[Shoreline evaluations, 1990].

GA-01 – HR-09

Title supplied by cataloger. This title page is supplied by Alaska Resources Library and Information Services (ARLIS).

ARLIS
Alaska Resources Library & Information Services
Library Building, Suite 111
3211 Providence Drive
Anchorage, AK 99508-4614
SHORELINE EVALUATION

SEGMENT ST/ GA-01 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ST-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles E. Holmes DATE: 5/5/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 621 m: V.Light 156 m: No Oil 1314 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended Snare/Absorbent Booms
T Treatment Recommended Oil Snare (pom poms)
M Manual Pickup Absorbents (pads, rolls, etc)
B Bioremediation Spot Washing: Wands
T Tarmat Removal Beach Cleaner
R Tarmat Removal Other (see comments)

COMMENTS: ________________________________________________________________

TAG COMMENTS: ___________________________________________________________

TAG APPROVAL DATE: 5/4/90

ADEC Art Weid Art Weid DATE: 5/14/80
EXXON
NOAA Gay Brevor Gay Brevor
USCG G.A. Reier G.A. Reier
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - try outmigration (3/1 to 5/15)
   Salmon stream mouth - spawning (7/10 to 8/31)
   No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
   No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to
treatment for permits.

1C Salmon fry nursery area (4/31 to 7/31)

1D Ester Hatchery release (4/15 to 6/1)

1E Main Bay Hatchery release (4/20 to 5/10)

1F Sawmill Bay Hatchery release (4/15 to 6/1)

1G Cannery Creek Hatchery release (4/21 to 6/1)

1H Remote release site

1J Gill net area (6/7 to 8/31)

1K Purse seine area (7/20 to 9/30)

1L Purse seine hook-off (7/20 to 9/30)

1M Set net sites (6/11 to 7/25)
   For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Herring spawning (4/1 to 6/15)
   Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass.
   Contact ADF&G for specific dates and locations.

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
   Harbor seal and sea lion molting (8/15 to 9/15)
   Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m
   horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 9/1)
   Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m
   vertical distance. Contact ADF&G and USFWS prior to treatment.

5S Shorebird/waterfowl concentration (4/1 to 5/15)
   Restrict all activity to essential minimum, especially air traffic.

6U All Bald Eagle nests (3/1 to 6/1)
   Active Bald Eagle nests (3/1 to 9/1)
   Restrict air traffic to essential minimum. No personnel within 800m 3/1 to 6/1. Air approach and takeoff from
   and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to
treatment for confirmation of dates.

Recreation:
   Tent sites (8/1 to 9/15)
   Anchorage (8/1 to 9/15)
   Forest Service cabins (8/1 to 9/15)
   Lodge (8/1 to 9/15)
   Special use destination

7Z Subsistence area:
   Salmon harvesting (5/1 to 9/30)
   Finfish harvesting
   Deer harvesting (8/15 to 2/26)
   Invertebrate harvesting

7JJ For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
SEGMENT #1

SUBDIVISION: A

DATE: April 21, 1990

USCG NAME: SHAWN MAAS
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

GAGE ISLAND CONSISTS OF HIGH VERTICAL ROCK FACE. OILING AT UPPER HIGHEST TIDE RANGE. RECOMMEND NO TREATMENT. LOTS OF LIFE IN AND AROUND THE ½ METER OILED BAND.

Nome: [Name]
Signature: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

OILED BAND ON VERTICAL ROCK FACE IS PREDOMINATELY A STAIN COINCIDING WITH THE UPPER DARNACLE ZONE. THERE IS APPX. 30% MORTALITY IN THIS ZONE (WITHOUT GUARDIAN ANALYSIS) COMPARED TO 20% IN DARNACLE ZONE BELOW ½ METER OILING BAND. UPPER LEVEL OF DARNACLES IS ALMOST A "SPLASH ZONE" AND THESE MAY BE AT HIGH STRESS LEVELS TO BEGIN WITH. HOWEVER, THIS SITE IN THE SOUTH SIDE OF GAGE, MAY BE A GOOD TREATMENT SITE FOR DARNACLE MORTALITY.

Land Manager
NAME: [Name]
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

10922
SHORELINE OILING SUMMARY

OG: D. Marty
BIO: A. Lande
EXXON: J. Garraesi

USCG: G. Maag
ADEC: R. Bunt

DATE: 04/17/90
TIME: 20:10 MT.

SEGMENT ST/ 6A-01
SUBDIVISION: A

EST. SUBDIVISION LENGTH: 2012 m
TIDE LEVEL: -0.5 m

UPLANDS DESCRIPTION:
- Grass
- Forest
- Rock

SURVEYED FROM:
- Foot
- Boat
- Halo

WORKING DIRECTION:
- Small-boat clockwise

SURFACE SEDIMENTS:
- R: 10% B: 10% C: 0% P: 0% G: 0% S: 0% M: 0% V: 0%

SLOPE:
- Long 0% Hang 10% Ven 90% W: 0% M: 0% N: 699 m V: 43 m NO: 1781 m

OIL CATEGORY:
- LENGTH:
  - W: 0 m M: 0 m N: 699 m V: 43 m NO: 1781 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td>X X X X</td>
</tr>
</tbody>
</table>

PAVEMENT:
- Width: 30 m by ___ cm

PATTIES/TARBALLS:
- NO

NEAR SHORE SHEEN:
- NO

OILED SHEEN:
- NO

AMOUNT:
- DEBRIS
- A: EM
- D: LG

COLLECT DEBRIS:
- YES:
- NO:

DEBRIS TYPE:
- Logs:
- Vegetation:
- Trash:
- Debris:

Photographs:
- Roll No.: 57/10/93
- Frames: 22

SUBSURFACE OIL:
- NO PIT 5

PIT NO.

<table>
<thead>
<tr>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BELOW:

<table>
<thead>
<tr>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PIT ZONE:

<table>
<thead>
<tr>
<th>ANA SHEEN (YR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

SURFACE - SUBSURFACE SEDIMENTS

COMMENTS:
Segment consists of vertical rock faces with well developed
zonation/banding in the benthic community. Oiling is in the Chatham
Chathamay sp. zone at the top of the tidal range. On the northern
side of the island wave action is considerable, and no oil was
observed. The south side is sheltered and oil is present. No pits
were excavated due to a lack of suitable substrate.

A tide is for Change Island

REVIEWED: W 4/22/90

DATE: 04/22/90
SEGMENT ST/GA-01A

SUBDIVISION A

DATE 04/20 00

CHECKLIST

- N Avail
- Approx. Scale
- Seep/Black Briny
- Oil Dist
- Water
- Length
- % Cover
- Substrate Character
- Ext. HNL/LWL
- SSL
- Prof Location(s)
- Pits(s)
- Plots Location(s)
- Photo Location(s)

LEGEND

1 A
- Fr. No Subsurface Oil

2 A
- Fr. Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Broken Distribution

CT/P
- Pocky Distribution

CT/S
- Splattered Distribution

- Oil
- Vegetation

- Photo location, direction, and number

Bedrock: Dark gray slate.

Oil Character Length (ft): AP_O PO_O CV_O CT_G69 ST_80W MS_O FT_O TB_O FL_O NO 1384 ft

METERS
SHORELINE ECOLOGICAL SUMMARY

Segment ST, GA 1  
Subdivision  A  
Date (mo/day/yr)  4/20/90  
Time (24 hr)  120 - 1730  
Biologist  Lemon

(A) Substrate type and % of segments:
1) Bedrock
2) Boulder
3) Cobble
4) Pebble
5) Sand
6) Silt

(B) Overall % cover of biota (% of segment): Dense 95%, Moderate, Low

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles/adults (X), new settlement (3)

### BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>M</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>L</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>U</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>M</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

### NYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>M</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>L</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>U</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>M</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

### GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>M</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>L</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>U</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>M</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>M</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>L</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>U</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>M</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:

3. Eagles 1 Sea otter  
2. Seals 3. Seals at greatest distance  
2. Oyster Catcher, school tiny fish in plankton rich water  
4. Crows 2 Cormorants

Ecological Considerations:

- Eagles noted from S. E. shore, not confirmed on 20 Apr 90, but the eagles noted above did originate from the island.
- Complete island off-shore rocks surveyed from ship, so much detail was not done. However, all areas are biologically rich and diverse; nearly all available substrata is occupied by at least one layer of organisms.

Photographs: Roll No. ST/10/13

Frames 22
Map Key: PUS-243

Name: R. Marty

Date: 20 April 1990

Date Entered:

XXX Wide
/
/// Medium
----- Narrow
TTTT Very Light
0.000 No Oil

ADEC Segment Length: 1221m
SHORELINE EVALUATION

SEGMENT ST/ GP-1001 SUBDIVISION A (1 OF 1) DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4CG Alaska State Parks
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOCLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 5/5/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 130 m: V.Light 0 m: No Oil 737 m

Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

X No Treatment Recommended Snare/Absorbent Booms
_____ Treatment Recommended Oil Snares (pom poms)
_____ Manual Pickup Absorbents (pads, rolls, etc)
_____ Bioremediation Spot Washing: Wands
_____ Tarmat Removal Beach Cleaner
_____ Other (see comments)

COMMENTS:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

TAG COMMENTS:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

TAG APPROVAL DATE:  5/4/90
ADEC Art Weaver Art Weaver  FOSS: [Signature] DATE: 5-9-90
EXXON [Signature] [Signature]
NOAA [Signature] [Signature]
USCG [Signature] [Signature]
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morison 287-2324

1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Either Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Seward Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzuki 424-7511

1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncolored intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 585-7235 ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal and 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 785-3377

5S Shorebird/waterfowl concentration (4/1 to 6/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 785-3377 ADF&G Tom Rohde 287-2206

ST All Bald Eagle nests (3/1 to 8/1)
Active Bald Eagle nests (9/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 8/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 785-3377

6U Recreation:
Tent sites (6/1 to 9/15)
Anchorage (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

6V Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fail 287-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: G-P-1001  SUBDIVISION: A  DATE: 4-27-90

USCG  NAME:  Stephen Shue  SIGNATURE:  Stephen Shue

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:  This segment located north of Gore Point is a low angle very fine-grained sand beach with sediment derived from glacial outwash along Nuka Passage. A storm-bern composed of extremely long and large spruce tree trunks overlaying a boulder/cobble berm defines the backshore of this beach. The storm berm rises in height from 6 to 13 feet above mean high water.

Oil was found in the lower part of the storm berm (approx. 6 feet above MHW) beneath the stunted tree limbs/trunks. Oil extended 100m in length at approx. 15-30 cm depth of penetration into the sand/pellet/stratified substrate. The oiling is not an erosion problem but a visual eyesore.

ADEC  NAME:  Wesley Ghormley  SIGNATURE:  Wesley Ghormley

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:  This segment consists of a very high energy beach with a massive storm berm rising to 10' in some areas. A large accumulation of spruce logs and fishin' gear is present on the beach. Oil was observed on the western portion of beach that extended for 100m. Subsurface oil was present in the Supra. Being the this is a high energy beach, oil is mostly covered by logs & debris; I recommend no clean-up but possibly further review by logs & debris. I recommend no clean-up but possibly further review by logs & debris. I recommend no clean-up but possibly further review by logs & debris. I recommend no clean-up but possibly further review by logs & debris. I recommend no clean-up but possibly further review by logs & debris. I recommend no clean-up but possibly further review by logs & debris.

Very light oil splashes extended west towards Gore point in the next segment.

LAND MANAGER  NAME:  David McMahan  SIGNATURE:  David McMahan

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:  Segment GP-1001 is within Kachemak State Wilderness Park. It consists of a long exposed sand & cobble berm with extensive drift accumulated on the seaward side of the storm berm. A narrow strip of drowned forest gives rise in the upland to a forest dominated by large Sitka spruces, little oil was noted. This was on the U. end of the beach. It was a bed of small pieces of oiled debris at the seaward foot of the beach.
SHORELINE OILING SUMMARY

CO K DEAKINS (BC) WOG Stewan Steward SEGMENT ST GP-1001
BIO 0 KEP LAND REPT SUBDIVISION 1
EXXON 1. 0192 ADEC Wesley Shermey TIME 1: 0219: 30
TEAM NO. 9 TIDE LEVEL HI - 3 DATE 4/27/90
EST. SUBDIVISION LENGTH: 867 m

UPLANDS DESCRIPTION: 
- Grass 
- Forest 
- Rock

SURVEYED FROM: Start Point Boat Helo WORKING DIRECTION: E to W

SURFACE SEDIMENTS: A % B % C % D % E % F % G %

SLOPE: Lang 100% Hang 50% Ven 0% WAVE EXPOSURE: Low Med High

OIL CATEGORY LENGTH: W 0 m M 0 m N 100 m VL 0 m NO 767

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td>V</td>
<td>X</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT H F S _ _ sq.m by _ _
PATTIES / TARBALLS _ _ BAG!
NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT
- Logs X
- Vegetation X
- Trash
- Debris X

Photographs:
- Roll No. ST-9-3
- ST-9-4
- Frames 30

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>SURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>OILED DEBRIS SUBSURFACE</th>
<th>SURFACE DEBRIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td></td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>X</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td>X</td>
<td>10 - 20</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

COMMENTS
- SEGMENT IS A HIGH ENERGY BENCH. SAND IS DOMINANT FROM LOW TO HIGH TIDE ZONE. COBBLE & PEBBLES FORM THE HIGH TIDE ZONE. LOGS & DEBRIS ARE ACCUMULATED IN THE SU.
- OILING CONSISTS OF BROKEN STRAIN AT THE WEST END OF THE SEGMENT (1/100 M). SUBSURFACE OIL EXTENDS FROM 10 - 20 CM IN THE SU. OIL IS VERY WEATHERED.
- SOME OF THE LOGS, VEGETATION AND DEBRIS IN SU HAVE STRAIN.
- 1 PATTY WAS PICKED UP.
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST** / **GP-1004**  **Subdivision**  **A**  **Date (mo/day/yr)**  **07/07/90**

**Time (24 hr)**  **0940-0920**  **Biologist**  **D. Reel**

(A) **Substrate type and % of segments:**

1. Bedrock
2. Boulder
3. Cobble
4. Pebble
5. Sand
6. Silt

(B) **Overall % cover of biota (% of segment):** Dense | Moderate | Low

(C) **Density, substrate preference (by number from A, above), & vertical zonation of major taxa:** (upper-U; mid-M; low tidal-L)

<table>
<thead>
<tr>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BARNACLES</strong></td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MYTILUS</strong></td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GASTROPODS</strong></td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FUCUS</strong></td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photographs: **ST-9-3**  **ST-9-3**

Roll No. **9**  **Frames**  **30**

Wildlife Observations/General Comments:

1. **Eagle: 2 Bulls, highly exposed sand beach/species biota on boulders and bedrock at end of beach. Biota absent on sand and cobble storm beds.**

Ecological Considerations: None. Should cleaning be recommended there would be few adverse effects on the ecology of this segment due to the near absence of catastrophic biota. And other wildlife.
SHORELINE EVALUATION

SEGMENT ST/ GP-1003 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4GG Alaska State Parks
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: DATE: 5/5/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 878 m
Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:
___ No Treatment Recommended
___ Treatment Recommended
___ Manual Pickup
___ Bioremediation
___ Tarmat Removal
___ Snare/Absorbent Booms
___ Oil Snares (pom poms)
___ Absorbents (pads, rolls, etc)
___ Spot Washing: Wands
___ Beach Cleaner
___ Other (see comments)

COMMENTS: ____________________________

TAG COMMENTS: ____________________________

TAG APPROVAL DATE: May 5 1990
ADEC ___ 
EXXON ___ 
NOAA ___ 
USCG ___ 

DATE: 5/9/90
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - dry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

No disturbance of stream bed or banks unless authorized by ADF&G. Do not beach flush into stream drainage. Do not use chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or oilpil application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morrison 287-2324

1C Salmon fry nursery area (4/1 to 7/31)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or oilpil application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

AGENCY CONTACT PERSON: ADF&G Larry Peitz 424-3214

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Canney Creek Hatchery release (4/21 to 6/1)
1H Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or oilpil application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Peitz 424-3214 AOF&G John McMillan or Bruce Suzamoto 424-7511

2I Gill net area (8/7 to 8/31)
2J Purse seine area (7/20 to 9/30)
2K Purse seine hook-off (7/20 to 8/30)
2L Set net site (8/11 to 7/25)

Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or oilpil application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

3M Herring spawning (4/1 to 6/15)

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unilked intertidal and subtidal species and seagrass. If plans for treatment include methods such as hot water wash or oilpil application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q Harbor seal and sea lion molting (8/15 to 8/16)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of oilpil within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).

