

Water Quality and Fishery Habitat Condition Survey of Rowan Bay  
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Rowan Bay covers 3.4 sq mi and is the location of the log transfer facility (LTF) for the Kuiu Island portion of the long-term timber sale contract with Alaska Pulp Company. It was built in 1972-73 and its' first season of use was 1974. Preliminary diving was done in 1972 before construction and subsequent diving to look at bark accumulations occurred in 1973-75 in 1988 and 1990.

Results showed an increase in sediment loading and local turbidity during construction. Significant amounts of wood debris were found after the first year of operation. These accumulations decreased slightly after the off-season winter months. (See Table 1 on following page - this table is directly out of the NFMS study prepared by T. Meyers.)

Meyers states, "A decline in species strength and diversity was observed during the biannual investigations over the 1972-1975 study period." For example, only one lifeform was observed in the area of maximum buildup in November, 1974 and "some Dungeness [crab] were sighted near the transition zone between the impacted area and the surrounding habitat but they were not as abundant as reported prior to 1973."

Diving in 1988 and 1990 showed significant and increasing accumulations of wood solids over 28 acres. Rowan Bay has poor flushing and will continue to accumulate bark as long as the facility is used under existing practices. Results showed accumulation ranging from 0 - 100 cm. in depth depending on distance from the LTF. (See Map 1. as part of LTF Permit Monitoring memo attached and other attached maps for comparison.)

In our professional judgment, water quality in the immediate vicinity of the LTF, was impacted during the construction phase, but presently meets state marine water quality standards. Color changes in up to half of the bay, however, have been observed after high rainfall events. The biological community in the immediate vicinity of the LTF has been and continues to be affected as discussed in "Effects of Logging Study - A Summary of NFMS Activities", by T. Meyers.

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## Bibliography

Knull, J. and Wing, B., "Appendix A - Oceanographic Investigations on Rowan Bay, AK, Sept. 21-22, 1972", Environmental Assessment Division, NMFS, Juneau, 1972.

Meyers, T. (preparer), "Effects of Logging Study - A Summary of NMFS Activities, Rowan Bay, AK". NMFS, Environmental Assessment Division, Juneau, AK, 1977.

USFS, Memo - TTF Permit Monitoring, Tongass NF, 1988.

USFS, Memo - TTF Permit Monitoring, Tongass NF, Oct 15, 1990

Table 1. Measurement (cm.) of materials accumulated over transect grid located at Rowan Bay log transfer site (Stations 1, 9, 17, 25 and 33 are the most shoreward in transect grid)

	<i>before dumping</i> Nov 1973	<i>after dumping</i> Nov 1974	<i>after winter</i> Apr 1975		Nov 1973	Nov 1974	Ap 197
Row 1				Row 4			
Station 1	1.0	6.0	5.0	Station 25	1.0	32.0	31.
2	1.0	7.0	6.0	26	1.0	16.0	15.
3	2.0	16.0	14.0	27	*	11.0	*
4	5.0	11.0	6.0	28	2.0	10.0	8.
5	2.0	*	*	29	3.0	5.0	2.
6	5.0	14.0	9.0	30	0.0	0.0	*
7	1.0	12.0	11.0	31	5.0	*	5.
8	*	*	*	32	5.0	*	*
Row 2				Row 5			
Station 9	0.0	*	*	Station 33	1.0	25.0	24.
10	1.0	4.0	3.0	34	1.0	11.0	10.
11	1.0	5.0	4.0	35	1.0	*	*
12	18.0	16.0	2.0	36	*	7.0	*
13	*	8.0	*	37	3.0	12.0	9.
14	*	4.0	*	38	5.0	10.0	5.
15	*	8.0	*	39	8.0	6.0	2.
16	*	2.0	*	40	15.0	6.0	9.
Row 3							
Station 17	0.0	*	*				
18	0.0	*	*				
19	1.0	7.0	6.0				
20	1.0	4.0	3.0				
21	0.0	6.0	6.0				
22	2.0	9.0	7.0				
23	Not Established						
24	*	15.0	*				

\* no reading

Meyers, T. (preparer), "Effects of Logging Study - A Summary of NMFS Activities, Rowan Bay, AK". NMFS, Environmental Assessment Division, Juneau, AK, 1977.

