## MEMORANDUM

Publication No. 70-e14

## Water Pollution Control Commission

P. O. Box 829 **OLYMPIA, WASHINGTON** 98501

Tom Haggarty

DATE:

October 6, 1970

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Ron Lee

SUBJECT: Eutrophication: Liberty
Lake and Silver Lake Complaints

Water quality data from Liberty and Silver Lakes are presented in Tables 1 and 2, respectively. The nutrient data obtained from Liberty Lake sampling stations would suggest that septic tank seepage may be gaining entrance to the creek that drains into the lake. High nitrate and phosphate values in the creek compared to the control station (WDG boat launch) indicate contamination and would explain the dense localized algae growths at the creek's entrance into the lake.

The two stations sampled at Silver Lake essentially show no difference in water quality. Substantial amounts of suspended algae was present throughout the lake which exhibited typical eutrophic characteristics.

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Table 1 Liberty Lake water quality data collected on September 2, 1970:

Station	Total <pre>coliform counts/100ml</pre>	<u>NO</u> 3		Kjeldahl-N ppm)	NO <sub>2</sub>
Dept. of Game boat launch	1,000	.017	.023	0.48	0
Ogle residence swimming dock	120	.033	.020	0.38	0
Creek (culvert drain pipe)	540	1.19	.039	0	0

Table 2 Silver Lake water quality data collected on September 21, 1970:

Station	coliform counts/100ml	pH <u>NO</u> 3 <u>NO</u> 2 <u>Kjeldahl-N Total P</u> (ppm)
Silver Lake Resort dock	20	9.2 0.33 0 1.63 0.12
Trailer Park dock	200	9.1 0.19 0 1.80 0.19

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The following are the analytical results from survey conducted at:

Libert	y hal	97				4-0	74	
٠		colonies	ppm	ppm	PPM	ollected _	9/2/70 ppm	>
LÁB. NO.	STATION NO.	Total Californ	NO3-N Filtered	Total Pou-P Unfiltered	Organie		NO2-N	
0-4645	Lannel	1,066.	.017	.023	0.48	0.00	0,00	
-4646	ogle	120.	,033	.020	0.38	0.00	0,00	
-4647	Creek.	540.	1,19	.039	0.00	0.00	0.00	
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The following are the analytical results from survey conducted at:

Silver Lake Collected 9 /21/1/3 colonies maleston J.T. D. STATION specific Total Turbidity pH Condectivity LAB. NO. Coliforn Resort 5. 9,2 705. 20, 15 - 5170 Dock Trailer 9.1 5. 722. Park Dock 200. 5179 ppm ppm ppm ppm organic Rjellall-N NO2-IV N.Hg - N Total Pour P Total Pour P NO3- N Filtered Filtered Unfiltered Filtered Filtered 1,63 ,000 .600 617 .059 000 ٠٠.٠. ١٠٠٠ ن 1.80 ,019 .000 .019 -5179 .000

Notes:

Summarized by Cat Lee