Contact ADF&G and USFWS prior to treatment.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235 ADF&G Don Calkins 287-2403

5R Seabird colony (5/1 to 9/1)

Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 6/15)

Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377 ADF&G Tom Roth 287-2203

5T All Bald Eagle nests (3/1 to 6/1)

Active Bald eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation:

Tent sites (6/1 to 8/15)
Anchorage (8/1 to 9/15)
Forest Service cabins (8/1 to 9/15)
Lodge (8/1 to 9/15)
Special use destination

6V Subsistence area: Salmon harvesting (6/1 to 9/30)

Finfish harvesting

Deer harvesting (9/15 to 2/25)
Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of oilpil which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 287-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1  GP-1003  SUBDIVISION:  A  DATE  4-29-90

NAME:  STEVEN STURM  SIGNATURE:  

NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS:
Segment is a northwest facing, exposed beach, located in a
Cranberry Bay North of Gore Point facing Port Dick. A total
of 6 pits were excavated in the intertidal zone along the
beach face. No subsurface was encountered in these pits, and
no surface oiling was observed along the storm drain.

ADEC
NAME:  Wesley Cohoonley  SIGNATURE:  Wesley Cohoonley

NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS:
This segment primarily consists of a sand beach, with cobbles,
pebbles & a few boulders. Six deep pits were dug in search
of subsurface oil (none was observed). If subsurface oil is
present it is extremely deep. A large amount of logs & non
clean-up debris have accumulated on beach.
  - No oil observed surface or subsurface.

LAND MANAGER
NAME:  J. David McMahon  SIGNATURE:  J. David McMahon

□ NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS:
Segment GP-1003, within Kachemak State Wilderness Park is
comprised of a sand/gravel/cobble beach located to the north of
Gore Point. Despite several deep subsurface tests, no buried
surface oil was noted. Periodic monitoring may be warranted.
**SHORELINE OILING SUMMARY**

**STORM SEGMENT:** ST/ST

**STORM:**
- **BIO. & REP.:** Land Rep. J. Davis
- **DATE:** 4/25/90
- **TIME:** 8:30 PM
- **TEAM NO.: 8**
- **TIDE LEVEL:** +1 TP -1
- **UPLANDS DESCRIPTION:** Grass
- **SURVEYED FROM:** Helicopter
- **WORKING DIRECTION:** N
- **SURFACE SEDIMENTS:** R
- **SLOPE:** Long 100%
- **WAVE EXPOSURE:** Low
- **OIL CATEGORY LENGTH:** W 0 m M 0 m N 0 m VL 0 m NO 810 m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pooling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td>X X X X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT**
- **H F S:** 0 by 0 m
- **PATTIES / TARBALLS:** 0 bags
- **NEAR SHORE SHEEN:** 0

**OILED DEBRIS**
- **AMOUNT:**
  - Logs: SM
  - Vegetation: MD
  - Trash: LG
  - Debris: # BAGS: 0

**Photographs:**
- Roll No.: NONE
- Frames: NONE

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>OILED OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>70</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>70</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>60</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>55</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>65</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

- Segment is a relatively high energy beach, southern end is predominantly sand. Northern end has s/s.
- Storm beach. Logs and debris are accumulated in W-SU.
- No oil observed.

**REVIEWED**

DATED 4/30/90

2/9
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST / GP-100.3 Subdivision

Date (mo/day/yr) 04/29/90

Time (24 hr) 0730-0750 Biologist D. REED

(A) Substrate type and % of segments:
   1. Bedrock
   2. Boulder
   3. Cobble
   4. Pebble
   5. Sand
   6. Clay

(B) Overall % cover of biota (% of segment):
   Dense — Moderate — Low

(C) Density, substrate preference (by number from A, above), &
vertical zonation of major taxa: (upper-U, mid-M, low tidal-L);
juniorites/ adults (X), new settlement (3)

<table>
<thead>
<tr>
<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MYTILUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GASTROPODS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FUCUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations/ General Comments:
1. Common merganser, 4 glaucous-winged gulls, 1 pelagic cormorant.

This segment is a high energy wave swept beach. The only intertidal biota observed was in a small boulder field located in the mid and low zones at the southwestern border of the segment. The boulders were covered with a thin slimy layer of green algae (enteromorpha) in the mid zone. Other sea weeds (friola, larga, and alaria) were common (low.

Ecological Considerations:

No oil observed, biota rare and very patchy. No ecology map was done and no recruitment, growth or mortality was
SHORELINE EVALUATION

SEGMENT ST/GR-1A SUBDIVISION A DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Possible Herring spawning area (2M) - 4/1 to 6/15; Restrict disturbance of unoi led fucus in lower and middle intertidal zones.

SUBDIVISION ECOCLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE: DATE: April 5, 1990

OILING CATEGORIZATION:
111m Wide, 538m Medium, 0 m Narrow, 299m V. Light, 0 m No Oil
Subsurface Oil Observed: Yes X No Maximum Depth: __________

RECOMMENDATIONS:
X No Treatment Recommended
X Treatment Recommended
X Manual Pickup __ Snare Booms/Sorbents __ Tarmat Breakup/Removal
X Bioremediation __ SPOT WASHING __ Other
__ Wands
__ Beach Cleaner

Comments: Manual pickup of oiled debris (mousse tarballs and oiled vegetation) and bioremediation recommended. Debris isolated to pockets 1 and 2. (see sketch map). Work after 6/15/90 based on spawning constraints. Monitor for recurring sheen.

TAG COMMENTS: Treatment recommendations as indicated above.

TAG APPROVAL DATE:
DEC John Bauer ____________ FOSC: ____________ DATE: 9-19-90
EXXON Andy Terr ____________
NOAA Bud & Wescott ____________
USCG G.A. Reiter ____________
SHORELINE OILING SUMMARY

REVISION NO. 952203

SHORELINE OILING SUMMARY

DOG: B. Barfield USCG: T. C. Lamb SEGMENT: ST/ GR-1A
BIO: S. Schaefer LAND REP: C. Hubert SUBDIVISION: A
EXXON: C. Levine ADEC: B. Fritz TIME: 7:40-10:00
TEAM NO.: 3 TIDE LEVEL: +0.1 DATE: 3/30/90
EST. SUBDIVISION LENGTH: 35-1 m

UPLANDS DESCRIPTION: Grass Forest Rock

SURVEYED FROM: Foot Boat Helo WORKING DIRECTION: W to E

SURFACE SEDIMENTS: R 20 % B 40 % G 30 % P 10 % O 10 % S 10 % M 10 % V 10 %

SLOPE: Lang 95 % Hang 5 % Vert 0 % WAVE EXPOSURE: Low Med High

OIL CATEGORY LENGTH: W 121 m M 430 m N 250 m

OIL DEBRIS AMOUNT

<table>
<thead>
<tr>
<th>OILED DEBRIS</th>
<th>SM</th>
<th>MD</th>
<th>LG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trash</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT: H F S sq. m by cm

NEAR SHORE SHEEN? (N) BR RW SL TL

PATTIES/TARBALLS BAGS

OILY DEBRIS COLECTED

DEBRIS COLLECTED

TYPE

#BAGS

Photographs:

Roll No.: ST 1-1 Frames: 1-1

SUBSURFACE OIL

PIT NO. PIT DEPTH (cm) SUBSURFACE OIL CHARACTER OILED INTERVAL OILED CHARACTER OP OR OL OF NO (CM/CAR) OILED INTERVAL BELOW OIL / FILM COLOR DISTRIBUTION IMPACTED ZONES FUN W M L

| PIT NO. | DEPTH (cm) | SUBSURFACE OIL CHARACTER | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | OILED INTERVAL | IMPACTED ZONES |
|---------|------------|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1       | 30         |                             | No             | Yes            | Yes            | Yes            | Yes            | No             | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            |                |
| 2       | 20         |                             | No             | Yes            | Yes            | Yes            | Yes            | No             | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            |                |
| 3       | 15         |                             | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            |                |
| 4       | 30         |                             | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            |                |
| 5       | 20         |                             | No             | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            |                |
| 6       | 20         |                             | No             | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            | Yes            |                |

Comments:

Majority of oiled zone consists of coated boulders with saturated pebbles/granules filling interstices between & below boulders. Pebbles, granules, sand etc. stopping downward oil migration. Concentration increases from MI to UI.

Comments from GR: Indicate oil in fine sediments restricted.

Comments from ADEC: Indicate oil in fine sediments restricted.
$\frac{\text{320} \times \text{240}}{240} = \text{128}$
SHORELINE ECOLOGICAL SUMMARY

Segment ST/GR-1A  Subdivision N/A  Date (mo/day/yr) 3/30/98
Time (24 hr) 09:40-10:00  Biologist S. Schroeter

(A) Substrate type and % of segments:
   (1) Bedrock 20  (2) Boulder 40  (3) Cobble 20  (4) Pebble 10  (5) Sand 4  (6) Silt

(B) Overall % cover of biota (% of segment): Dense 25  Moderate 15  Low 60

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
   juveniles/adults (X)  new settlement (3)

### BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td></td>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td>Sparse</td>
<td></td>
<td></td>
<td></td>
<td>Rare</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

### MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td></td>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td>Sparse</td>
<td></td>
<td></td>
<td></td>
<td>Rare</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

### GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td></td>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td>Sparse</td>
<td></td>
<td></td>
<td></td>
<td>Rare</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
<th>U</th>
<th>M</th>
<th>L</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td></td>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td>Sparse</td>
<td></td>
<td></td>
<td></td>
<td>Rare</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments: UNOILED sea urchin cases on least and f. segment; 3 barn sea urchin & 9 spotted seals offshore!

Ecological Considerations:
Moderate abundance of adult and newly recruited Fucus in low + mid intertidal; ~65% of low intertidal with dense coverage of reds (Fucus, Odontoceras, Phosidea). Moderate abundance of juvenile Pyura brunnea & bonding haptasterias in low intertidal.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1  GR:1A  SUBDIVISION:  SUBDIVISION DATE 30 March 3

USCG
NAME  DEMI  KENDZIE  SIGNATURE  JAMES C. HARTWELL

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
Move patties in upper Tidal Zone  Due to the site of the boulder it could be very dangerous to put a lot of personnel on the beach.

ADEC
NAME  BRIAN K. FITZSIMONS  SIGNATURE  BRIAN K. FITZSIMONS

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
1) Much oil remains in sediments below boulder/cobble surface cover. Size boulders may exceed 75cm
2) Oil definitely leaching into H2O
3) Needs treatment if boulders can be removed or moved to gain a to saturated sediments ie: front end loader, backhoe, small dozer
4) If boulders moved, treat possibly with HPR1 wash & header flood

LAND MANAGER
NAME  CAROL S. HUBER (USFS) SIGNATURE  CAROL S. HUBER

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
Dangerous beach for large crews, extremely slick boulders and cobbles. Considerable oil left after natural cleansing (oil soaked gravels in upper intertidal zone)

Recommended low impact methods
GR-1

GR-1A

X hide
/ Medium
- Narrow

ADEC Segment Length: 875m

Map Key: PWS-256
Name: R Z
**ADDENDUM: SUBDIVISION CONSTRAINTS**

SEGMENT GR-1A SUBDIVISION A (1 of 1)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manual Pickup</strong></td>
</tr>
<tr>
<td><strong>Bioremediation</strong></td>
</tr>
</tbody>
</table>

* EXON 'A' STUDY SITE # 8 - DO NOT REMOVE STAKES FROM TOP OF INTERTIDAL ZONE

**ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.**

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

| 2M | Herring Spawning | Closed to bioremediation before 6/15. No constraint to manual pickup. |
| 5R | Seabird Colony   | No constraint. Work area is more than 800m from colony. |
| 5S | Shorebird/Waterfowl Concentration | No constraint to bioremediation and manual pickup after 5/15. |
| 7II | Subsistence: Deer Harvesting | No constraint to manual pickup. Closed to bioremediation after 8/15. |

**OTHER ECOLOGICAL CONSIDERATIONS**

Avoid damage to un扰乱ed intertidal and subtidal substrates, algae and seagrasses. Restrict disturbance of un扰乱ed Fucus (rockweed) in lower and middle intertidal zones. Restrict boat and air traffic and beach disturbance to essential minimum after 8/15.

FOSC: [Signature] Date: 6-10-90

Prepared by: [Signature] Date: 6-10-90
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT 68-1  SUBDIVISION A  DATE 7/11/90

MODIFICATION  CLASS I (Customblend)  CLASS II (inpol) Application of inpol was unclear to where it was applied.