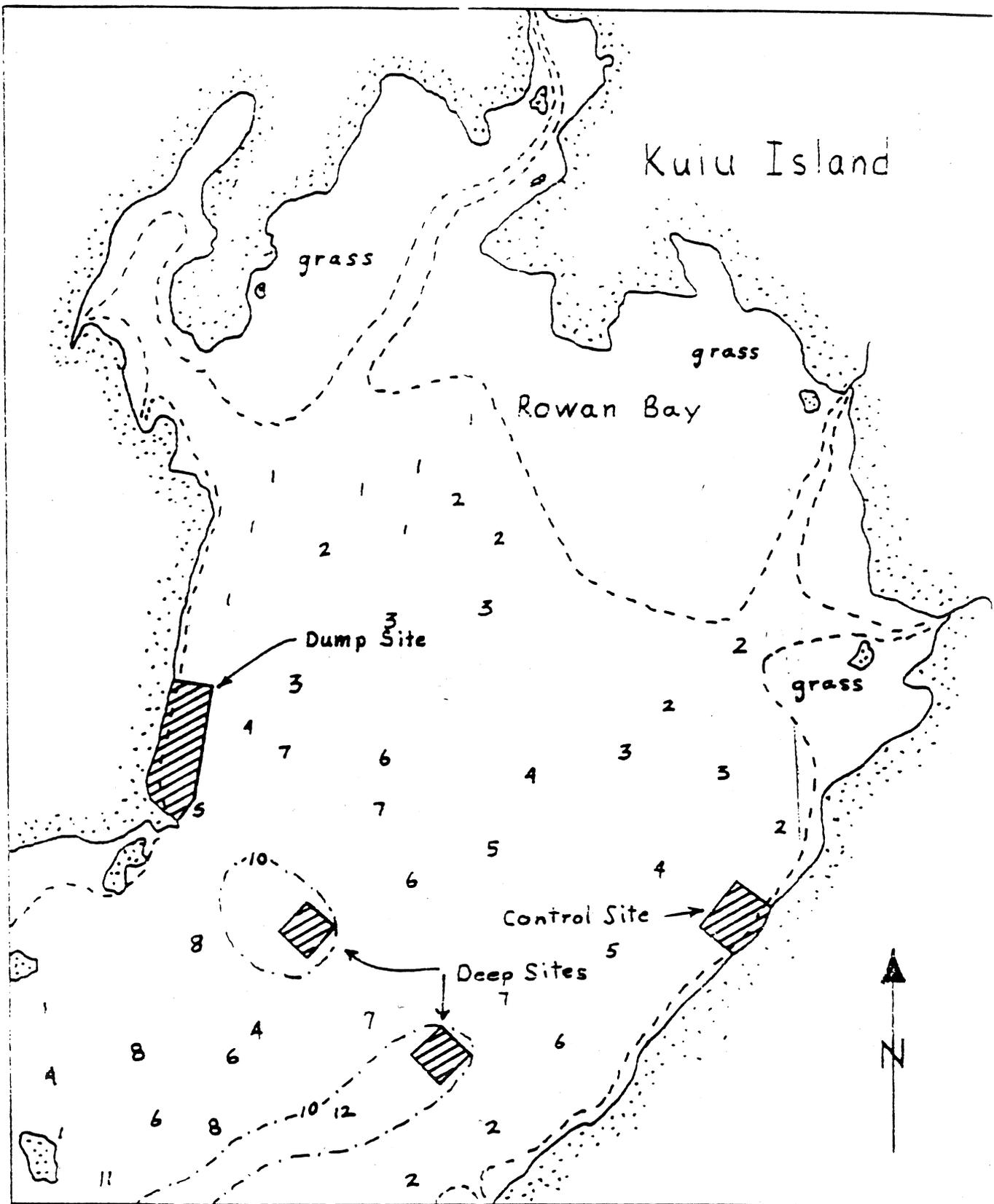


Figure 1. Location of areas surveyed by biologist/divers during the September 23-30, 1972, NMFS research cruise to Rowan Bay, Kuiu Island, Alaska. Depths are shown in fathoms.

