



United States
Department of
Agriculture

Forest
Service

Alaska Region

Tongass National Forest
Stikine Area
P.O. Box 309
Petersburg, AK 99833

File Code: 5460

Date: May 01, 1995

State of Alaska
Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795



Dear Sir/Madam:

Enclosed please find the 1994 Bark Monitoring Reports for Rowan Bay Log Transfer Facility (LTF), Chatham Strait 60, Department of the Army (DA) permit No. 2-750228, and Hamilton Bay LTF, Keku Strait 26, DA permit No. 2-810493. If you have any questions or need further information please contact Michele Parker at (907) 772-5850 or (907) 772-3841.

Sincerely,


ABIGAIL R. KIMBELL
Forest Supervisor

Enclosures



Caring for the Land and Serving People

FS-6200-28 (7-82)



United States
Department of
Agriculture

Forest
Service

Alaska Region

Tongass National Forest
Petersburg Ranger District
P.O. Box 1328
Petersburg, AK 99833

File Code: 2639
Route To: Michele Parker

Date: February 28, 1995

Subject: LTF Permit Monitoring

To: Forest Supervisor

The following report summarizes the results of the 1994 Log Transfer Facility (LTF) lost bark monitoring. As required by the LTF permits, lost wood solids accumulations were mapped at Rowan Bay (Chatham Strait 60) and Little Hamilton (Keku Strait 26). Otto Cornthwaite of Sunstar Diving was contracted to map lost wood accumulations. The diving was conducted on March 12, 1994 at Little Hamilton LTF and March 20, 1994 at Rowan Bay LTF.

SITES

Attached are diagrammatic maps for the three sites examined. The results of the monitoring, including inferences have been plotted. Accumulations of wood solids should be interpreted as a probable maximum accumulation estimated from data points.

METHODS

Each LTF was examined by a SCUBA diver for lost wood solids as required by permit stipulation. A white sinking line, marked every 5 and 10 meters, tied to the bulkhead and anchored off shore was used to locate data points. At each data point the diver measured the depth of wood deposits with a graduated rod and recorded the measurements in centimeters on a plexiglass sheet. Transects were measured until bark accumulations ceased, or a depth of 60 feet was reached, whichever came first.

RESULTS

Rowan Bay

As found in past inspections, the soft bottom of Rowan Bay resulted in difficulty obtaining accurate measurements of bark accumulations. Conducting the dive in winter allowed for better visibility in the water. Approximately 95 % of the area inspected had continuous coverage of wood solids greater than 10 centimeters. Otto Cornthwaite did both the 1992 and 1994 dives and found more marine life in 1994 than was present in 1992. A list is enclosed with the transect measurements. The highest concentration of bark was found in a line from the bulkhead northeast toward the shore. This concentration was deeper than in 1992.





Little Hamilton

The Little Hamilton LTF site also has a soft bottom that makes measurement difficult. Conducting the dive in winter allowed for better visibility in the water. Approximately 88% of the area inspected had continuous coverage of wood solids greater than 10 centimeters. A list of the marine life found is included with the transect measurements.

PRECISION AND ACCURACY

The accuracy of the monitoring and methods is subjectively rated fair. Due to irregular material (wood solids) and substrates (mud, boulder, etc.) it is a somewhat subjective process of reporting depth accumulations. Depths may be exaggerated due to the inability of the diver to distinguish at what point the woody material ends and the natural bottom substrate begins. Further, there is a qualitative difference between 10 centimeters of branches or boles as opposed to 10 centimeters of bark chips. In mud bottom situations, it is difficult to establish a base from which to measure wood accumulation, and in reduced visibility estimates must at times be entirely tactile (through gloves).

The precision of the monitoring methods is subjectively rated fair. Due to lateral displacement of the transect line by bottom currents, setting of transects with a compass, irregular bottom currents, and the comments regarding accuracy, it is subjectively judged to be only a generally repeatable procedure.

After taking the transect information, Otto video taped portions of the LTF site to get a random sampling of bark depth. This visual record could help those not equipped to dive the site get a better understanding of the accumulations.

RECOMMENDATIONS

I recommend using the same dive contractor as previous dives. Although this does not create better accuracy, it does allow for better comparison between years. ~~If a contractor other than the one used for the past two dives at Rowan Bay and Little Hamilton is used, that contractor should be used for several years in a row to get a good comparison. (I would however suggest staying with our current arrangement for the best comparison.)~~

Continued use of video equipment is recommended to get a representative sample of conditions at the LTF sites.