1. REASON FOR MODIFICATION
   Reapplication of Customblend followed by inpol to site #1

2. SUGGESTED ADJUSTMENT TO WORK PLAN
   Reapplication of Customblend followed by inpol to site #1.

3. TIMING ISSUES
   711 - Subsistence Deer Harvesting:
   Closed to bioremediation after 8/15.

ADEC Wesley Thorley
EXXON by Scott
NODA USGØ Art Wilson
LAND MANAGER John E. Spalding (if field rep is on scene)
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT: GR-1  SUBDIVISION: A  DATE: 3/31/90

MODIFICATION  CLASS: I

1. REASON FOR MODIFICATION

- Mouse fop that was previously unlocated was located during ASAP Area 1 is located at Unit- Mite between FAP stakes #8 & 9.
- Area 10x3m, 5-10 cm under clear cobble.
- Monitors should dig more pits in line with the band to locate any more mouse if present.
- ASAP could not conduct more excavation pits due to time frames.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

- Manual excavation of mouse fop that is located under cobble armour.
- Cobble will have to be removed to expose oil, manual removal of mouse fop using available hand tools. Cobble returned to area.
- Pom-poms or sorbent pads will need to be used to remove oil residue.

3. TIMING ISSUES

- No constraints to manual removal.

(SEE 7/31/90 GR-1 A map for location)

ADEG: Wesley Schumley
EXXON: Bill Stil
NORD: Dick Warren
LAND MANAGER: John Dol (if field rep is on scene)
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-IA (site #12) SUBDIVISION A DATE 7/31/90
MODIFICATION CLASS I

1. REASON FOR MODIFICATION
Reapplication of Custom blend to site #12.
Refer to ASAP Survey Data Sheet.

2. SUGGESTED ADJUSTMENT TO WORK PLAN
Reapplication of Custom blend to site #12.

3. TIMING ISSUES
   7/11 Subsistence: Deer Harvesting:
   Closed to bioremediation after 8/10.

ADEC: Wesley Salmon
ARIZON: Jan Stol
NOAA: J. Weicker
LAND MANAGER: John Reid (if field rep is on scene)
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/GRI: SUBDIVISION: A SITE: 1 DATE 7-31-90

NAME: Art Weiner SIGNATURE: Art Weiner

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
To assess efficacy of bioremediation on oil located beneath surface armor. Oil on underside of this cobble armor will probably be protected from winter weathering effects and may need to be bioremediated during the summer of 1991.

ADEC

NAME: Wesley Ghormley SIGNATURE: Wesley Ghormley

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
Reassessment will be necessary to determine the effects of bioremediation / winter activity. Boulders may need to be rolled to expose underside where oil may be still present in 91.

LAND MANAGER

NAME: John Bolton SIGNATURE: John Bolton

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
To evaluate the result of bioremediation on existing oil conditions, and to assess if treatment is useful of existing technology.

EXXON

NAME: Ray Sutter SIGNATURE: Ray Sutter

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
Considering the oily conditions on this site, recommend reassessment of bioremediation application in 91.
SEGMENT AS/ GE-1  SUBDIVISION:  A   SITE:  2   DATE  7/31/90

NOAA  PS1  Leo Berstlona  USCG  Luc Belchino
NAME  Art Weiner  SIGNATURE  Art Weiner

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
To determine efficacy of customblend on subsurface oil
To determine weather impact upon surface coats + covers.

ADEC
NAME  Wesley Ghormley  SIGNATURE  Wesley Ghormley

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
To determine the effects of both bioremediation + the winter
storms on both surface + subsurface oil.

LAND MANAGER
NAME  John Ebel  SIGNATURE  John Ebel

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
To evaluate the result of bio treatments on existing oil condition;
and to assess if further treatment is useful with existing technology.

EXXON
NAME  Rev. Sateldo  SIGNATURE  Rev. Sateldo

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Reassessment should be done to follow-up on re-application
of customblend.
**ASAP SHORELINE OILING SUMMARY**

**SURFACE OIL**

<table>
<thead>
<tr>
<th>SITE</th>
<th>DISTRIBUTION</th>
<th>OILED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>SITE NO.</th>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>CLEAN BELOW (YN)</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/25</td>
<td></td>
<td></td>
<td>Y</td>
<td>B-CPM</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1/15</td>
<td></td>
<td></td>
<td>N</td>
<td>B-CB</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

Oiliness noted on original segment report seems to still be primarily made up of sand. Customization is present on beach. Small amount of AP/SP 50/50 was observed in areas where manual removal took place. See note...
This map was traced from B. Bynlands map. It is not intended to stand alone. Majority of conditions are very similar.

This location not in designated sites but subsurface oiling was discovered. Area located between F.A.D. stakes. 8 & 9. In the UI72 substrate is covered by large cobbles. A condition exists where a finer gravel substrate is covered by large cobbles. 4th mound is where 8th 4th is present. Line is 15 to 20 cm thick. Mound 5 is old cobbles.
## ADDENDUM: SUBDIVISION CONSTRAINTS

**SEGMENT GR-18 SUBDIVISION A (1 of 1)**

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup Less Than 400m From Active Nest</td>
</tr>
<tr>
<td>Manual Pickup More Than 400m From Active Nest</td>
</tr>
<tr>
<td>Bioremediation Less Than 400m From Active Nest</td>
</tr>
<tr>
<td>Bioremediation More Than 400m From Active Nest</td>
</tr>
</tbody>
</table>

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl Concentration</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
</tr>
<tr>
<td>5R</td>
<td>Seabird Colony</td>
</tr>
</tbody>
</table>

### OTHER ECOLOGICAL CONSIDERATIONS

Avoid damage to unoolled intertidal and subtidal substrates, algae and seagrasses. Restrict boat and air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests.

FOSC: 
Prepared by: 
Date: 6-10-90

Prepared by P. Phillips
Date: 6/10/90
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)

Estuary Hatchery release (4/15 to 8/1)

Main Bay Hatchery release (4/20 to 5/10)

Sawmill Bay Hatchery release (4/15 to 6/1)

Cannery Creek Hatchery release (4/21 to 6/1)

Remote release site

Gill net area (6/7 to 8/31)

Purse seine area (7/20 to 9/30)

Purse seine hook-off (7/20 to 9/30)

Set net sites (6/11 to 7/26)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
SEGMENT ST/GE-1B

SUBDIVISION:

DATE: 3/14/90

NAME: James C. Gembin
SIGNATURE: James C. Gembin

NO TREATMENT RECOMMENDED

TREATMENT SUGGESTED

TREATMENT SUGGESTED

NAME: Brian K. FitzSimons
SIGNATURE: Brian K. FitzSimons

NAME: Carol S. Huber
SIGNATURE: Carol S. Huber

NO TREATMENT RECOMMENDED

TREATMENT SUGGESTED

Comments:

No oil observed in any of pits throughout segment. Oiling restricted to UITZ storm berms (vegetation/straw) and crevasses/crevasses of exposed BR and ORA areas. Boulders on BR ORA areas are sheening into surface H2O.

Treatment suggested: 1. Move oiled storm berms to active tidal area & disperse (corroborate) 2. Since oiling occurs only on BR in cracks around boulders on BR - Bioremediate due to lack of penetration of oil 3. Reevaluate UITZ storm berms due to snow cover over much of high UITZ.

Comments:

Considerable oil remaining in storm berm and trapped in shaley bedrock outcrop. Patches Tarnacound, mostly in bedrock outcrop area of beach.

Oil is leaching out into surface water. Resource sensitivities include: Special use, test sites, herring spawning, shorebird concentrations and deer harvesting.
Treatment suggested. Please mop on front of all oil found. Lot of it in the stream. But most of the oil goes from upper Idaho River zone to middle Idaho River zone. So after in the upper Idaho River zone. In the middle Idaho River zone, heavy oil soak. And the oil from 30-feet deep. See other notes on front of this.
**SHORELINE OILING SUMMARY**

**OG** [Redacted] **USCG J. Gamble** SEGMENT ST/ GRT-1B

**BIO S. Schrader** LAND REP C. Iruries (NPS) SUBDIVISION A (10-1)


TEAM NO. 2 TIDE LEVEL: +0.1 TIDE LEVEL: +0.1

ST. SUBDIVISION LENGTH: 1500 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow

LANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock

SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E

SURFACE SEDIMENTS: R 30% B 30% C 20% P 15% G 10% S 5% M 20% V

SLOPE: Lang 100% Hang 10% Vert 20% WAVE EXPOSURE: ☐ Low ☐ Med ☐ High

OIL CATEGORY LENGTH: W 160 m M 580 m N 70 m V 410 m NO 500 m

---

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>1 2 3</td>
<td>1-3</td>
<td>3 1 5</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT:** H F S __ sq. m by __ cm

**PATTIES/TARBALLS** __ BAGS

**NEAR SHORE SHEEN?** ☐ BR RW SL TL

**OILED DEBRIS**

<table>
<thead>
<tr>
<th>AMOUNT</th>
<th>SM</th>
<th>LG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Trash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debris</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**DEBRIS COLLECTED** ☐ YES ☐ NO

**TYPE**

**BAGS**

**Photographs:**

Roll No. ST-1-2

Frames 29-31

---

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (ee-ee)</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

The western sector consists of a gravel, pebble & cobble beach. It is relatively oil free (probably due to storms reworking the relatively easily transported sediments). The eastern sector consists of scattered boulders resting on a bedrock ramp. Coal easily reworked sediments (next pg).
# Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm)</th>
<th>Below Oil/Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>60</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/P</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>20</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>B/G</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>40</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>20</td>
<td>X</td>
<td>0 - 1</td>
<td>X</td>
<td>X</td>
<td>B/G</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>60</td>
<td>X</td>
<td>50 - 60</td>
<td>X</td>
<td>X</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Comments**

Oil coats the tops and sides of the boulders (Black, Brown & tany). A patchy brown mousse has accumulated in the cracks and crevices of the bedrock. A splashing sheen was observed in most of the UI and MI zone of the eastern sector.
SHORELINE ECOLOGICAL SUMMARY

Segment ST  GR-D Subdivision  B  Date (mo / day / yr)  4/4/90

Time (24 hr)  1:50  Biologist  S. Senneter

A)  Substrate type and % of segments:
   (1) Bedrock  38%  (2) Boulder  24%  (3) Cobble  11%  (4) Pebble  17%  (5) Sand  8%  (6) Silt  8%

B)  Overall % cover of biota (% of segment):  Dense  21%  Moderate  19%  Low  60%

C)  Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
   (upper-U; mid-M; low tidal-L), juveniles / adults (X), new settlement (O)

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

ASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/ General Comments: 3 very small streams consisting of channel bedrock, low intertidal not observed. 2 sea urchins observed offshore No salps, tunicates or priapulids

Ecological Considerations: With exception of gear, current, anchoring, most benthos was concentrated in the immediate bay, only offshore a small strand of barnacles overlying bedrock and dense concentrations, of Lithodes

Sitticus, Ophiura, Echinus, and moderate to dense concentrations, brooding lytechinus. Large, 5-6 cm, common at 24 on bedrock at west end of Segment 8. Siphonaria, common on Euc
This segment consists of cobble and gravel pocket beaches bounded by bedrock headlands. With the exception of amphipods and gastropods (mainly *Littorina sittana* and *Notoacmea scutum*), most of the biota were concentrated on the bedrock headlands. There were 3 very small streams draining through bedrock channels in the cobble/gravel pocket beaches. Here, in the Mid intertidal were moderate to dense patches of mussels and barnacles and moderate numbers of adult and juvenile *Fucus*. Boulders and large cobbles overlaying the bedrock had high densities of *L. sittana*, *N. scutum*, *N. obtusa*, and moderate to dense concentrations of brooding *Leptastrea hexactis*. The predatory snails *N. lamellosa* and *Baculosa dura* were also common under these boulders and cobbles. *Katherina tunicata* were common among large *G. cariosa* in the mid intertidal (+5.0). *Siphonaria* were common on *Fucus* in the same habitat.
GR-1B

XXX Wide
/// Medium
-- Narrow
TTTT Very Light
0000 No Oil

ADEC Segment Length: 952m

Map Key: PWS-257a
Name: B. Banks
Date: 4/4/1990
Data Entered:
SEGMENT ST/GR-1B SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature]
DATE: 4/20/90

OILING CATEGORIZATION:

Wide 240m: Medium 240 m: Narrow 0 m: V. Light 58 m: No Oil 341 m
Subsurface Oil Observed: Yes X No Maximum Depth 60+ cm

RECOMMENDATIONS:

No Treatment Recommended Snare/Absorbent Booms
X Treatment Recommended Oil Snares (pom poms)
X Manual Pickup Absorbents (pads, rolls, etc)
X Bioremediation Spot Washing: Wands
____ Tarmac: Breakup Beach Cleaner
____ Removal Other (see comments)

COMMENTS: Recommend pick up of mousse patties and oiled vegetation and bioremediation of areas shown on sketch map. Treatment should be conducted between 6/15 and 8/15.

MONITOR TO ASSESS SUITABILITY PRIOR TO TREATMENT

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC Art Weiner
EXXON Harry Tchan
NOAA Earl Werth
USCG

FOSC: [Signature] DATE: 4-26-90
ECOLOGY MAP
SEGMENT GR-1B
SUBDIVISION A (1 of 1)
METERS

Exxon Company, USA
Map Key: PHS-GR-1B
June 05, 1990

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest

SEABIRD COLONY
BUFFER ZONE

GR-1B
GR-1A
GR-0

ACTIVE
NEST
ACTIVE
NEST

EXXON

WORK AREA
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT  GB-1  SUBDIVISION  B  DATE  7/31/90

MODIFICATION CLASS I  CLASS II (unsure where inipol was applied previously)

1. REASON FOR MODIFICATION
   Small patches of asphalt/pavement are present in interstices of cobble/boulders and small patches of asphalt/pavement are also present on flared bedrock.
   Area 280m in length marked with orange flagging on western side.
   Reapplication of Custom blend of inipol.

2. SUGGESTED ADJUSTMENT TO WORK PLAN
   Continuation of work plan.
   Remove stakes, survey survey, painted rocks etc. Multiple sites located with orange ribbon tied on rocky uneven top.

3. TIMING ISSUES
   Constraint sheet unavailable to us, so we are unsure of constraints.

ADEC  Wesley Schomley
EXXON  Ray Scott
NOAA  Agent Waines
LAND MANAGER  John File (if field rep is on scene)

TAG: Be bid & pick up trash
FIELD SHORELINE COMMENT SHEET

SEGMENT AS: GRI  SUBDIVISION: B  SITE: 1  DATE 7-31-90
USEG NOAA  PS1 Leo Berrigan USCG Leo Berrigan
NAME Art Weiner  SIGNATURE Art Weiner

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Remaining oil does not pose a threat to natural resources. Oil left after bioremediation activity ceases will probably be removed by winter weathering processes.

ADEQ
NAME Wesley Ghornley  SIGNATURE Wesley Ghornley

☑ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Due to the fact there is subsurface oil with small patches of A/P thru out site #1 Reassessment will be necessary in 1991.

LAND MANAGER
NAME John Ebel  SIGNATURE John Ebel

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: High energy wave exposure limited effectiveness of available technology for removing a secondary oil.