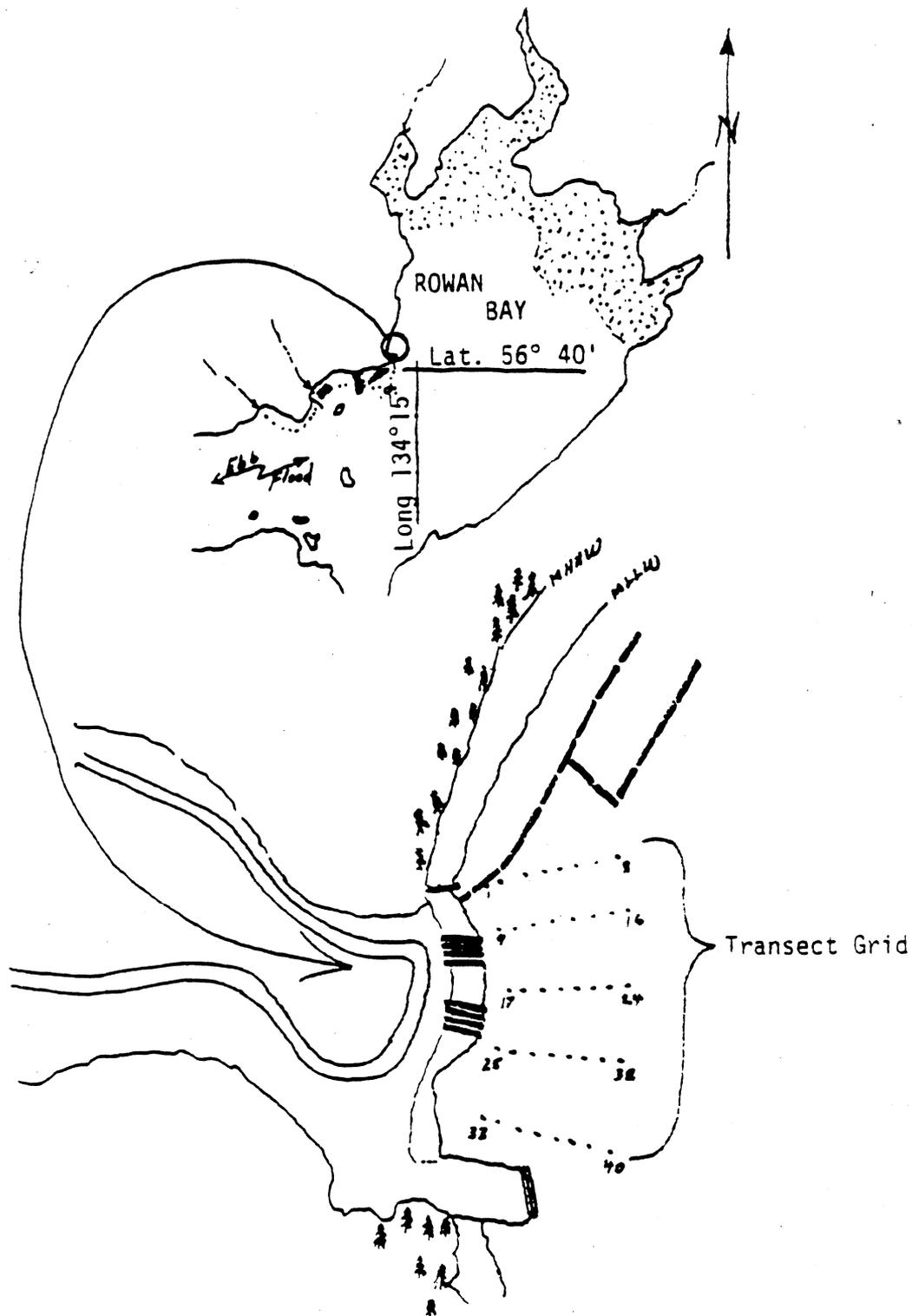


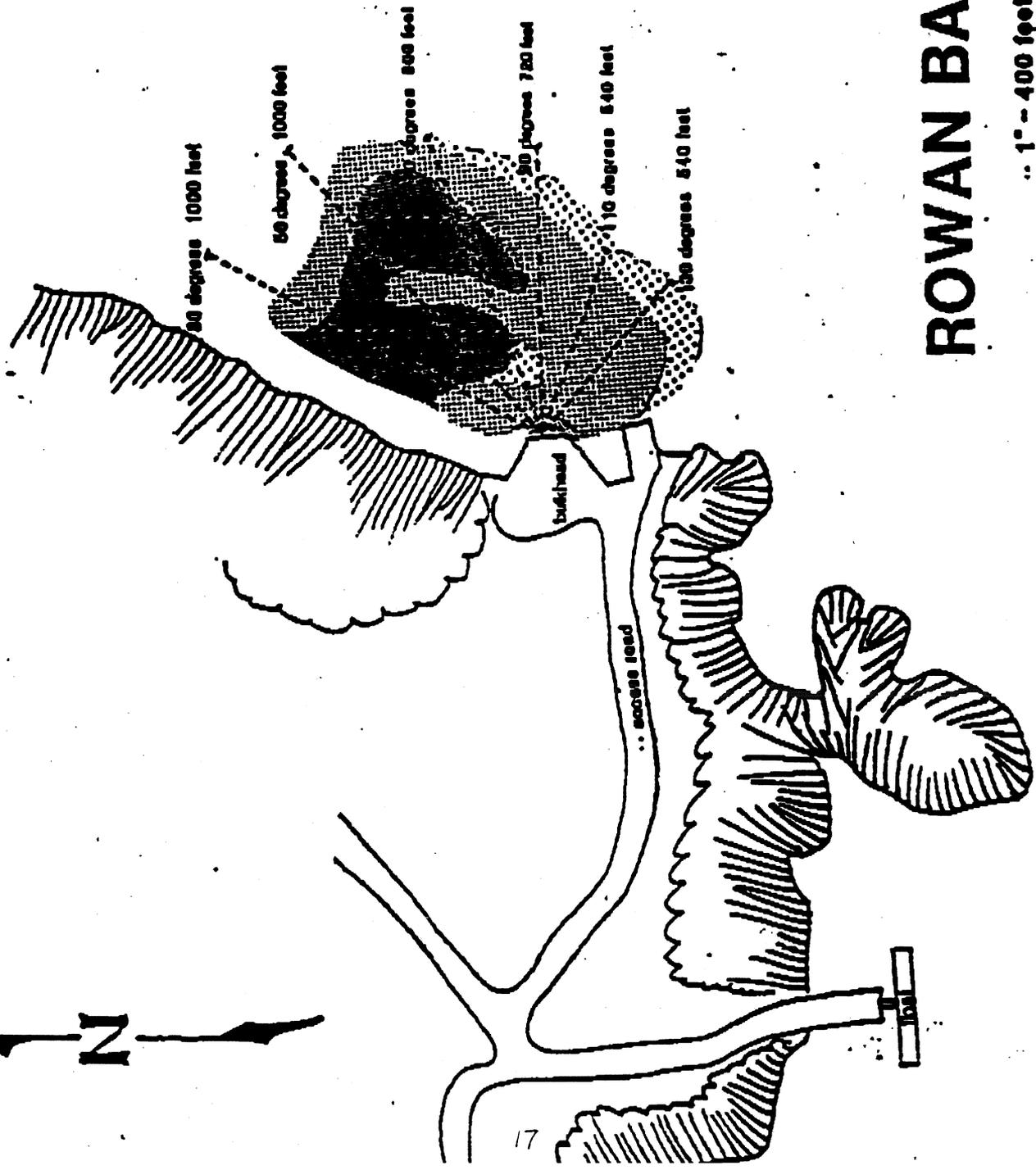
Figure 2. Relationship between log transfer point and the transect grid established to measure accumulation of wood debris (not to scale)

Meyers, T. (preparer), "Effects of Logging Study - A Summary of NMFS Activities, Rowan Bay, AK". NMFS, Environmental Assessment Division, Juneau, AK, 1977.

**.. ROWAN BAY**

- 
 Area of wood solids accumulation 0-40 cm deep
- 
 Area of wood solids accumulation 40-100 cm deep
- 
 Area of wood solids accumulation >100 cm deep

**.. DIVING TRANSECTS**



**ROWAN BAY LTF**

.. 1" = 400 feet

**1990 monitoring**