If additional information or clarification is needed please contact John Edgington at 772-3871.

PATRICIA A. GRANTHAM
District Ranger

enclosures

022895 0900 FWW 2638 SJ



BARK ACCUMULATION (cm)

LTF SITE Rowan Bay

USFS REP. Sue Jennings

CONTRACTOR Otto Cornthwaite

| STOPS | TRANSECTS | | | | | | |
|-------|-----------|--------|---------|------|------|-----|------|
| | Meters | 130° | 110° | 90° | 70° | 50° | 30° |
| 1 | 10 | 45 | 1 | 21 | 12 | 14 | 0 |
| 2 | 20 | 72 | Rock | 34 | 70 | 31 | 22 |
| 3 | 30 | 40 | 31 | 40 | 112 | 40 | 54 |
| 4 | 40 | 15 | 80 | 76 | 150+ | 85 | 62 |
| 5 | 50 | 101 | 25 | 150+ | 47 | 106 | 84 |
| 6 | 60 | 143 | 15 L | 56 | 31 | 61 | 96 |
| 7 | 70 | 21 6DC | 99 | 46 | 21 | 15 | 41 |
| 8 | 80 | 5 | 92 Brnc | 40 | 84 | 41 | 58 |
| 9 | 90 | 53 | 54 | 85 | 93 | 23 | 61 |
| 10 | 100 | 85 | Rock | 150+ | 88 | 51 | 94 |
| 11 | 110 | 40 | 15* | 10* | 5* | 30* | 150+ |
| 12 | 120 | Rock* | | | | | 114 |
| 13 | 130 | | | | | | 150+ |
| 14 | 140 | | | | | | 150+ |
| 15 | 150 | | | | | | 150+ |
| 16 | 160 | | | | | | 150+ |
| 17 | 170 | | | | | | 150+ |
| 18 | 180 | | | | | | 150+ |
| 19 | 190 | | | | | | 141 |
| 20 | 200 | | | | | | 136 |
| 21 | 210 | | | | | | 143 |
| 22 | 220 | | | | | | 95 C |
| 23 | 230 | | | | | | 73 |
| 24 | 240 | | | | | | 12 L |
| 25 | 250 | | | | | | 15 |
| 26 | 260 | | | | | | 10* |

| Start | <u>Bulkhead</u> | <u>Bulkhead</u> | <u>Bulkhead</u> | <u>Bulkhead</u> | <u>Bulkhead</u> | <u>Bulkhead</u> |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| End | <u>120 M</u> | <u>110 M</u> | <u>110 M</u> | <u>110 M</u> | <u>110 M</u> | <u>260 M</u> |
| Depth (ft) | <u>47</u> | <u>60</u> | <u>60</u> | <u>60</u> | <u>60</u> | <u>60</u> |
| Orient. | <u>130°</u> | <u>110°</u> | <u>90°</u> | <u>70°</u> | <u>50°</u> | <u>30°</u> |
| Date | <u>3-20-94</u> | <u>3-20-94</u> | <u>3-20-94</u> | <u>3-20-94</u> | <u>3-20-94</u> | <u>3-20-94</u> |

Brnc = Branches
 Rock = Rock at that location so no measurement
 6 DC = Six dungeness crab
 L = Limbs

Depths are in centimeters
 Place an asterisk at end of transect dive

Rowan Bay LTF notes from Otto Cornthwaita

Upon diving at Rowan Bay I found an increase of marine life in comparison to the diving in 1992. Here is a list of some of the marine life I found:

| | | |
|----------------------------|--------------------|---|
| Scypha compress | sponge | |
| Gersemia rubiformis | soft coral | |
| Metraidsom senile | sea anemones | |
| Nucella lamellosa | dogwinkle snail | |
| Humilaria kennecleyi | clam | |
| | shrimp | |
| Elassochirus cavimanus | hermit crab | |
| Cancer magister | Dungeness crab | I found a total of 6 dead Dungeness crab, and around 10-12 live ones. |
| Pycnopodia halianthordes | sunflower starfish | |
| Parastichopus californicus | sea cucumber | |

and a couple fish as seen in the video.