EXXON
NAME Rey Sotelo  SIGNATURE Rey Sotelo

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Oil remaining is weathering nicely and will be removed in most areas due to the high energy created on this shoreline. Recommend no further treatment at reassessment.
### ASAP SHORELINE OILING SUMMARY

**TEAM:** ASAPZ  
**Area:** TOTALLY ALE  
**USGS BERGALONA LEO  SUBDIVISION:** B

**DATE:** July 31, 1990  
**TIME:** 12:00 PM (L.O.C.)  
**TIDE LEVEL:** 6.0 ft to 5.0 ft

**TOTAL EST LENGTH OF SHORELINE SURVEYED:** 955 m

**SURVEYED FROM:**  
- **Foot**  
- **Boat**  
- **Helicopter**  
**WEATHER:**  
- **Sun**  
- **Clouds**  
- **Fog**  
- **Rain**  
- **Snow**

**OIL CATEGORY LENGTH:** 5170 m N, 285 m E, m N, m S

**ASPHALT:** M  
**S.O.R.:** U  
**POOLED:** V  
**COVER:** L  
**COAT:** X  
**STAIN:** M  
**MOUSSE:** X  
**PATTIES/T.B.:** X  
**FILM:** X

### SURFACE OIL

<table>
<thead>
<tr>
<th>SITE 1</th>
<th>SITE 2</th>
<th>SITE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHARACTER</strong></td>
<td><strong>DISTRIBUTION</strong></td>
<td><strong>OILED ZONES</strong></td>
</tr>
<tr>
<td>ASPHALT</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>S.O.R.</td>
<td>X</td>
<td>O</td>
</tr>
<tr>
<td>POOLED</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MOUSSE</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PATTIES/T.B.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FILM</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NO OIL</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**ST. SITE LENGTH:** 455

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>SITE NO.</th>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE INTERVAL</th>
<th>CLEAN BELOW (CM)</th>
<th>PIT ZONE</th>
<th>SURFACE-OIL CHARACTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1 15</td>
<td>0 0 0</td>
<td>X</td>
<td>10-15</td>
<td>X</td>
<td>SU</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>1 2 20</td>
<td>0 0 0</td>
<td>X</td>
<td>0-20</td>
<td>X</td>
<td>SU</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>1 3 20</td>
<td>0 0 0</td>
<td>X</td>
<td>0-15</td>
<td>X</td>
<td>SU</td>
<td>M</td>
<td>L</td>
</tr>
</tbody>
</table>

| Photographs: | Roll No. ASAPZ  
Frames: Roll #1 |

| REVIEWED | 8/14/90 |

**COMMENTS:** Trends documented in original SSAT survey still valid. Snow oil is more weathered now. Most of the MS/I is now AP/I. Scattered silver sheens present in M1Z. Regions where manual remediation took place now harbor shallow SOR/WAP AP/I.
### ASAP DATA ENTRY FORM

**GENERAL DATA**

<table>
<thead>
<tr>
<th>SEG ID:</th>
<th>CR</th>
<th>SBDV:</th>
<th>SITE:</th>
<th>TEAM:</th>
<th>DATE:</th>
<th>1991 REASSESSMENT:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>7/31/90</td>
<td></td>
</tr>
<tr>
<td>SITE LGTH:</td>
<td>465</td>
<td>OIL CATEGORIES:</td>
<td>W</td>
<td>M, D, N</td>
<td>NO</td>
<td>ADEC: X</td>
</tr>
<tr>
<td>1991 REASSESSMENT:</td>
<td>USCG:</td>
<td>ADEC:</td>
<td>LDGR:</td>
<td>EXXON:</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>NOA:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SURFACE DATA**

<table>
<thead>
<tr>
<th>CHAR #:</th>
<th>OIL CHAR:</th>
<th>OIL DIST:</th>
<th>CONT</th>
<th>BRKN</th>
<th>PTCH</th>
<th>SPLH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #3:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #4:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #5:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #6:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #7:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #8:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #9:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #10:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAR #11:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TIDAL ZONE: SU, UI, MI, LI
ASAP DATA ENTRY FORM

SUBSURFACE DATA

SEGMENT ID: GR-01 SUBDIV: 0 SITE: 1

PIT # 1 PIT DEPTH 15 OIL CHARACTER OIL INTERVAL: FROM 10 TO 15
CLEAN BELOW: N PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 2 PIT DEPTH 20 OIL CHARACTER OIL INTERVAL: FROM 0 TO 20
CLEAN BELOW: N PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 3 PIT DEPTH 20 OIL CHARACTER OIL INTERVAL: FROM 0 TO 15
CLEAN BELOW: N PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 4 PIT DEPTH OIL CHARACTER OIL INTERVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 5 PIT DEPTH OIL CHARACTER OIL INTERVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 6 PIT DEPTH OIL CHARACTER OIL INTERVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 7 PIT DEPTH OIL CHARACTER OIL INTERVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 8 PIT DEPTH OIL CHARACTER OIL INTERVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 9 PIT DEPTH OIL CHARACTER OIL INTERVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG

PIT # 10 PIT DEPTH OIL CHARACTER OIL INTERVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK X BLD - COB X PEB - GRN - SAN - MUD - VEG
Asap July 31 1990 Chaney
Adopted from SSAT Survey
Not intended to stand alone
Basic observations from SSAT still valid.
Regions which were
Manually treated appear
To harbor shallow SOR/HS
All AP/S sediments

Scattered Silver sheen in MITZ

Pit #2

PIT #3

Scattered Fragments
AP/S in bedding
Planes of Slag

280 Meters

Orange flagging on drift log

Large drift log
Roots with orange

Flagging

Area recommended for AP/S & SOR/HS pickup
By agency reps.

Orange flags at each end
Re-application of custom blend #1 nopol

Re-application of custom blend #2

Photograph B

Cerca 979
SEGMENT ST/GR-02 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Salmon harvesting (7Z) - 5/1 to 9/30 (consult ADF&G and Chenega Bay for dates); Tent site area (6U) - 6/1 to 9/15; Deer harvesting (7II) - 8/15 to 3/1; Deer habitat - no dates.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of rich biota on headlands at east and west end of segment, and the LITZ of central beach area.

SHPO SIGNATURE: [signature] DATE: 4/10/90

OILING CATEGORIZATION:
Wide_101m: Medium_158m: Narrow_0_m: V.Light_167m: No Oil_98m
Subsurface Oil Observed: Yes__ No_X____ Maximum Depth______

RECOMMENDATIONS:
_____No Treatment Recommended
X_Treatment Recommended
_____Snare/Absorbent Booms
_____Manual Pickup
_____Bioremediation
_____Tarmat: Breakup
_____Removal
_____Spot Washing: Wands
_____Absorbents (pads, rolls, etc)
_____Oil Snares (pom poms)
_____Beach Cleaner
_____Other (see comments)

COMMENTS: Recommend bioremediation of areas where cover found. All work after 6/15 based on herring spawning restraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90
ADEC JOHN BAUER
EXXON ANDY GRIFFIN
NOAA [signature]
USCG [signature]

FOSC: [signature] DATE: 4/19/90
SEGMENT ST: C.R. 02  SUBDIVISION: None  DATE: March 30

SCG NAME: Robert Jensen  SIGNATURE: Robert Jensen

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Not practical to use crews around large boulders & large cobble.

SCG NAME: Rowann T. Hudnall  SIGNATURE: Rowann T. Hudnall

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Significant surface oil in sediments in upper intertidal. The oil is underneath & between boulder & cobble; will be difficult to treat. Suggest moving (stirring boulders w/picks and shovels before bioremediation. The oil may represent a threat to rich life in the lower intertidal. Treacherous walking.

AND MANAGER
NAME: U.S. Forest Service  SIGNATURE: [signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Allow natural forces to continue
(Oil present is guarded by boulders)
**SHORELINE OILING SUMMARY**

**Segment:** QA-02  
**Date:** April 1, 1990  
**Time:** 20:00  
**Team:** Don Bollinger  
**SUBDIVISION:**  
**Team No.:** 3  
**Tide Level:** -2' to -1'  
**DATE/TIME:** 2:00/90  
**Est. Subdivision Length:** 530 m  
**Uplands Description:** Grass, Forest, Rock  
**Surveyed From:** No Foot, No Boat, No Helo  
**Working Direction:** West to East

**Surface Sediments:**  
- R: 60%  
- B: 10%  
- C: 10%  
- P: 10%  
- G: 10%  
- S: 10%  
- M: 10%  
- V: 10%

**Slope:**  
- Long: 60%  
- Hang: 0%  
- Vent: 0%  
- Wave Exposure: Low

**Oil Category Length:**  
- W: 150 m  
- M: 150 m  
- S: 150 m  
- V: 150 m  
- N: 150 m  
- O: 150 m

### SURFACE OIL

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil/Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool</td>
<td>X</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>X</td>
<td>O</td>
<td>Y</td>
</tr>
<tr>
<td>Coat</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>OILCOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pavement:** H F S 0 sq. m by 0 cm

**Patties/Tarballs:** 0 BAGS

**Near Shore Sheen?** No

**Subsurface Oil**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>A N A</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>UC</td>
<td>% % %</td>
<td>S U M U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>UC</td>
<td>% % %</td>
<td>S U M U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>X</td>
<td>-</td>
<td>UC</td>
<td>% % %</td>
<td>S U M U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>UC</td>
<td>% % %</td>
<td>S U M U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>UC</td>
<td>% % %</td>
<td>S U M U</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Debris Collected:**  
- Logs: X
- Vegetation: X
- Trash: X
- Debris: X

**Photographs:**  
- Roll No.  
- Frames

**Components:**
Segment GR-2 forms a small northeasterly facing embayment on the north central coast of Green Island. The shore is exposed to a long northerly fetch direction, but has a relatively narrow exposure.

The shoreline consists of a moderately sloping beach of angular to subrounded boulders increasing in size towards the upper intertidal zone. A small triangular area of sand was present at the time of the field work in the central low intertidal area of the beach, elsewhere, the boulders and cobbles rest on smaller sediments. The central part of the beach has a considerable area of surface runoff. A well defined band of red algae extends continuously along the low tide zone except over the sandy central area. The backshore and hinterland areas were covered with snow during this field work, and observations of oiling that could be present in the backshore could not be made.

No oil was found between the western extremity of this segment and the central runoff area. Immediately to the east, a patch of dull brown oil broken (60%) cover, 14 m wide and 20 m long, occurs between and around the base of boulders on finer underlying sediments. The average thickness of the surficial oil/sediments layer is 2 cm, and its maximum observed thickness is 5 cm.

To the east, sediments become less well sorted and oil occurs as 1) weathered splashes over boulders and bedrock in the middle and upper intertidal zone, and 2) a 3 m wide band of local accumulations of oil/sediments at the base of boulders. In this last case, the maximum size of individual patches is 30 cm diameter, the average thickness less than 1 cm, and the maximum thickness 3 cm. The oiled band has a 20% cover and it occurs in the upper intertidal zone.
Further to the east, the beach includes smaller well-rounded boulders and cobbles, giving the impression that this section is subject to more wave energy. The oil cover decreases rapidly over this section to the point of forming stains of splashes, over a 10 m. sq. area. A few partially oiled logs occur in the upper part of the beach at this location.
**SHORELINE ECOLOGICAL SUMMARY**

- **Segment**: ST 09-02  
- **Subdivision**: A  
- **Date (mo/day/yr)**: 03/30/90  
- **Time (24 hr)**: 11:30  
- **Biolist**: J. Bollinger  

(A) **Substrate type and % of segments:**
- Bedrock 2
- Boulder 2
- Cobble 3
- Pebble 10
- Sand 3

(B) **Overall % cover of biota (% of segment):**
- Dense 5
- Moderate 20
- Low 75

(C) **Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L):**

### BARNACLES
- **Dense**
  - Upper (U): 2  
  - Mid (M): 2  
  - Low (L): 2
- **Sparse**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1
- **Rare**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1

### MYTILUS
- **Dense**
  - Upper (U): 2  
  - Mid (M): 2  
  - Low (L): 2
- **Sparse**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1
- **Rare**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1

### GASTROPODS
- **Dense**
  - Upper (U): 2  
  - Mid (M): 2  
  - Low (L): 2
- **Sparse**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1
- **Rare**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1

### FUCUS
- **Dense**
  - Upper (U): 2  
  - Mid (M): 2  
  - Low (L): 2
- **Sparse**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1
- **Rare**
  - Upper (U): 1  
  - Mid (M): 1  
  - Low (L): 1

- **Photographs:** None

**Wildlife Observations/ General Comments:**
- Many small stars among boulders at headlands. Persistent alcariens. No dogfish in these areas.

