

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

1988 STATEWIDE WATER QUALITY ASSESSMENT

\*\*\* WATERBODY \*\*\*

Page 1 of 5

Name of Waterbody: <u>Walby Lake</u>		ID#: <sup>AK</sup> <u>90 20402 401</u>
Type/Size: <input type="checkbox"/> River/Stream _____ Miles	<input checked="" type="checkbox"/> Lake <u>16.2</u> Acres/Hectares	3041: <input checked="" type="checkbox"/> N <input type="checkbox"/> M <input type="checkbox"/> S
<input type="checkbox"/> Fresh Wetland _____ Acres/Hectares	<input type="checkbox"/> Tidal Wetland _____ Acres/Hectares	WQL: <input checked="" type="checkbox"/> 0 - N
<input type="checkbox"/> Estuary _____ Square Miles	<input type="checkbox"/> Coastal Shoreline _____ Miles	1 - PS
<input type="checkbox"/> Groundwater _____		2 - NPS
		3 - WQS
		4 - Con/Enf
		Stat: I <input checked="" type="checkbox"/> <input type="checkbox"/> U
		[ADEC Use Only]
USGS Hydrological Unit #: 190- <u>20402</u>		
Location or Lat/Long: <u>61° 37' 06" 149° 12' 38"</u>		<i>sources unknown</i> <i>see other sheet</i>
Is the waterbody in a national or state park or similar area?: <input type="checkbox"/> Yes, <input checked="" type="checkbox"/> No, Name _____		<i>Hold - DC2 LISTED "T" ON 305/319</i>
		reserve,

\*\*\* ASSESSMENT \*\*\*

Assessment Date: Yr <u>85</u> , Mo <u>1</u> / By <u>Paul Woods - USGS</u>	
Sampling: Begin Yr <u>82</u> , Mo <u>6</u> / End Yr <u>83</u> , Mo <u>9</u> / By <u>Paul Woods - USGS</u>	
Reference for Data: <u>Woods, P.F. 1985, Limnology of nine small lakes Matanuska - Sitsinau Borough, Alaska, and the survival and growth rates of rainbow trout: U.S. Geol. Survey, Water Resources Investigation Report 85-429a</u>	
Basis for Assessment:	Assessment Category:
<input type="checkbox"/> 1 Qualitative, land use/sources	<input checked="" type="checkbox"/> Monitored (Data) Report
<input type="checkbox"/> 1 Qualitative, complaints/2nd hand	<input type="checkbox"/> Evaluated (Judgement)
<input type="checkbox"/> 2 Predictive models, unverified	
<input type="checkbox"/> 3 Calibrated models	
<input type="checkbox"/> 4 Fixed station data, Bio or Chem	
<input type="checkbox"/> 5 Effluent toxicity testing	
<input type="checkbox"/> 6 Limited site visit	
<input checked="" type="checkbox"/> 7 Intensive field assessment	
Next Planned Assessment: Yr _____, Mo _____ / By _____	
Comments: <u>limnological sampling: e.g. nutrient concentrations, temp., dissolved oxygen profiles, chlorophyll a concentrations</u>	

Size-A Size-M Support Partial Not-Sup Cause-% Size-10 Size-No Why?

Meets Clean Water Act Goals:

- Fishable
- Not Fishable
- Fishable Not Attainable
- Swimmable
- Not Swimmable
- Swimmable Not Attainable

Impaired or Threatened Uses:

- |   |  |
|---|--|
| <u>IMP</u> <u>THR</u> - FRESHWATER  | <u>IMP</u> <u>THR</u> - MARINE   |
| <input type="checkbox"/> <input type="checkbox"/> Drinking  | <input type="checkbox"/> <input type="checkbox"/> Aquaculture                |
| <input type="checkbox"/> <input type="checkbox"/> Agriculture                                     | <input type="checkbox"/> <input type="checkbox"/> Seafood Processing         |
| <input type="checkbox"/> <input type="checkbox"/> Aquaculture                                     | <input type="checkbox"/> <input type="checkbox"/> Industry                   |
| <input type="checkbox"/> <input type="checkbox"/> Industry  | <input type="checkbox"/> <input type="checkbox"/> Recreation, Contact        |
| <input type="checkbox"/> <input type="checkbox"/> Recreation, Contact                             | <input type="checkbox"/> <input type="checkbox"/> Recreation, Secondary      |
| <input type="checkbox"/> <input type="checkbox"/> Recreation, Secondary                           | <input type="checkbox"/> <input type="checkbox"/> Fish, Shellfish, Wildlife  |
| <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fish, Shellfish, Wildlife | <input type="checkbox"/> <input type="checkbox"/> Harvest of Fish, Shellfish |

Support of Designated Uses:

- All Uses Fully Supported, no sources present
- All Uses Fully Supported, sources present
- One or More Uses Threatened
- One or More Uses Partially Supported
- One or More Uses Not Supported

Trophic Status:

- Oligotrophic
- Mesotrophic
- Eutrophic
- Hypereutrophic
- Dystrophic
- Unknown

Trophic Trend:

- Improving
- Stable
- Deteriorating

\*\*\* TOXICS \*\*\*

Monitored for Toxics:  Yes,  No

Type of Toxics Monitoring:

- |   |   |
|---|---|
| <input type="checkbox"/> 1 Organics in water column   | <input type="checkbox"/> 10 Metals in sediments                         |
| <input type="checkbox"/> 2 Organics in sediments      | <input type="checkbox"/> 11 Metals in fish tissue                       |
| <input type="checkbox"/> 3 Organics in fish tissue    | <input type="checkbox"/> 12 Metals in discharges                        |
| <input type="checkbox"/> 4 Organics in discharges     | <input checked="" type="checkbox"/> 13 Other inorganics in water column |
| <input type="checkbox"/> 5 Pesticides in water column | <input type="checkbox"/> 99 Other inorganics in sediments               |
| <input type="checkbox"/> 6 Pesticides in sediments    | <input type="checkbox"/> 99 Other inorganics in fish tissue             |
| <input type="checkbox"/> 7 Pesticides in fish tissue  | <input type="checkbox"/> 14 Other inorganics in discharges              |
| <input type="checkbox"/> 8 Pesticides in discharges   | <input type="checkbox"/> 15 Toxicity testing of water column            |
| <input type="checkbox"/> 9 Metals in water column     | <input type="checkbox"/> 16 Toxicity testing of sediments               |
|   | <input type="checkbox"/> 17 Toxicity testing of discharges              |

\*\*\* NONATTAINMENT CAUSES \*\*\*

Pollutants: (H = High, M = Medium, S = Slight)

- 1 Unknown toxicity
- 2 Pesticides Type \_\_\_\_\_
- 3 Priority organics Type \_\_\_\_\_
- 4 Nonpriority organics Type \_\_\_\_\_
- 5 Metals Type \_\_\_\_\_
- 6 Ammonia
- 7 Chlorine
- 8 Other inorganics
- 9 Nutrients
- 10 pH
- 11 Siltation
- 12 Organic enrichment
- 13 Salinity/TDS/Chlorine
- 14 Thermal modifications
- 15 Flow alteration
- 16 Habitat alteration
- 17 Pathogens
- 18 Radiation
- 19 Oil and Grease
- 20 Taste and Odor
- 21 Suspended solids
- 22 Noxious aquatic plants
- 23 Filling and draining

Sources of Pollutants: (H = High, M = Medium, S = Slight)

Point Sources

- 1 Industrial
- 2 Municipal
- 3 Municipal pretreatment
- 4 Combined sewers
- 5 Storm sewers

Nonpoint Sources

- 9 Unspecified

Agriculture

- 11 Non-irrigated crop production
- 12 Irrigated crop production
- 13 Specialty crop production
- 14 Pasture land
- 15 Range land
- 16 Feedlots
- 17 Aquaculture
- 18 Animal holding areas

Silviculture

- 21 Harvest, restoration
- 22 Forest management
- 23 Road construction/maintenance

Construction

- 31 Highway/road/bridge
- 32 Land development

Urban Runoff

- 41 Storm sewers
- 42 Combined sewers
- 43 Surface runoff

Source Unknown

- 90 Source Unknown

Resource extraction/exploration

- 51 Surface mining
- 52 Subsurface mining
- 53 Placer mining
- 54 Dredge mining
- 55 Petroleum activities
- 56 Mill tailings
- 57 Mine tailings

Land Disposal (Permitted Activities)

- 61 Sludge
- 62 Wastewater
- 63 Landfills
- 64 Industrial land treatment
- 65 Onsite wastewater systems
- 66 Hazardous waste

Hydromodification

- 71 Channelization
- 72 Dredging
- 73 Dam construction
- 74 Flow regulation/modification
- 75 Bridge construction
- 76 Removal of riparian vegetation
- 77 Streambank modification

Other

- 81 Atmospheric deposition
- 82 Waste storage/storage tank leaks
- 83 Highway maintenance and runoff
- 84 Spills
- 85 In-place contaminants
- 86 Natural
- 87 Recreational activities
- 88 Upstream impoundment
- 89 Septic tank seepage

\*\*\* FISH AND SHELLFISH CONTAMINATION \*\*\*

Fish and Shellfish Contamination:

- 0 None detected
- 1 Contaminated fish
- 2 Fishing advisory
- 3 Fishing ban
- 4 Fish abnormalities
- 5 Shellfish restrictions due to pathogens
- 6 Fish kill

\*\*\* POINT AND NONPOINT SOURCES \*\*\*

Point Sources:

- 1 NPDES Permit Number: \_\_\_\_\_  
 NPDES Permit Name: \_\_\_\_\_  
 Causes Nonattainment:  Yes ,  No , Pollutant \_\_\_\_\_
- 2 NPDES Permit Number: \_\_\_\_\_  
 NPDES Permit Name: \_\_\_\_\_  
 Causes Nonattainment:  Yes ,  No , Pollutant \_\_\_\_\_
- 3 NPDES Permit Number: \_\_\_\_\_  
 NPDES Permit Name: \_\_\_\_\_  
 Causes Nonattainment:  Yes ,  No , Pollutant \_\_\_\_\_

Nonpoint Sources:

- 1 Nonpoint Source Name: \_\_\_\_\_  
 Nonpoint Source Type: \_\_\_\_\_  
 Nonpoint Source Description: \_\_\_\_\_  
 \_\_\_\_\_
- 2 Nonpoint Source Name: \_\_\_\_\_  
 Nonpoint Source Type: \_\_\_\_\_  
 Nonpoint Source Description: \_\_\_\_\_  
 \_\_\_\_\_
- 3 Nonpoint Source Name: \_\_\_\_\_  
 Nonpoint Source Type: \_\_\_\_\_  
 Nonpoint Source Description: \_\_\_\_\_  
 \_\_\_\_\_

[Including extent of impairment of uses; significance of impacts on public health and the environment; water quality trend; efforts to control pollutants; current priority for developing pollutant controls; and adequacy of data]

Woods report:

- > low winter time DO concentrations
- > lake has high potential biological productivity, based on secchi disk transparency and chlorophyll a concentrations
- > no reasons given for lake's high productivity.

Maurer's <sup>(066's)</sup> observation: Is lake's productivity due to man-induced nutrient loading, or to natural nutrient cycling from lake bottom sediments?