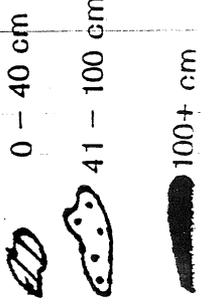
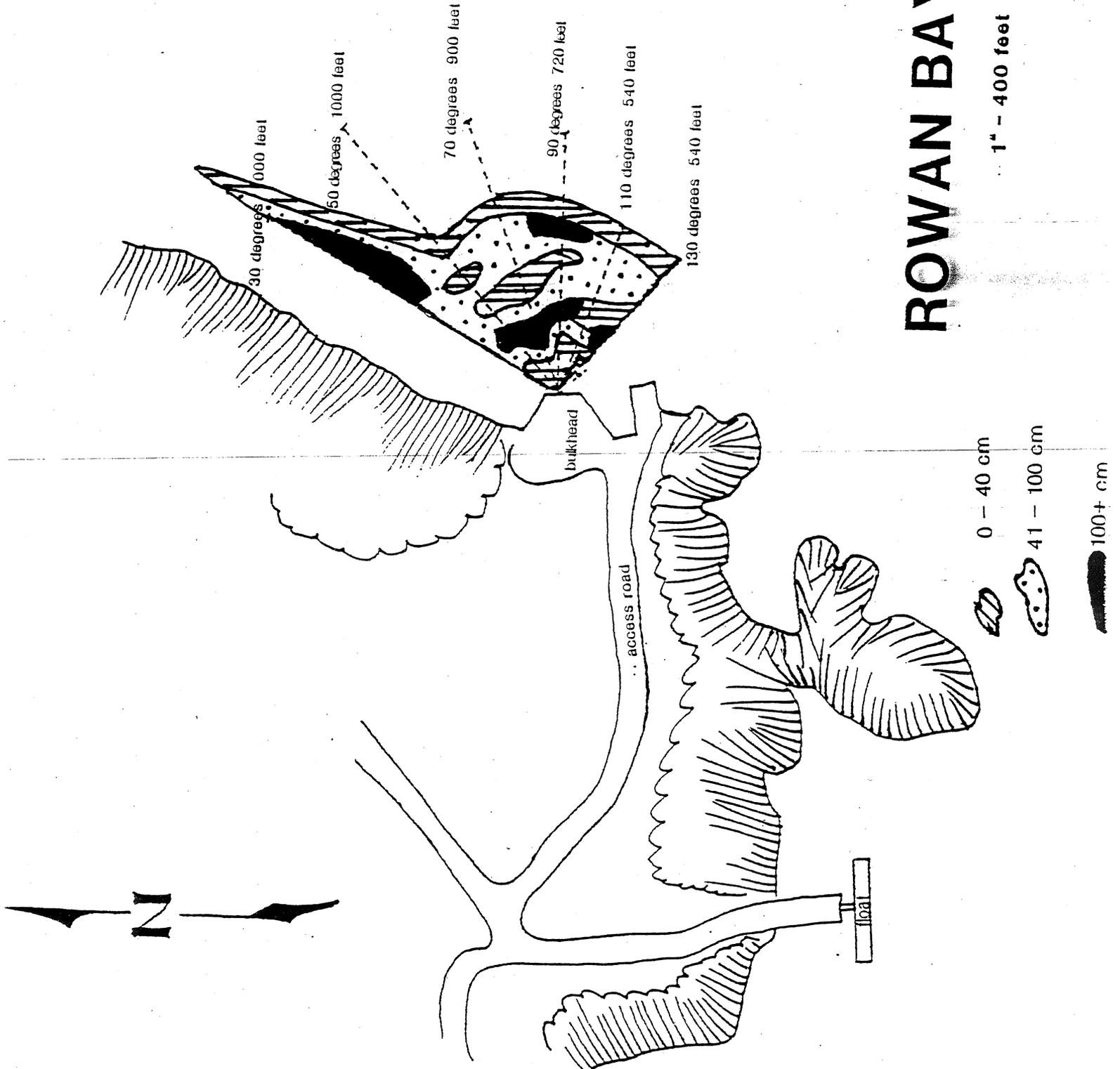
The dive in 1992, I found only dead Dungeness crab and no other marine life in the area of the LTF.