**Ecological Considerations:**
- The southwest boundary of this segment is a headland with extensive rock outcrop, much relief & heterogeneous habitat. It has an extremely rich biota. Numerous species of algae, gastropods, & setose coralline red algae are apparent. The headland to the southwest is an abandoned quarry. Between the headlands is a high energy beach of scattered boulders & cobbles. The lower tidal flat has a conspicuous band of Eelgrass. Seaweeds and algae with numerous kelp, crab, and small invertebrates under the rocks. Higher on the shore there is much open space.
<table>
<thead>
<tr>
<th>JDP GE-02</th>
<th>1/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start 4</td>
<td>0033</td>
</tr>
<tr>
<td>0-2 pm</td>
<td>2nd day</td>
</tr>
<tr>
<td>1-2 pm</td>
<td>2nd day</td>
</tr>
<tr>
<td>0-12'</td>
<td>3-4 pm</td>
</tr>
<tr>
<td>0-12'</td>
<td>3-4 pm</td>
</tr>
<tr>
<td>3-9 pm</td>
<td>2nd day</td>
</tr>
<tr>
<td>5-7 pm</td>
<td>2nd day</td>
</tr>
</tbody>
</table>
| Salinopoly | Space lowering | Necessity | Necessity | Space travel
| Under rocks | | |
| 9-3 pm | 3rd day | 1st day |
| Space exploration | 1st day |
| 1st day | 3rd day |

<table>
<thead>
<tr>
<th>JDP GE-02</th>
<th>1/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headland 07</td>
<td>10:30</td>
</tr>
<tr>
<td>30 km</td>
<td>30 km</td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Reasons</td>
</tr>
<tr>
<td>Headland</td>
<td></td>
</tr>
<tr>
<td>6 pm</td>
<td>7 pm</td>
</tr>
<tr>
<td>7 km</td>
<td>8 km</td>
</tr>
<tr>
<td>6 km</td>
<td>7 km</td>
</tr>
<tr>
<td>Pyroplastic</td>
<td>Deformation</td>
</tr>
<tr>
<td>Rocks (hard)</td>
<td></td>
</tr>
<tr>
<td>6 pm</td>
<td>7 pm</td>
</tr>
<tr>
<td>6 km</td>
<td>7 km</td>
</tr>
<tr>
<td>6 km</td>
<td>7 km</td>
</tr>
<tr>
<td>Space travel</td>
<td>6 pm</td>
</tr>
<tr>
<td>6 km</td>
<td>7 km</td>
</tr>
</tbody>
</table>
| High Celestial | in 7 pm | Space
| Space flight | 6 pm | 7 pm |
| 6 km | 7 km | 6 km |

<table>
<thead>
<tr>
<th>JDP GE-02</th>
<th>1/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>7 km</td>
</tr>
<tr>
<td>Bad: 2</td>
<td>Good: 30</td>
</tr>
<tr>
<td>Sound: 3</td>
<td>Good: 10</td>
</tr>
<tr>
<td>JDP GE-02</td>
<td>1/6</td>
</tr>
<tr>
<td>JDD 02-08</td>
<td>3/15</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>Start Backshore 10-20</td>
<td>2/1 NO</td>
</tr>
<tr>
<td>0-5m Red Rock at</td>
<td>Feathery rocks under</td>
</tr>
<tr>
<td>Erosion</td>
<td>Tidal washover sand</td>
</tr>
<tr>
<td>3/60-3/90</td>
<td>7/30</td>
</tr>
<tr>
<td>Sand Fissures, thin cracks</td>
<td>Upper &amp; Lower surface</td>
</tr>
<tr>
<td></td>
<td>Erosion channels</td>
</tr>
<tr>
<td></td>
<td>Tidal erosion</td>
</tr>
<tr>
<td></td>
<td>Ridge formation</td>
</tr>
<tr>
<td></td>
<td>Erosion channels</td>
</tr>
<tr>
<td>5-15m</td>
<td>M.L = N.T</td>
</tr>
<tr>
<td>3/00=2/7 several backbar</td>
<td>Upper &amp; Lower sand</td>
</tr>
</tbody>
</table>

**Rocks:**
- Red Algal Sand
  - Thin B Đoàn with Alumina
  - Erosion 100% Beach
  - Red sand 10% Erosion

**Shells:**
- Mad small shells
## ADDENDUM: SUBDIVISION CONSTRAINTS

**SEGMENT GR-2 SUBDIVISION A (1 of 1)**

### WORK WINDOW

| Bioremediation Less Than 400m From Active Nest | CLOSED |
| Bioremediation More Than 400m From Active Nest | WORK 6/15 to 7/1 |

*Exxon* A' study site # AP-7 - DO NOT REMOVE SIKES FROM BACK OF INTERTIDAL ZONE

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 2M | Herring Spawning | Closed to bioremediation before 6/15. |
| 5S | Shorebird/Waterfowl Concentration | No constraint after 5/15. |
| 5T | Bald Eagle Nest | USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation within 400m of active nest. No constraint to bioremediation more than 400m from active nest. |
| 7T1 | Subsistence: Deer Harvesting | Closed to bioremediation after 8/15. |
| 7Z | Subsistence: Salmon Harvesting | Closed to bioremediation after 7/1 per Gail Evenoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90. |

### OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unoiled substrate and biota especially Intertidal and subtidal algae and seagrass. Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat and beach disturbance to essential minimum after 7/1.

FOSC Date: 6-12-90
Prepared by: J. Phillips Date: 6/11/90
ECOLOGY MAP
SEGMENT GR-2
SUBDIVISION A (_L_ of _L_)

METERS

0

1 inch = 20 feet

Seabird Colony

Active Eagle Nest

Inactive Eagle Nest

Exxon Company, USA
Map Key: PwS-GR-2
June 04, 1990
WORK PLAN ADDENDUM

Segment GR-02 Subdivision A Dated 7/5/90

MODIFICATION

1. REASON FOR MODIFICATION
   Add manual pick up to additional work area.

2. ADJUSTMENT TO WORK PLAN
   Manual pick up of oiled boom and bag of oiled trash from area indicated on attached map

SHPO APPROVAL NEEDED YES X SHPO SIGNATURE Rachelle Doh 7/5/90
NO

TAG APPROVAL DATE 7/5/90
ADEC Ray Mauer
EXXON Amy Con Ed
NOAA Jason Talbot
USCG G.A. Reiter

FOSC [Signature] DATE 7-10-90
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GB-2  SUBDIVISION A (SITE #2)  DATE 7/31/92

MODIFICATION  CLASS I

1. REASON FOR MODIFICATION
   Small patches of asphalt/pavement sporadic thru out site #2.

2. SUGGESTED ADJUSTMENT TO WORK PLAN
   Manual removal of small sporadic A/P patches using available hand tools.

3. TIMING ISSUES
   72 - Salmon Harvesting 8/1 - 9/30 (Consult ADF&G and Chenaq Bay for dates)
   6U - Tent site area 6/1 - 9/15.
   7II - Deer harvesting 8/16 - 3/1
   Deer habitat - no dates.

ADBC  Wesley Graham

REXON  Ray Smith

NOAA-USGS  Art Kenyon

LAND MANAGER  John Hal (if field rep is on scene)

TAG: NTR
SEGMENT AS GR 2  SUBDIVISION: A  SITE: 1  DATE 7-31-90

NAME Art Weiner  SIGNATURE Art Weiner

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: To assess effects of bioremediation and weathering.

NAME Wesley Ghormley  SIGNATURE Wesley Ghormley

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Reassessment will be necessary to determine the effects of bioremediation.

NAME John Fox  SIGNATURE John Fox

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: To evaluate bioremediation effects.

NAME Ray Sotelo  SIGNATURE Ray Sotelo

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: No further assessment should be necessary.

TAG: NTR
**FIELD SHORELINE COMMENT SHEET**

**SEGMENT AS/ GR.** 2  **SUBDIVISION:** A  **SITE:** 2  **DATE:** 7-31-90

**USCG NARR:** PS1 4-5 44-2, 0564  Les Barnards

**NAME:** Art Weiner  **SIGNATURE:** Art Weiner

☐ YES  ☑ NO  **PRIORITY SITE FOR REASSESSMENT IN 1991**

**REASON:** Proposed manual removal will eliminate accessible Oil.

---

**ADEC**

**NAME:** Wesley Ghormley  **SIGNATURE:** Wesley Ghormley

☐ YES  ☐ NO  **PRIORITY SITE FOR REASSESSMENT IN 1991**

**REASON:** Reassessment should be determined upon completion of work requested on modification. If proper removal is applied reassessment will not be necessary at this time.

---

**LAND MANAGER**

**NAME:**  **SIGNATURE:**

☐ YES  ☑ NO  **PRIORITY SITE FOR REASSESSMENT IN 1991**

**REASON:**

---

**EXXON**

**NAME:** Rey Sotelo  **SIGNATURE:** Rey Sotelo

☐ YES  ☐ NO  **PRIORITY SITE FOR REASSESSMENT IN 1991**

**REASON:**

---
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ CR 2 SUBDIVISION: A  SITE: 3  DATE 7-31-90

USCG  NOAA  PS1  Leo Derslontz  USGC  Leo Benelon

NAME  Art Weiner  SIGNATURE  Art Weiner

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

TO ASSESS EFFECTS OF INIPOL + WINTER WEATHERING.

ADEC

NAME  Wesley Gershmley  SIGNATURE  Wesley Gershmley

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

Inipol was applied on 7/31/90, so reassessment will be necessary to determine the effects of bioremediation.

LAND MANAGER

NAME  John Etzel  SIGNATURE  John Etzel

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

To evaluate the results of bio treatment on existing oil conditions and to assess if further treatment is useful with existing technology.

EXXON

NAME  Rey Sotelo  SIGNATURE  Rey Sotelo

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

This site was bioremediated following ASAP survey. No further reassessment is necessary.
TIDE LEVEL 5 to 6 ft

TOTAL EST LENGTH OF SHORELINE SURVEYED: 49 m
SURVEYED FROM: Foot Boat Hole WEATHER: Sun Clouds Fog Rain Snow

OIL CATEGORY LENGTH: W m M/8 m N0 m VI20 m NO m US m

<table>
<thead>
<tr>
<th>SURFACE OIL</th>
<th>SITE 1</th>
<th>SITE 2</th>
<th>SITE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARACTER</td>
<td>DISTRIBUTION</td>
<td>OILED ZONES</td>
<td>DISTRIBUTION</td>
</tr>
<tr>
<td>ASPHALT</td>
<td>/C/8/P/S</td>
<td>M/M</td>
<td>/C/8/P/S</td>
</tr>
<tr>
<td>S.O.R.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES/T.B.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EST. SITE LENGTH</td>
<td>4 x 4 m</td>
<td>20 x 3</td>
<td>20 x 19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUBSURFACE OIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITE NO.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>1/1</td>
</tr>
</tbody>
</table>

Photographs:
Roll No. ASAP R11
Frames 11/12/13

COMMENTS: Site 1 is a small area but it broken coat was located in this area. Random splashed coats were observed between the sites. Site 2 has a splashed coat. Site 3 has an area in center roughly 10 x 10 m C/TB. The rest of site 3 is C/TB oil that appears to be a bubbled rough appearance possibly from 1st Imipol application.
SHORELINE EVALUATION

SEGMENT ST/GR-03 SUBDIVISION A (1 OF 1) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
ST All eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
711 Deer harvesting (8/15 to 2/28)
9FF Deer habitat
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/19/90

OILING CATEGORIZATION:
Wide 0 m: Medium 98 m: Narrow 0 m: V.Light 246 m: No Oil 0 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth______

RECOMMENDATIONS:
X ___ No Treatment Recommended ___ Snare/Absorbent Booms
___ Treatment Recommended ___ Oil Snares (pom poms)
___ Manual Pickup ___ Absorbents (pads, rolls, etc)
___ Bioremediation ___ Spot Washing: ___ Wands
___ Tarmat: ___ Breakup ___ Beach Cleaner
___ Removal ___ Other (see comments)

COMMENTS: ____________________________________________

TAG COMMENTS: ____________________________________________

TAG APPROVAL DATE: 4/18/90
ADEC ART WEINER DATE: 4-12-90
EXXON [Signature] DATE: 4-12-90
NOAA [Signature]
USCG [Signature]
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C Salmon fry nursery area (4/31 to 7/31)
1D Feather Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Harvesting spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m. 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7H Finfish harvesting
7I Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

Dear Habitat
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/C 63A  SUBDIVISION: NO SUBDIVISION  DATE 05/24/96

NAME: Charles C. Gardner  SIGNATURE: [signature]

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:
Patch the oil spot. Natural cleanup will likely take care of it.

ADEC

NAME: Brian K. Fitzgerald  SIGNATURE: [signature]

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

- Broken coat BR-CT located in saddle of Peninsula and extending in 10m band to south for 50m.
- 20 Discontinuous Moose Splashes.
  - Possibly treat saddle on Peninsula w/ Bio (if possible use HT Drendall 125). Exposure is such that natural wave action may be sufficient.

LAND MANAGER

NAME: Carol S. Huber  SIGNATURE: [signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:
Recommend continued natural cleaning. Oilings mostly splashey. Numerous resource sensitivities include: penguin piping and molting, subsistence deer harvesting, seabird colony, shorebird concentration, bald eagle nests, special use facilities and herring spawning. Bear scat observed above beach.
SHORELINE OILING SUMMARY

<table>
<thead>
<tr>
<th>TEAM NO.: 4</th>
<th>TIDE LEVEL: 1.7 m</th>
<th>DATE: 4/5/90</th>
</tr>
</thead>
</table>

| LOCATION: Exxon & ADEC | TIME: 1500-1900 |

| SURVEYED FROM: Foot | WORKING DIRECTION: W to E |

<table>
<thead>
<tr>
<th>UPLANDS DESCRIPTION: Grass</th>
<th>SLOPE: Long % Hang % Short % Hang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>% P</td>
</tr>
<tr>
<td>Rock</td>
<td>% V</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SURFACE SEDIMENTS: R 10 % R</th>
<th>WAVE EXPOSURE: Low</th>
<th>Med</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 %</td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>

| OIL CATEGORY LENGTH: | 1.3 m | 2.65 m |

<table>
<thead>
<tr>
<th>OIL DISTRIBUTION</th>
<th>OIL FILM COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsurface</td>
<td>Subsurface</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OIL</th>
<th>FILM</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pit</td>
<td>Pit</td>
<td></td>
</tr>
</tbody>
</table>

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>P/G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>P/G</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

The segment is relatively oil free except for the very tip of the bedrock point. In this locality there is a patchy coat, confined to locally low areas (cracks, depressions) which have collected gravels. Gravel sediments are saturated up to 1 cm thick. Boulder and bedrock surfaces are oil free or have only slight sheening. This oiling zone is located only near the HWL (upper, upper intertidal). Subsurface oiling does not appear present on the rocky beach.
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST GR03  Subdivision A  Date (mo/day/yr) 4/5/90

- **Time (24 hr)**: 1824  
- **Biologist**: S. Schroeder

**A**  
Substrate type and % of segments:
1. Bedrock 25  
2. Boulder 45  
3. Cobble 10  
4. Pebble 10  
5. Sand 0  
6. Silt 0

**B**  
Overall % cover of biota (% of segment):
- Dense 40
- Moderate 30
- Low 30

**C**  
Density, substrate preference (by number from A, above), & vertical zonation of major taxa:  
- Juveniles/adults (X): new settlement (0)
- Photographs:
  - Roll No.: N/A
  - Frames: None

### BARNACLES

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sparse</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sparse</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sparse</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sparse</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### MYTILUS

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sparse</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sparse</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sparse</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sparse</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### GASTROPODS

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sparse</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sparse</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sparse</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sparse</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sparse</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sparse</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sparse</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sparse</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

 Wildlife Observations/General Comments:  
- Tidal Range: 5'-18'  
- [Emphasis] [Some text] [3] None listed

Ecological Considerations:  
- Rocky bedrock boulder along 75% of segment at upper mid-lower tidal; dense mussels & barnacles on hard substrate, barnacles, tubes, & barnacle crusts common in mid & upper tidal.  
- Entrance to tidal estuary not well defined.  
- Cameroon Crusts, Alaria abundant in lower boulder zone.  
GR03 is mainly a bedrock headland on the NE end of GR101. 2/3 of the segment is shale bedrock; the remainder is large boulder pocket beach. Algae are dense in the low, mid, and low-upper intertidal. The red algae, *Rhodymenia larin* occurs in moderate to dense patches on shale bedrock platforms in the mid intertidal. There are dense patches of barnacles and mussels in the mid intertidal along the headland. *Anthopleura elegansissima*, *Epiactis prolifera*, and *Lesia* are common to abundant in mid and low-upper intertidal pools. These pools are notable for relatively low (~20%) cover of crustose coralline algae. There are dense patches of *S. cariosa* on bedrock in the mid intertidal. *K. tunicata* occur rarely in the spaces among the barnacles.
SHORELINE EVALUATION

SEGMENT ST/GR-04  SUBDIVISION A (1 OF 1)  DATE  4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M  Herring spawning (4/1 to 6/15)
3N,3P  Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q  Harbor seal and sea lion molting (8/15 to 9/15)
5R  Seabird colony (5/1 to 9/1)
5T  All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
7II  Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: ___________________________  DATE:  4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 17 m: No Oil 245 m
Subsurface Oil Observed: Yes  No X  Maximum Depth_________

RECOMMENDATIONS:

X  No Treatment Recommended
___ Treatment Recommended
___ Manual Pickup
___ Bioremediation
___ Tarmat:  Breakup
___ Removal
___ Other (see comments)

COMMENTS: _____________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS: __________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE:  4/20/90
ADEC  __________________________________________________________________
EXXON  __________________________________________________________________
NOAA  __________________________________________________________________
USCG  __________________________________________________________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)
Esoter Hatchery release (4/15 to 6/1)
Main Bay Hatchery release (4/20 to 5/10)
Sawmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)
Remote release site

Gill net area (6/7 to 8/31)
Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Recreation:
Tent sites (6/1 to 9/15)
Anchorages (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

Subsistence area:
Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (2/15 to 2/20)
Invertebrate harvesting

For Codes 1Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 6 R 04    SUBDIVISION:      DATE 4/8

NAME     Robert Jansen
SIGNATURE  

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

ADEC

NAME     Rowann T. Hudnall
SIGNATURE  

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

LAND MANAGER

NAME     U.S. Forest Serv
SIGNATURE  Theo Teely

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Few splashes only.

