perkins, Lopez Island, Washington, 98261, directed a letter to us on September 21, 1971. In this letter Mr. Perkins complained about the water quality of Fisherman Bay, particularly in late summer. Mr. Perkins referred to the water of the bay as having the consistency of split pea soup.

A copy of Mr. Perkins letter was forwarded to Ivan Scherer of the San Juan County Health Department for comment. In view of the above and Mr. Scherer's comments (copy attached), it is requested that two consecutive surveys be conducted in Fisherman Bay. The first survey should be scheduled sometime this spring (April) and the second survey during the summer (August). Both surveys should include the following parameters at the specified sampling stations.

Sample Station #1 - Total Nitrogen, Total Phosphate, DO, pH,
Total and Fecal Coliform, Temp.

Sample Station #2 through #6 - Same as #1 with identification
of the red tide if present, and suspended
solids concentrations.

The sample points specified above were located at random on the attached diagram of Fisherman Bay. As random sampling points, the exact location is flexible and I would expect the individuals conducting the survey to relocate and/or increase the number of the sampling points as they see fit.

Please notify the Redmond Regional Office as to when the surveys will be scheduled.

JWH:11
12-7-71

cc: Ron DeVitt, DE, Olympia

Enclosure

SAN JUAN COUNTY HEALTH DEPARTMENT

FRIDAY HARBOR, WASHINGTON 96250

October 6, 1971

Ken DeWitt



State of Washington
Department of Ecology
Olympia, Wa. 98501

Attention: JOHN HODGSON

Dear John,

Glad to hear from you and of your concern for a local problem. I was surprised the complaint originated from the Islander Lopez; they bring nearly all the boaters into the bay.

I have noticed the pea-soup color of Fisherman Bay at certain times of the year that Mr. Delourme refers to in his letter. Today there are red streaks throughout the bay. This was identified last month by the University of Washington laboratory as mesodinium, a non-toxic red tide. No clams were examined from this bay last summer. Clams from Fastsound beaches showed as much as 242 micrograms per 100 gm. sample. The red tide streaks are shown on the enclosed drawing. Apparently the marine life forms find plenty of nutrient in the bay.

I have not made a survey of the shoreline to find sources of sewage overflows. It is suspected that boaters have discharged their sewage while in the bay. We have a sign at the Islander Dock asking that this not be done.

Mr. Bruce Collman, a local fisherman, is interested in stocking oysters in front of his home on Fisherman Bay. He has been taking samples of the water to determine the degree of contamination. His August sample was less than 1.8 M.P.N. The September sample was 43 M.P.N. I have been advised by the shellfish section of the State Health Department that a bacteriological survey is used only to compliment the sanitary survey of the area in question. Mr. Collman is also president of the Lopez Mosquito Control Association. The salt-water marsh around the inner bay alongside the isthmus has long been one of his more aggravating problem areas.

A check of a county map will show Fisherman Bay to be the most confined bay within the islands. Several property owners on the bay are concerned about the lack of flushing action within the bay and its tendency to become more shallow. There has been some talk about opening up the southwest end of the bay by putting a culvert under the road. An attempt to solve the problem on this small of a scale would probably end up with a broken culvert and a washed-out road after the first winter storm. A bridge put in the right place, of the right size and of the right structural strength would most likely do the job. This kind of project is usually shot down by the opposition with a "it

continued

October 6, 1971
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will cost too much". If funds are available for such "save the bay" projects where a total cost is determined and a breakdown of cost to each owner is made, it might not appear to be so impossible to accomplish.

I think I have covered about everything that's going on around Fisherman Bay. If you need additional information please contact me again.

Very truly yours,

I. E. Scherer, R.S.

I. E. Scherer, R.S.
San Juan County Sanitarian

IES/ag
encl: sketch

3221

REQUEST FOR ANALYSIS

Date 7/6/72

REQUESTED BY RON DEVITT

RECEIVING WATER FISHERMAN'S BAY

COLLECTED BY RON DEVITT

LOPZ ISLAND
PROCESS WATER

DATE ~~WERE~~ (WILL BE) COLLECTED 7/11/72

OTHER

PRIORITY: REASONABLY SOON AS SOON AS POSSIBLE EMERGENCY

SAMPLES WILL ARRIVE: DATE 7/11/72 APPROXIMATE TIME 1300 CARRIER DEVITT

ROUTE DATA SUMMARY TO: RON DEVITT

ADDITIONAL INFORMATION (PROBLEM, BACKGROUND, INTERFERENCES, PATTERNS, ETC.)

For Lab Use Only

Type of Analyses Required	Number of Samples	Approx. Range	Preservative Type - Vol.	Laboratory Number	Analyst	Date	Notes
<u>GILCASTYLE</u>	<u>8</u>						
<u>TOTAL COU</u>	<u>8</u>						
<u>FERR COU</u>	<u>8</u>						
<u>POSSIBLE QUALITATIVE SAMPLES FOR IDENTIFICATION OF RED TIDE.</u>							
<u>TOTAL</u>							

Fill out as completely as possible. Some Analyses (bacteriological, biological, BOD etc.) and large numbers of samples should be scheduled ahead of time. Specific questions should be directed to the Analyst supervising the particular analysis desired. Lab. phone: 206 753-2362.