ROWAN BAY

DIVING TRANSECTS

ROWAN BAY LTF

1" = 400 feet



BARK ACCUMULATION (cm)

LTF SITE Little Hamilton

USFS REP. Karryl Johnson

CONTRACTOR Otto Cornthwaite

| STOPS | TRANSECTS | | | | | | | | |
|-------|------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|
| | Meters | Center | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | <u>5</u> | <u>10</u> | <u>20</u> | <u>20</u> | <u>10</u> | <u>10</u> | <u>10</u> | <u>9</u> | <u>11</u> |
| 2 | <u>10</u> | <u>101</u> | <u>41</u> | <u>19</u> | <u>30</u> | <u>21</u> | <u>21</u> | <u>11</u> | <u>10</u> |
| 3 | <u>15</u> | <u>140</u> | <u>59</u> | <u>51</u> | <u>56</u> | <u>39</u> | <u>29</u> | <u>42</u> | <u>29</u> |
| 4 | <u>20</u> | <u>120</u> | <u>60</u> | <u>40</u> | <u>30</u> | <u>40</u> | <u>30</u> | <u>39</u> | <u>28</u> |
| 5 | <u>25</u> | <u>100</u> | <u>70</u> | <u>100</u> | <u>41</u> | <u>59</u> | <u>32</u> | <u>61</u> | <u>22</u> |
| 6 | <u>30</u> | <u>110</u> | <u>71</u> | <u>80</u> | <u>62</u> | <u>100</u> | <u>41</u> | <u>92</u> | <u>40</u> |
| 7 | <u>35</u> | <u>80</u> | <u>52</u> | <u>71</u> | <u>120</u> | <u>141</u> | <u>32</u> | <u>93</u> | <u>61</u> |
| 8 | <u>40</u> | <u>71</u> | <u>39</u> | <u>62</u> | <u>100 C</u> | <u>140</u> | <u>30</u> | <u>89</u> | <u>69</u> |
| 9 | <u>45</u> | <u>52</u> | <u>61 L</u> | <u>61</u> | <u>100</u> | <u>140</u> | <u>10</u> | <u>89</u> | <u>78</u> |
| 10 | <u>50</u> | <u>62</u> | <u>60 C</u> | <u>70</u> | <u>81</u> | <u>110</u> | <u>91</u> | <u>81</u> | <u>59</u> |
| 11 | <u>55</u> | <u>60</u> | <u>21</u> | <u>81</u> | <u>72</u> | <u>140</u> | <u>42</u> | <u>80</u> | <u>80</u> |
| 12 | <u>60</u> | <u>31</u> | <u>11</u> | <u>79</u> | <u>40</u> | <u>121</u> | <u>33</u> | <u>84</u> | <u>60</u> |
| 13 | <u>65</u> | <u>10 *</u> | <u>10 *</u> | <u>70</u> | <u>40</u> | <u>100</u> | <u>72</u> | <u>22</u> | <u>59</u> |
| 14 | <u>70</u> | | | <u>51</u> | <u>21</u> | <u>40</u> | <u>89</u> | <u>10</u> | <u>32</u> |
| 15 | <u>75</u> | | | <u>50 *</u> | <u>10 *</u> | <u>20</u> | <u>81</u> | <u>11 *</u> | <u>30 DC</u> |
| 16 | <u>80</u> | | | | | <u>11 *</u> | <u>79</u> | | <u>21</u> |
| 17 | <u>85</u> | | | | | | <u>33</u> | | <u>13</u> |
| 18 | <u>90</u> | | | | | | <u>41</u> | | <u>10 *</u> |
| 19 | <u>95</u> | | | | | | <u>11</u> | | |
| 20 | <u>100</u> | | | | | | <u>10 *</u> | | |
| 21 | <u>105</u> | | | | | | | | |

Start: All transects start from the south. The center is the bulkhead.
 Transects are measured out from the bulkhead to the west they are numbered increasing the further west traveled. To the east letters with the E being further east than A. E and 5 are the same distance from the center but in opposite directions.

| | | | | | | | |
|------------|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Depth (ft) | <u>20</u> | <u>20</u> | <u>20</u> | <u>20</u> | <u>20</u> | <u>20</u> | <u>20</u> |
| Orient. | <u>South to North</u> | | | | | | |
| Date | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> |

DC = Dungeness Crab
 L = Limbs
 C = Cable

Depths are in centimeters
 Place an asterisk at end of transect dive

BARK ACCUMULATION (cm)