Found one small area of scattered splatter in middle of island on west end.

Continue Natural Cleaning.
SHORELINE OILING SUMMARY

SEGMENT ST/ QR-0-1

TIME : 5:53 to 10:45
DATE: April 18, 1990

EST. SUBDIVISION LENGTH: 2741 m

TIDE LEVEL: + 5 ft to + 7 ft

TEAM NO.: 2

DATE: April 18, 1990

SURVEYED FROM: Foot

SURFACE DESCRIPTION: ☑ Grass ☐ Forest ☑ Rock

SLOPE: Lang ☑ Hang ☐ % Vert ☑ %

SURFACE SEDIMENTS: R ☑ 35 % B ☑ 6 % C ☑ 3 % P ☑ 32 % G ☑ E ☑ 6 % S ☑ 19 % M ☑ 4 % V ☑ 0 %

WAVE EXPOSURE: ☐ Low ☑ Med ☑ High

SURVEYED FROM: Foot Boat Helo

WORKING DIRECTION: All around

SURFACE SEDIMENTS: R ☑ 35 % B ☑ 6 % C ☑ 3 % P ☑ 32 % G ☑ E ☑ 6 % S ☑ 19 % M ☑ 4 % V ☑ 0 %

SLOPE: Lang ☑ Hang ☐ % Vert ☑ %

OIL CATEGORY LENGTH: W ☑ 0 m M ☑ 0 m N ☑ 0 m VL ☑ 40 m NO ☑ 9201 m

SURFACE OIL

CHARACTER | DISTRIBUTION | OIL / FILM COLOR | IMPACTED ZONES |
---|---|---|---|
Asphalt Pavement | | | |
Poole | | | |
Cover | | | |
Stain | | | |
Mousse | | | |
Patties | | | |
Tarballs | | | |
Film | | | |
No Oil | X | X | X |

PAVEMENT: H ☑ F ☑ S ☐ sq. m by ☑ cm

PATTIES / TARBALLS ☑ BAGS

NEAR SHORE SHEEN? ☐ NO ☑ BR ☑ RW ☑ SL ☑ TL

OILED DEBRIS | AMOUNT | DEBRIS COLLECTED | TYPE |
---|---|---|---|
Logs | SM | ☑ YES ☐ NO |
Vegetation | MD | ☐ YES ☑ NO |
Trash | LG | ☑ YES ☐ NO |
Debris | ☑ YES ☐ NO |

#BAGS ☑

Photographs:
Roll No.: ST-2-11
Frames: 16-19

SUBSURFACE OIL

PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER | OILED INTERVAL | BELOW | OIL / FILM COLOR | PIT ZONE | ANALYTE | SUBSURFACE SEDIMENTS |
---|---|---|---|---|---|---|---|---|
1 | 3.2 | ☑ | | | | | |
2 | 3.2 | ☑ | | | | | |
3 | 3.2 | ☑ | | | | | |

COMMENTS

Page 1 of __

REVIEWED W DATE 4/2/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST/GR-04 Subdivision N/A Date (mo/day/yr) 07/08/90
Time (24 hr) 0952-1045 Biologist John Dixon

Substrate type and % of segments:
1. Bedrock 35
2. Boulder 6
3. Cobble 5
4. Pebble 32
5. Sand 19
6. Silt

Overall % cover of biota (% of segment): Dense 9 Moderate 16 Low 75

Density, substrate preference (by number from A, above), &
vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juvenile/adults (X), new settlement (3)

Barnacles

Dense Moderate Sparse Rare

| Roll No. S7-2-11 | Frames 15-19 |

Mytilus

Dense Moderate Sparse Rare

| Roll No. S7-2-11 | Frames 15-19 |

Gastrochaena

Dense Moderate Sparse Rare

| Roll No. S7-2-11 | Frames 15-19 |

Fucus

Dense Moderate Sparse Rare

| Roll No. S7-2-11 | Frames 15-19 |

Wildlife Observations/General Comments: Water line +3.5° to +6.0° during observations.
Bald eagle in standing dead tree, watching an island. Oyster in intertidal; much sediment on intertidal grass.

Ecological Considerations:
This small island is made up of an elevated area to the S.W. with several rock outcrops, and a low area to the N.E. and high relief to the N.W. The bedrock outcrops form intertidal boundaries at the S.W. and N.E. along 3/4 of the side. The rest of the intertidal is pebble breck with some cobble and boulders, high vertical outcrops. There is a sparse cover of Ficus and Balanus carinatus on the M.T. with Mytilus locally abundant on horizontal surfaces. Snails are mostly limpets of sparse. Dick Ricker on the high shore. There are more snails - mostly littorines.
Segment OR-04 includes the shorelines of Channel Island, a small island located a few kilometers south of Green Island. It is exposed to a long fetch on the northeastern and southwestern ends, and to a moderate fetch on the north and south sides.

The island is composed of bedrock ramps at the southwestern and northeastern extremities. The southwestern half of the island includes a number of stalks among the northeasterly trending, steeply dipping metamorphic rocks. Both shores of the northeastern half of this island consist of pebble, sand and some cobbles. Throughout this section, the backshore consists of a small flat grassy area that appears to be eroding and forming low (30 cm) unconsolidated bluffs.

Stains of splatters were found on the north central shore of this island, over a cobble/bedrock ramp. These are very scattered and do not cover more than 5% of the area throughout which they occur. No oil was found along the rest of the island or in several test pits dug at different locations along the shore.
This small island has a small (20m x 100m) rock pinnacle at the s.w. end. The pinnacle has sheer sides but sufficient soil on top to support a stand of pines. Surrounding this feature on the north and east is an area of small pines. There are two emergent rock pinnacles at the eastern s.e. end. The rest of the island is low relief. The central portion of N.E. 1/3 of the island is a gravel tuff that is bordered on both sides by pebble beaches. There is a small area of bedrock outcrops at the N.E. end of the island & extensive bedrock beach from the s.w. and 1/3 of the way up the north side of the island & about 1/3 the way up to the south side.

Only the middle & upper intertidal was shown. The pebble beaches have no epiphytes & but the bedrock areas exhibit the pattern typical for this area. There is a sparse cover of Sarc. & B. cover in the M.T. with Mytilus locally abundant on kelped surfaces. Kelp cover sparse & mostly broken. The Substratum cover of red algae was Rhodomela. Higher on the shore kelped density increases & a great portion of the smaller are Lettuce. 1 specimen in M.T.
LEGEND

1 Δ
Pt - No Subsurface Oil

2 Δ
Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Oil Character Length (m): AP PO CV CT ST LO MS PT TB FL NO Y 701
SHORELINE EVALUATION

SEGMENT ST/ GR-05 SUBDIVISION A (1 OF 1) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring spawning (4/1 to 6/15)</td>
</tr>
<tr>
<td>3N, 3P</td>
<td>Harbor seal and sea lion pupping (5/15 to 7/1)</td>
</tr>
<tr>
<td>3O, 3Q</td>
<td>Harbor seal and sea lion molting (8/15 to 9/15)</td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl concentration (4/1 to 5/15)</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence area: Deer harvesting (8/15 to 2/28)</td>
</tr>
</tbody>
</table>

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to un-oiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

- Wide 0 m: Medium 44 m: Narrow 0 m: V. Light 121 m: No Oil 826 m
- Subsurface Oil Observed: Yes X No Maximum Depth 1 cm

RECOMMENDATIONS:

- X Treatment Recommended
- Snare/Absorbent Booms
- Oil Snares (pom poms)
- Manual Pickup
- Absorbents (pads, rolls, etc)
- Bioremediation
- Spot Washing: Wands
- X Tarmat: Breakup
- X Removal
- Beach Cleaner
- Other (see comments)

COMMENTS: Recommended treatment includes 1) manual breakup and removal of tarmat shown on attached sketch map. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90

ADEC
EXXON
NOAA
USCG

FOSC: [Signature] DATE: 4-26-90
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)

Estuary Hatchery release (4/15 to 6/1)

Main Bay Hatchery release (4/20 to 5/10)

Sawmill Bay Hatchery release (4/15 to 6/1)

Cannery Creek Hatchery release (4/21 to 6/1)

Remote release site

Gill net area (6/7 to 8/31)

Purse seine area (7/20 to 9/30)

Purse seine hook-off (7/20 to 9/30)

Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Salmon outmigration (3/1 to 5/15)
Salmon opening (7/10 ID 8/31)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)

Estuary Hatchery release (4/15 to 6/1)

Main Bay Hatchery release (4/20 to 5/10)

Sawmill Bay Hatchery release (4/15 to 6/1)

Cannery Creek Hatchery release (4/21 to 6/1)

Remote release site

Gill net area (6/7 to 8/31)

Purse seine area (7/20 to 9/30)

Purse seine hook-off (7/20 to 9/30)

Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Salmon opening (7/10 ID 8/31)

Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Recreation:
Tent sites (6/1 to 9/15)

Anchorage (6/1 to 9/15)

Forest Service cabins (6/1 to 9/15)

Lodge (6/1 to 9/15)

Special use destination

Subsistence area:
Salmon harvesting (5/1 to 9/30)
Finfish harvesting

Deer harvesting (8/15 to 2/26)

Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
SEGMENT ST G-65  SUBDIVISION:  DATE:  

NAME:  JAMES C. ROSS  SIGNATURE:  

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED  

COMMENTS:  Patching oil spot, naturally cleaning will take care of it.

NAME:  BRIAN K. FITZSIMONS  SIGNATURE:  

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED  

COMMENTS:  Low density oil splashed observed scattered around the end of C+.

\[
\begin{align*}
\text{PS} & \rightarrow \text{OR} (\text{OP}) \rightarrow 30-50cm \downarrow \\
\text{BR} & \rightarrow \text{C+}
\end{align*}
\]  

All at HITZ.

It would be possible to manually remove most oiled area to HITZ due to small size of island - but due to exposure continued natural cleansing may be just as effective.

NAME:  CAROL S. HUBER  SIGNATURE:  

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED  

COMMENTS:  Small, high energy bedrock and takes island. Minor amounts of oil observed. Recommend continued natural cleansing. Pinninged haulout's primary resource? (Not so listed in data table)
**SHORELINE OILING SUMMARY**

**OG:** R. Bevland  
**USCG:** J. Gamble  
**SEGMENT ST:** GR-5

**BIO:** S. Schreiber  
**LAND REP:** C. Hughes (ADEC)  
**SUBDIVISION:** A (10°F)

**EXXON:** C. Levine  
**TIME:** 17:02 10/18

**TEAM NO.:** 3  
**TIDE LEVEL:** 1.2 to 1.5

**ST. SUBDIVISION LENGTH:** 1031 m  
**DATE:** 10/5/90

**LANDS DESCRIPTION:**  
☐ Grass  ☐ Forest  ☐ Rock

**SURVEYED FROM:** ☐ Foot  ☐ Boat  ☐ Helo  
**WORKING DIRECTION:** N to S

**SLOPE:** Lang 70%  Hang 30%  Ver 10%  
**WAVE EXPOSURE:** ☐ Low  ☐ Med  ☐ High

**OIL CATEGORY LENGTH:** W m M 2.5 m N m VL 1.6 m NO 9.3 m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Coat</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mouss</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Film</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT:** ☑ P $\frac{x}{50}$/sq m by 2 cm

**PATTIES/TARBALLS:** 2 BAGS

**NEAR SHORE SHEEN?** ☐ BR RW SL TL

**OILED DEBRIS**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>SM</th>
<th>MD</th>
<th>LG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trash</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Debris</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DEBRIS COLLECTED**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>#BAGS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Photographs:**

- Roll No. 5+1-3
- Frames 8

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>30</td>
<td>1</td>
<td>10</td>
<td>0-1</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**COMMENTS**

Oiling is very light. In isolated spots near the HWL there is a splasyh coat. Gravels next to the base of boulders in tidal zones are saturated with oil. (in some areas approximating pavement). A splash film on sheen is also present. As the Island is largely bedrock, subsurface oiling does not appear to be a problem.

**REVIEWED:** [Signature]  
**DATE:** 4/7/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST 1 GRO5 Subdivision A Date (mo/day/yr) 4/5/90

Time (24 hr) 1h32 Biologist S. Schroeter

(A) Substrate type and % of segments:
(1) Bedrock 24 (2) Boulder 53 (3) Cobble 9 (4) Pebble 4 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 35 Moderate 30 Low 35

(C) Density, substrate preference (by number from A, above), and vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (X), new settlement (G)

<table>
<thead>
<tr>
<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MYTILUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GASTROPODS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FUCUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments: Sensitivity N/A Priority N/A

Tidal Range: >

Ecological Considerations: GRO5A is a small island farthest down the line from GRO1+ 90. The upper tide is predominantly flooded in 70%. The mid + lower intertidal are predominantly covered with some cobble + pebble. There are dense mixed beds of stocks + Agassizella. The low intertidal is shallow and sandy on the side of the island facing GRO1. There are numerous high densities of stocks on the intertidal (5-6 breeding overlap age). The sampling seine got stuck on a small rock that was at least 1 foot deep. Waiting 16 months away 2 meters.
This segment is a small offshore island several hundred meters offshore from GR03 and GR101. The upper intertidal is about 70% shale bedrock. The mid and lower intertidal are predominantly boulders (~85%) and cobble (~15%). Gastropods (littorines and N. acutum) occur in dense patches in the mid and low-upper intertidal. Adult and newly recruited Fucus are very dense in the mid intertidal. The low intertidal is dominated by various red algae and has remarkably high densities of sea stars. About 80% of the stars encountered are small (<15cm) to medium (15-30cm) Pycnopodia. In order of decreasing abundance, Lactea, Derasterias, and Echinoderes ochraceus make up the remainder. On the exposed side of the island most stars are found beneath boulders, whereas on the leeward side they are both on top and under boulders. There is about 1 sea star per 2 meters of shoreline on the tops of boulders in the low intertidal on the leeward side of the island. On the lee side of the island, there is also a dense mixed bed of large L. saccharina and Asterias in the low intertidal and shallow subtidal.
3/4 Island consists of bedrock with scattered boulders. The Southern tip consists of a gravel spit in the supratidal.