(continuation sheet)

LTF SITE Little Hamilton

CONTRACTOR Cornthwaite

| STOPS | TRANSECTS | | | | | |
|-------|-----------|------------|-------------|-------------|------------|------------|
| | Meters | A | B | C | D | E |
| 1 | <u>5</u> | <u>21</u> | <u>10</u> | <u>9</u> | <u>0</u> | <u>0</u> |
| 2 | <u>10</u> | <u>22</u> | <u>21</u> | <u>21</u> | <u>22</u> | <u>10</u> |
| 3 | <u>15</u> | <u>43</u> | <u>83</u> | <u>18</u> | <u>31</u> | <u>12</u> |
| 4 | <u>20</u> | <u>50</u> | <u>85</u> | <u>33</u> | <u>29</u> | <u>14</u> |
| 5 | <u>25</u> | <u>79</u> | <u>41</u> | <u>41</u> | <u>38</u> | <u>20</u> |
| 6 | <u>30</u> | <u>28</u> | <u>53</u> | <u>40</u> | <u>37</u> | <u>28</u> |
| 7 | <u>35</u> | <u>43</u> | <u>41</u> | <u>30</u> | <u>60</u> | <u>30</u> |
| 8 | <u>40</u> | <u>65</u> | <u>50</u> | <u>44</u> | <u>62</u> | <u>32</u> |
| 9 | <u>45</u> | <u>63</u> | <u>29</u> | <u>61</u> | <u>63</u> | <u>43</u> |
| 10 | <u>50</u> | <u>81</u> | <u>80</u> | <u>60</u> | <u>40</u> | <u>29</u> |
| 11 | <u>55</u> | <u>45</u> | <u>22</u> | <u>33</u> | <u>38</u> | <u>31</u> |
| 12 | <u>60</u> | <u>30</u> | <u>20</u> | <u>45</u> | <u>33</u> | <u>52</u> |
| 13 | <u>65</u> | <u>21</u> | <u>11 *</u> | <u>21</u> | <u>21</u> | <u>8</u> |
| 14 | <u>70</u> | <u>0 *</u> | | <u>43</u> | <u>20</u> | <u>26</u> |
| 15 | <u>75</u> | | | <u>20 *</u> | <u>9</u> | <u>10</u> |
| 16 | <u>80</u> | | | | <u>7 *</u> | <u>14</u> |
| 17 | <u>85</u> | | | | | <u>9</u> |
| 18 | <u>90</u> | | | | | <u>0 *</u> |
| 19 | <u>95</u> | | | | | |

| | | | | | |
|---------|------------------------|----------------|----------------|----------------|----------------|
| Start | <u>Explained above</u> | | | | |
| End | | | | | |
| Depth | <u>20</u> | <u>20</u> | <u>20</u> | <u>17</u> | <u>16</u> |
| Orient. | | | | | |
| Date | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> | <u>3-12-94</u> |