**Legend**

- **A**: No Subsurface Oil
- **B**: Subsurface Oil
  - CT/C: Conclusive Evidence
  - CT/P: Broken Evidence
  - CT/D: Patchy Evidence
  - CT/S: Splattered Evidence
  - O: Oiled Vegetation

**Profile (Across Southern End)**

- **CT/5**: Bedrock with scattered boulders
- **F1/5**: Gravels at base of boulders occasionally saturated with oil
- **F2/5**: Tar mat removal
- **C7/5**: Gravel-sand spit (Supra)
- **C8/5**: Boulders (Intertidal)

**Profile 1**

- **CT/C**: 25m + F1/5 1w 3 1w 2 1w 3
- **F1/5**: 25m thick 1w 5

**Sketch Map**

- **Meters**
- **0** 100 200
- **Oil Character Length (m):** 0.5
- **PO CV CT 145 ST MS PT TB FL 145 NO 568**
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-5 SUBDIVISION A (1 of 1)

WORK WINDOW

Tarmat Removal CLOSED

ARCHEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Segment</th>
<th>Activity</th>
<th>Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
<td>No constraint to tarmat removal.</td>
</tr>
<tr>
<td>3N,0,P,Q</td>
<td>Harbor Seal &amp; Sea Lion</td>
<td>Closed to tarmat removal before 7/2 and after 8/14.</td>
</tr>
<tr>
<td></td>
<td>Pupping and Molting</td>
<td></td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl</td>
<td>No constraint after 5/15.</td>
</tr>
<tr>
<td></td>
<td>Concentration</td>
<td></td>
</tr>
<tr>
<td>5R</td>
<td>Seabird Colony</td>
<td>Closed to tarmat removal before 9/1.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.</td>
</tr>
<tr>
<td>7H</td>
<td>Subsistence: Deer Harvesting</td>
<td>No constraint to tarmat removal.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unrioted substrate and biota especially intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 8/15. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas.

FOSC 6-12-90 Date 6-12-90

Prepared by G. Phillips 6-10-90 Date 6/12/90
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-5 SUBDIVISION A (1 of 1)

WORK WINDOW

Tarmat Removal

WORK PRIOR TO 8/15
CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning
No constraint to tarmat removal.

3N,Q,P,Q Harbor Seal & Sea Lion
Pupping and Molting
Closed to tarmat removal before 7/2 and
after 8/14.

5S Shorebird/Waterfowl
Concentration
No constraint after 5/15.

5R Seabird Colony
No constraint to tarmat removal.

5T Bald Eagle Nest

7II Subsistence: Deer Harvesting
No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to
unooled substrate and biota especially Intertidal and subtidal algae and seagrass. Restrict air traffic
and beach disturbance to essential minimum after 6/15. Do not chase or harass seals or sea lions,
and do not approach pups under any circumstances. When working on or near haulouts, complete
the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep
boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize
air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same
haulout areas.

FOSC Date 6-12-90

Prepared by J. Phillips Date 6-12-90
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M  Herring spawning (4/1 to 6/15)
5S  Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y  Recreation area: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance/damage to unoiled substrate or biota.

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 398 m
Subsurface Oil Observed: Yes No
Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended   ___ Snare/Absorbent Booms
____ Treatment Recommended   ___ Oil Snares (pom poms)
____ Manual Pickup   ___ Absorbents (pads, rolls, etc)
____ Bioremediation   ___ Spot Washing: Wands
____ Tarmat: Breakup   ____ Removal   ____ Beach Cleaner
____ Removal   ____ Other (see comments)

COMMENTS:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: 4/13/90
ADEC EXXON NOAA USCG
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A
Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C
Salmon fry nursery area (4/31 to 7/31)

1D
Ester Hatchery release (4/15 to 6/1)

1E
Main Bay Hatchery release (4/20 to 5/10)

1F
Sewmill Bay Hatchery release (4/15 to 6/1)

1G
Cannery Creek Hatchery release (4/21 to 6/1)

1H
Remote release site

1I
Gill net area (6/7 to 8/31)

1J
Purse seine area (7/20 to 9/30)

1K
Purse seine hook-off (7/20 to 9/30)

1L
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M
Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to uncultured intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (5/15 to 7/1)

3O, 3Q
Harbor seal and sea lion molting (5/15 to 6/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R
Seabird colony (5/1 to 6/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

5S
Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

5T
All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U
Recreation:
Tent sites (6/1 to 9/15)

6V
Anchorages (8/1 to 9/15)

6W
Forest Service cabins (6/1 to 9/15)

6X
Lodge (6/1 to 9/15)

6Y
Special use destination

7Z
Subsistence area: Salmon harvesting (5/1 to 9/30)

7HH
Finfish harvesting

7I
Deer harvesting (8/15 to 2/28)

7JJ
Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT 606 A

NAME: Barry C. Godin

SIGNATURE: Barry C. Godin

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS: No oil found. 0-2' observed from skiff due to being unable to set oar.

ADEC

NAME: Brian K. Fitzsimons

SIGNATURE: Brian K. Fitzsimons

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS: Surveyed by skiff - small bedrock island with no visible oil contamination.

LAND MANAGER

NAME: Carol S. Huber

SIGNATURE: Carol S. Huber

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS: Small, high energy, bedrock island; surveyed from zodiac-type craft. No oil observed.
SHORELINE OILING SUMMARY

OG - B. Devosland USCG J. Sample SEGMENT ST/ GR - G
BG - S. Schrader LAND REP C. Hughes (USF) SUBDIVISION A (041)
EXXON C. Levine ADEC T. Fritz Simon TIME 17:47 to 19:00
TEAM NO: __________ TIDE LEVEL: 1.5 to 1.6 DATE 4/6/90

ST. SUBDIVISION LENGTH: 343 m

UPLANDS DESCRIPTION:
- Grass
- Forest
- Rock

SURVEYED FROM:
- Foot
- Boat
- Helo

WORKING DIRECTION:
- N to S

SURFACE SEDIMENTS:
- R: 60%
- B: 20%
- C: 20%
- P: 0%
- G: 0%
- S: 0%
- M: 0%
- V: 0%

SLOPE:
- Lang: 40%
- Hang: 50%
- Ven: 10%

WAVE EXPOSURE:
- Low
- Med
- High

OIL CATEGORY LENGTH:
- W: ______ m
- M: ______ m
- N: ______ m
- VL: ______ m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT:
- H: None
- F: None
- S: None

S.M. by ______ cm

PATTIES / TARBALLS: None

BAGS: ______

NEAR SHORE SHEEN?
- No

BR RW SL TL

OILED DEBRIS

- Logs
- Vegetation
- Trash
- Debris

AMOUNT

# BAGS

Photographs:
- Roll No: None
- Frames: None

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE ANA</th>
<th>SUBSURFACE SEVIDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS

GR-6 is an offshore Island consisting of almost 100% bedrock and a few large boulders. It barely breaks the water at high tide, most of the segment being intertidal. Due to the reef and the relatively steep, slippery bedrock it was surveyed by boat rather than foot. No oil was visible. Its high wave exposure probably removed any previous accumulations. REVIEWED ______ DATE ______

Within a short time.
SEGMENT: A
SUBDIVISION: A
DATE: 4/5/90
CHECKLIST
- N/A
- Approx. Scale
- Sept./Oct. End
- Off Blow
- White
- Length
- % Cover
- Substrate Character
- Est. HMA/WL
- SSL
- Profile Location(s)
- Photo(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1
- Pit - No Subsurface Oil

2
- Pit - Subsurface Oil

C TC/C
Continuous Distribution
CT/B
Broken Distribution

D LE/P
Patchy Distribution

F CT/S
Splashed Distribution

O Oiled Vegetation

- Photo location, direction, and number

SKETCH MAP

Boat Surveyed

Bedrock Island

Approximately all intentional

No visible oil

Oil Character Length (m): AP PO CV CT ST MS PT TB FL NO 398
SHORELINE ECOLOGICAL SUMMARY

Segment ST GR06 Subdivision A Date (mo/day/yr) 4/5/90

Time (24 hr) 16:47 Biologist S. Schreiter Tidal Range 7 + 1.2

(A) Substrate type and % of segments:
  1) Bedrock 2) Boulder 3) Cobble 4) Pebble 5) Sand 6) Silt

(B) Overall % cover of biota (% of segment):
  Dense 50 Moderate 30 Low 20

(C) Density, substrate preference (by number from A, above), &
vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles / adults (X), new settlement (3)

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

ASTRACOPODS (NOT observed)

<table>
<thead>
<tr>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Wildlife Observations / General Comments: Scattered algae, few barnacles, no gastropods, no new settled organisms.

Ecological Considerations: This is a smaller bedrock promontory than the former GR03/GR181. Barnacles were dense in the low tidal zone, but only a few were found in the mid tidal zone. No gastropods were observed.
This segment is a small rocky bedrock pinnacle with negligible amounts of substrate other than bedrock. The segment was "SCATTED" by a very close, very slow boat ride. As a result, observations weren't made on newly recruited organisms or gastropods of any size. Biotas were dense in the low and mid intertidal. The low intertidal was dominated by various red algae (e.g. *Iriss*) and adult and juvenile *Alaria*.

The biomass + recruitment listed for GR66 are probably meant for GR65, which is small, but 5-10 times the area of GR66.
GR-06

No Oil
Entire Segment
(Boat Surveyed)

XXXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

ADEC Segment Length: 398m

Map Key: PWS-513
Name: T. Benglund
Date: 4/5/90
Date Entered:
SHORELINE EVALUATION

SEGMENT ST/ GR-07 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Deer harvesting (7II) - 8/15 to 3/1;
Special use destination (6Y) - 6/1 to 9/15; Salmon harvesting (7Z) - 5/1 to 9/3 (Consult with Chenega Bay and ADF&G for exact dates).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of unripped moderate fucus and gastropods in U and MITZ.

SHPO SIGNATURE: ______ DATE: 4/10/90

OILING CATEGORIZATION:
Wide 0 m: Medium 144 m: Narrow 569 m: V. Light 298 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
____ No Treatment Recommended ______ Snare/Absorbent Booms
____ Treatment Recommended ______ Oil Snares (pom poms)
____ Manual Pickup ______ Absorbents (pads, rolls, etc)
____ Bioremediation ______ Spot Washing:_____Wands
____ Tarmat: Breakup _______ Beach Cleaner
____ Removal _______ Other (see comments)

COMMENTS: Recommend bioremediation of areas where coat and cover found. Note: bioremede no closer than 100 m from stream.
Work after 6/15 based on herring constraints, but consult ADF&G and Chenega Bay. PICK UP DEBRIS IS REQUIRED.

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90
ADEC JOHN BAUM
EXXON ______ FOSC: ______ DATE: 5/12/90
NOAA _______ USCG
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ GR - 07  SUBDIVISION: None DATE: March 30, 1996

NAME: Robert Jensen  SIGNATURE: Robert B. Jensen

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Recreation use area for public.

ADEC NAME: Rowann T. Hardin  SIGNATURE: Rowann T. Hardin

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Surface sheen in upper intertidal sediments. Recommend stirring up with shovels and picks before bio-remediation. No subsurface oil.

AND MANAGER

NAME: U.S. Forest Service  SIGNATURE: Joe Tucker

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Public Recreation Cation near cause high public use.

Crossing area for shorebird migration.

Light oily in upper tidal area to be treated.

Small stream in segment in small spawning areas for salmon.
**SHORELINE OILING SUMMARY**

**EXXON**

**OIL**

---

**OILING SUMMARY**

**DATE:** 12/2/90

**TIME:** 7:43 to 9:30

**TEAM NO.:** 2

**TIDE LEVEL:** 0.6 to 1.25

**EST. SUBDIVISION LENGTH:** 600 m

**UPLANDS DESCRIPTION:** Grass

**SURVEYED FROM:** Foot

**WORKING DIRECTION:** N

**SURFACE SEDIMENTS:** R % B % O % C % S % P % M % V %

**OIL CATEGORY LENGTH:** W: m M: m N: m V: m

---

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT:** H F S

**NEAR SHORE SHEEN?**

**OILED SHORELINE**

---

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td>Pb / cb / cd</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td>Pb / sd / cb</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td>Pb / sd / cb</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td>Pb / sd / cb</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td>Pb / sd / cb</td>
</tr>
</tbody>
</table>

**COMMENTS**

---

**REVIEWED:** 12/4/90

---

**OILED DEBRIS**

<table>
<thead>
<tr>
<th>AMOUNT</th>
<th>DEBRIS COLLECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT**

---

**REVIEWED:** 12/4/90

---

**SURFACE OIL**

---

**SURFACED OIL**

---

**REVIEWED:** 12/4/90

---

**SUBSURFACE OIL**

---

**REVIEWED:** 12/4/90

---

**SURFACE OIL**

---

**REVIEWED:** 12/4/90

---

**SUBSURFACE OIL**

---

**REVIEWED:** 12/4/90

---

**SURFACE OIL**

---

**REVIEWED:** 12/4/90

---

**SUBSURFACE OIL**

---

**REVIEWED:** 12/4/90

---

**SURFACE OIL**

---

**REVIEWED:** 12/4/90

---

**SUBSURFACE OIL**

---

**REVIEWED:** 12/4/90

---
Segment GE-7 is located on the north central coast of Green Island. It faces northwest and is exposed to a fetch of about 20 km. It is, however, sheltered by many nearshore islands and shoals, and as a result, it shows characteristics of low energy environment beaches.

At its northeastern end, the beach consists of a 50 m wide, gently sloping intertidal zone made up of angular cobbles, pebbles, boulders and sand. The backshore slopes gently inland and is heavily vegetated by a band of alders giving way to evergreens.

At that location oil is present within a 4 m wide, 125 m long band as a film around the surface or nearsurface (max depth 5 cm) sediments. The coverage of this film was estimated as 25%, and where it is present, it produces a silvery sheen on the surface of ground water in test pits. It seems to be more abundant around the base of boulders.