Depths are in centimeters
Place an asterisk at end of transect dive

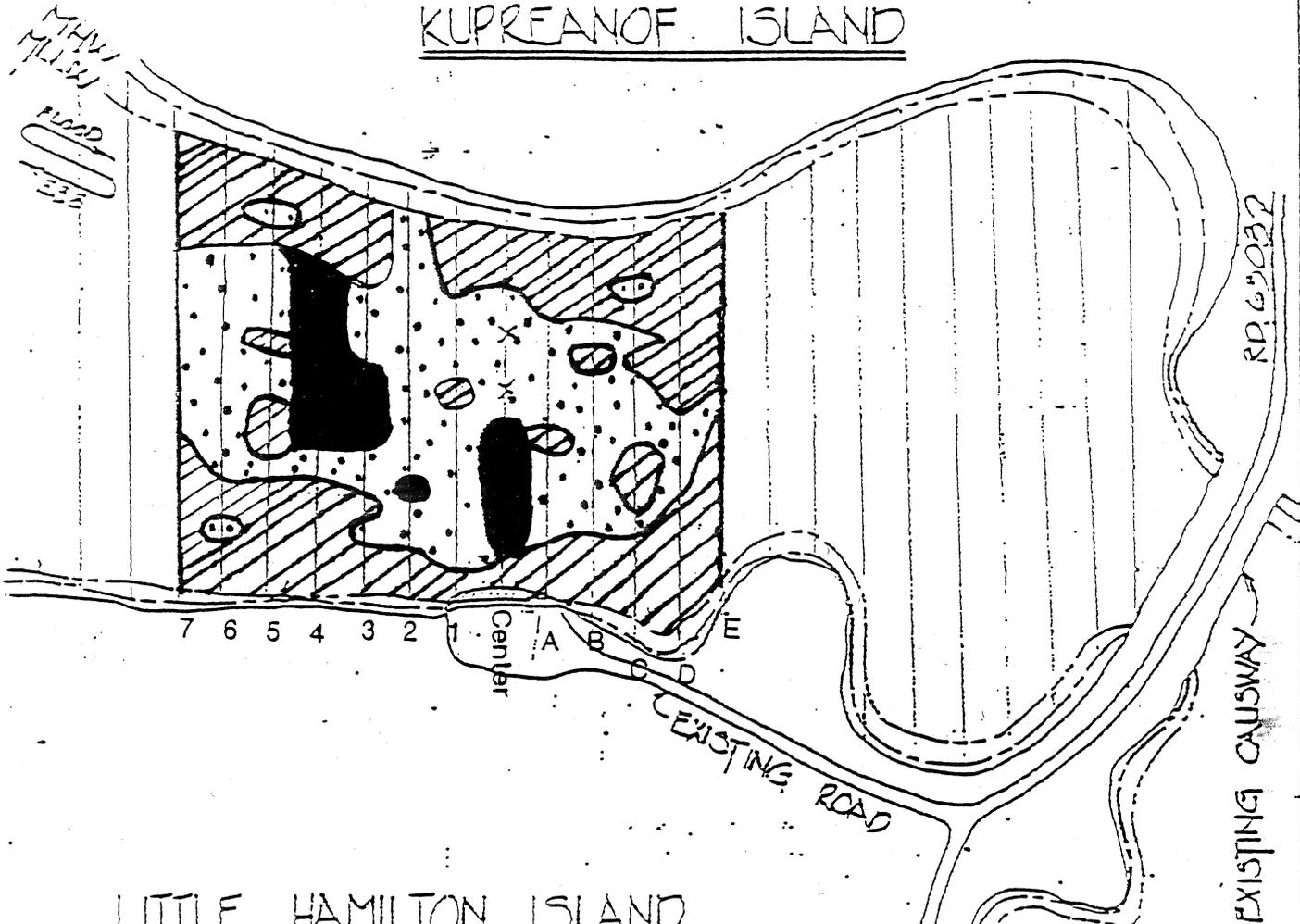
Notes from Otto Cornthwaite on the Little Hamilton LTF

Upon diving at the Little Hamilton log transfer facility (LTF) I found the same marine life as found in 1992 with the exception fo the *Melibe leonina* a nudibranch gastropod. You'll see this in the video. This is the first time I've seen this nudibranch in 10 years of diving and over 3000 dives. I also found:

| | | |
|---------------------------------|--------------------|-------------|
| <i>Cancer magister</i> | Dungeness crab | 15-20 crabs |
| <i>Metridiom senile</i> | sea anemones | |
| <i>Hermissuda crassicornis</i> | nudibranch | |
| <i>Saxidomus gigantous</i> | butter clam | |
| <i>Pycnopodia helianthordes</i> | sunflower starfish | |

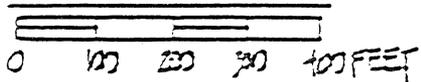
and other types of starfish, seen in the video.

KUPREANOF ISLAND



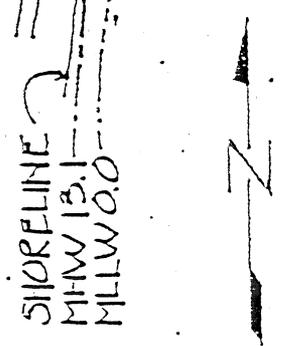
LITTLE HAMILTON ISLAND

PLAN VIEW



- | Transects
- * Center Transect

- 0 - 40 cm
- 41 - 100 cm
- 100+ cm



KENAI STRAIT 26

HAMILTON BAY ON LITTLE HAMILTON ISLAND
ALASKA, APPROX. 5 NAUTICAL MILES
SOUTHEAST OF KAKE, ALASKA