Between this location and the stream channel occurring to the south west, the beach is relatively uniform and gently sloping, angular boulder/cobble, in the upper intertidal zone; angular cobble/pebble/sand in the middle intertidal zone; and a well defined band of sand/mud/cobbles in the lower intertidal zone. Oil occurs in two small areas only, each about 1 m sq., as stains with 10% cover and film with 30% cover, both in the upper intertidal zone.

South of the small stream, a 2 m wide band of 20% coverage surface oil, average thickness 0.5 cm, maximum 2 cm, extends 200 m southwesterly in the upper intertidal zone. The sediments consist mainly of subrounded cobbles and pebbles over sand.

Towards the southwesterly extremity of this segment, a 4 m wide by 20 m long patch of 60% oil coverage occurs at the base of boulders and coarse
sediments. The maximum thickness of oil/sediments was 2 cm, the average 0.5 cm. This patch is associated with a 1 m sq. area of tarry splashes with 10% oil coverage.

Near the end of segment GR-7, a 1 m sq. patch of 10% cover surface filia is present in the surface sediments of the upper intertidal zone.

Along the entire segment, the backshore and hinterland areas were covered with snow and observations of oiling that could be present in the backshore could not be made.
# SHORELINE ECOLOGICAL SUMMARY

**Segment ST** / **GR-07**  
**Subdivision** N/A  
**Date (mo/day/yr)** 03/30/90  
**Time (24 hr)** 0435  
**Biollogist** John Dixon

## (A) Substrate type and % of segments:

- **Bedrock** 10\%
- **Boulder** 10\%
- **Cobble** 10\%
- **Pebble** 10\%
- **Sand** 10\%
- **Silt** 10\%

## (B) Overall % cover of biota (% of segment):

- **Dense** 25\%
- **Moderate** 25\%
- **Low** 50\%

## (C) Density, substrate preference (by number from A, above) & vertical zonation of major taxa:

- **Mytilus**  
  - **Dense**  
    - Upper: 100\%
    - Mid: 0\%
    - Lower: 0\%  
  - **Moderate**  
    - Upper: 0\%
    - Mid: 0\%
    - Lower: 0\%  
  - **Sparse**  
    - Upper: 0\%
    - Mid: 0\%
    - Lower: 0\%  
  - **Rare**  
    - Upper: 0\%
    - Mid: 0\%
    - Lower: 0\%  

## BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>NOT PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

## MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>NOT PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

## GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>NOT PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

## FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>NOT PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Wildlife Observations/ General Comments:** 6 Cormorants, Herring gulls, small flock of guilts, flock of Canada geese offshore, occasional other unidentified waterfowl offshore during survey.

**Ecological Considerations:** Lowest shore is sand bottom with abundant **Phyllophora** & filamentous red algae. Many open holes of clams (mussel), many clam shells. Lower half of middle zone on the ebb side of beach is relatively bare with abundant shell hash mixed with pebbles. Gastropods (tunneler, limpets) egg cases common under cobble & pebbles.
<table>
<thead>
<tr>
<th>JDD</th>
<th>GROZ</th>
<th>3/30/90</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:45</td>
<td>Standard</td>
<td>4</td>
</tr>
<tr>
<td>1. Rocky</td>
<td>Head 4</td>
<td>100 m</td>
</tr>
<tr>
<td></td>
<td>1 1/2</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>15 m</td>
<td>60°</td>
</tr>
<tr>
<td></td>
<td>30 m</td>
<td>45°</td>
</tr>
<tr>
<td></td>
<td>25 m</td>
<td>Steven</td>
</tr>
<tr>
<td></td>
<td>25 m</td>
<td>green</td>
</tr>
<tr>
<td>13</td>
<td>30 - 100</td>
<td>looks</td>
</tr>
<tr>
<td></td>
<td>65°</td>
<td>north</td>
</tr>
<tr>
<td>2938</td>
<td>-2°</td>
<td>S</td>
</tr>
<tr>
<td>10:14</td>
<td>Ski patrol</td>
<td>freedom</td>
</tr>
<tr>
<td>10:15</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>22.60</td>
<td>3</td>
<td>1.60</td>
</tr>
<tr>
<td>30.4</td>
<td>30</td>
<td>P</td>
</tr>
</tbody>
</table>

Notes:
- Occasional wet snow drifts.
- Rocky: Head 4 m.
- North: 0.4 m.
- Strong wind conditions.
- Ski patrol.
- Surface: 90% Rock.
- Trees: 10 cm.
JDD 6R-07
2/6

Glass, reed, red algae, bedded, crabs
1 - 14 m, 12 - 35
Few crabs, 120
50 m, crabs, red algae
2 - 10 cm, 1 - 5 cm, crabs

JDD 6R-07
22 - 28 m, 22
10 n, 30 cells, 60% fed
Euglena, single cells, whole
Red algae, smooth
Little algae on sand
Sparsely
75 m, along reef (25 - 100 cm)
Reduced, fewer beds in
17, more barren
Red algae, 1 - 5 cm, red
Density, 171, yellow
17 - 21 m

JDD 6R-07
3/6

Red algae, small, intertidal
1 - 30 cm, red
5 cm, red algae, 71
10 cm, red algae, 3 cm
deficit, small, in sand

JDD 6R-07
4/6

8 cm, red algae, 2 cm
8 cm, red algae, 1 cm
17 m, red algae, 1 cm
<table>
<thead>
<tr>
<th>ADD GROD</th>
<th>4/65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dredge G.</td>
<td>30'</td>
</tr>
<tr>
<td>Resist 1.0</td>
<td>3'</td>
</tr>
<tr>
<td>Sand, Flt. 1</td>
<td>3'</td>
</tr>
<tr>
<td>25-37' in</td>
<td>60'20' x 20'</td>
</tr>
<tr>
<td>Min. 2'x2' &amp; Space</td>
<td>80'20' x 20'</td>
</tr>
<tr>
<td>Brown, Grease</td>
<td>2'</td>
</tr>
<tr>
<td>31.45% Bar &amp; Rod</td>
<td>100' x 20'</td>
</tr>
<tr>
<td>Spade, Spade</td>
<td>10' x 20'</td>
</tr>
<tr>
<td>(Sample 6' x 4' on each)</td>
<td>50' x 20'</td>
</tr>
<tr>
<td>7.0 Watered</td>
<td>08.5'</td>
</tr>
<tr>
<td>31.10% Blk &amp; Hcl 10'</td>
<td>50' x 20'</td>
</tr>
<tr>
<td>Fill Rods</td>
<td>10' x 20'</td>
</tr>
<tr>
<td>Plano, Pow'</td>
<td>10' x 20'</td>
</tr>
<tr>
<td>16-35</td>
<td>22.8</td>
</tr>
<tr>
<td>88% Red</td>
<td>100% Red</td>
</tr>
</tbody>
</table>
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT GR-7 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK 6/15 TO 7/1</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT
If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream
An uncatalogued anadromous stream is located in this subdivision. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to to manual pickup.

2M Herring Spawning
Closed to bioremediation before 6/15. No constraint to manual pickup.

5S Shorebird/Waterfowl Concentration
No constraint after 5/15.

7II Subsistence: Deer Harvesting
Closed to bioremediation after 8/15. No constraint to manual pickup.

7Z Subsistence: Salmon Harvesting
No constraint to manual pickup. Closed to bioremediation after 7/1 per Gail Evanoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90.

OTHER ECOLOGICAL CONSIDERATIONS
Restrict boat and air traffic and beach disturbance to essential minimum prior to 6/15 and after 7/1. No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow lnpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncoiled substrate and biota especially intertidal and subtidal algae and seagrass.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM UNCATALOGUED ANADROMOUS STREAM FOR ADDITIONAL CONSTRAINT INFORMATION

Prepared by: Date: 6/11/90

FOSC: Date: 6/7/90
ANADROMOUS FISH STREAM EVALUATION ADDENDUM
CONSTRAINTS FOR STREAM NO. UNCATEGORISED SEGMENT GR-7 SUBDIVISION A

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup</td>
</tr>
<tr>
<td>Tarmat Removal</td>
</tr>
<tr>
<td>OPEN</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT
If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Constraint Code</th>
<th>Activity Type</th>
<th>Activity Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A, 1B</td>
<td>Salmon Stream</td>
<td>An ADF&amp;G uncatalogued anadromous stream is in Subdivision A. No constraint to manual pickup and tarmat removal.</td>
</tr>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
<td>No constraint to manual pickup and tarmat removal.</td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl</td>
<td>No constraint to manual pickup and tarmat removal.</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>No constraint to manual pickup and tarmat removal.</td>
</tr>
<tr>
<td>7Z</td>
<td>Subsistence: Salmon Harvesting</td>
<td>No constraint to manual pickup and tarmat removal.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS
No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1.

SEE SUBDIVISION CONSTRAINT ADDENDUM GR-7A FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC [Signature] Date 6/5/90
Prepared by [Signature] Date 6/12/90
ECOLOGY MAP
SEGMENT GR-7

WORK AREA
UNCATALOGED STREAM

EXxon Company, USA
Map Key: Fig-GR-7
June 04, 1990

EXxon

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest

6 inch = 1 Meters

Subdivision A (___ of ___)
SUBDIVISION: A
SITE: 1
DATE: 7-31-90

NAME: Art Weiner
SIGNATURE: Art Weiner

REASON: Proposed work in conjunction with winter weathering will remove remaining oil.

NAME: Wesley Ghormley
SIGNATURE: Wesley Ghormley

REASON: Due to the small amount of oil present I believe a proper effort of manual tilling and application of custom blend should take care of the remaining oil. No treatment would be recommended at this time if additional work modification work is completed.

NAME: John Egel
SIGNATURE: John Egel

REASON: Small area, site oiled, complete treatment in '90 w/ manual tilling.

NAME: Rey Sotelo
SIGNATURE: Rey Sotelo

REASON: No reassessment is necessary in '91 if work is completed as stated on work modification plan for '90.
FIELD SHORELINE COMMENT SHEET

SEGMENT AS 1 GR-1 SUBDIVISION: ANAD STREAM SITE: 2 DATE 7/31/90

USCG/NOAA PSI Leo Bernalona USCG Leo Bernalona
NAME Art Weiner SIGNATURE Art Weiner

☐ YES ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
1990 FOLLOW-UP TREATMENT SHOULD REMOVE ALL REMAINING OIL

ADEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ YES ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
No reassessment in 1991 will be necessary if additional
work modification work is completed. Monitors should assess
area upon completion of work.

LAND MANAGER
NAME John Ted SIGNATURE John Ted

☐ YES ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Complete work modification as requested. Monitors should evaluate
all sides before demobilization.

EXXON
NAME Ray Soto SIGNATURE Ray Soto

☐ YES ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Manually till and apply custom blend in area shown on sketch
map. No follow-up should be necessary if work is completed in 90.
# ASAP SHORELINE OILING SUMMARY

**LEADING**: ALI
**SOUTHERN**: SOTOLO, RA
**DATE/8**: July 31, 1990
**TIME/9**: 16:36 to 16:45
**TIDE LEVEL**: 6.5 to 6.5

**TOTAL EST LENGTH OF SHORELINE SURVEYED**: 10 m

**SURVEYED FROM**: [ ] Foot [ ] Boat [ ] Helo

**WEATHER**: [ ] Sun [ ] Clouds [ ] Fog [ ] Rain [ ] Snow

**OIL CATEGORY LENGTH**: W m M m N m V m L m M m

### SURFACE OIL

<table>
<thead>
<tr>
<th>SITE</th>
<th>DISTRIBUTION</th>
<th>OILED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **SITE 1**: Not Visible
- **SITE 2**: Not Visible
- **SITE 3**: Not Visible

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>SITE NO.</th>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>CLEAN BELOW (Y/N)</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>15</td>
<td></td>
<td>X</td>
<td>Y</td>
<td>X</td>
<td>PS-SP</td>
</tr>
</tbody>
</table>

**Photographs**: Roll No. **NONE**

**Reviewed**: 9/7/90

**COMMENTS**: Surface oiling is a blend of sand and oil which creates a semi cohesive material but is still SOK. Area seems to have been manually worked.
### ASAP SHORELINE OILING SUMMARY

**EXAMINER:** SOTELO, RAY  
**SEGMENT AS:** GR 7  
**SUBDIVISION:** ANAD SIREM

**DATE:** JUL 3, 1990  
**TIME:** 16:30  
**TIDE LEVEL:** 6 to 4.5

**TOTAL EST LENGTH OF SHORELINE SURVEYED:** 5 m

**SURVEYED FROM:**  
- Foot  
- Boat  
- Helo  
- Weather:  
  - Sun  
  - Clouds  
  - Fog  
  - Rain  
  - Snow

**OIL CATEGORY LENGTH:**  
- W: m  
- M: m  
- N: m  
- S: m  
- V: m  
- N: m  
- US: m

<table>
<thead>
<tr>
<th>SURFACE OIL</th>
<th>SITE 2</th>
<th>SITE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARACTER</td>
<td>DISTRIBUTION</td>
<td>OILED ZONES</td>
</tr>
<tr>
<td>ASPHALT</td>
<td>/C/ /B/ /P/ /S</td>
<td>SU/ UI/ MI/ LI</td>
</tr>
<tr>
<td>S.O.R.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES/T.B.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SITE LENGTH</td>
<td></td>
<td>5 m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUBSURFACE OIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITE NO.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**Photographs:**  
- Roll No. **NONE**
- Frames **___**

**Reviewed:** 8/7/90

**COMMENTS:** Oiled sediments still produce a sheen when put into water. Small amount of shallow subsurface oil is present.
MANUALLY REMOVE TARMAT AND TAR PATTIES

(ASHP) STIL TRUE

SHOWN WHEN SEDIMENT WAS MOVED

PIT #1

1X1X90cm

0.5/FT

SHEEL/SHAPE/SHORT/SHAPE

CHANNE
JULY 31 1970
ASAP COMMENT
SHADDED AREA STILL IS 75X75X75 CMS

FUCS, BALSAM, MYRTUS BULS.
**ASAP Data Entry Form**

**General Data**

| SEG ID: | GR7  |
| SBDV:  | A    |
| SITE:  | 1    |
| TEAM:  | 2    |
| DATE:  | 7/31/90 |

**Site Length**: 10 M. **Oil Categories**: W M N VL/ID NO U


**Surface Data**

1. **Char #: 1**
   - **Oil Char**: SP
   - **Oil Dist**: CONT BRK PTCH SPLH
   - **Tidal Zone**: SU UI MI LI

2. **Char #: 2**
   - **Oil Char**: NO
   - **Oil Dist**: CONT BRK PTCH SPLH
   - **Tidal Zone**: SU UI MI LI

3. **Char #: 3**
   - **Oil Char**:...
   - **Oil Dist**:...
   - **Tidal Zone**:...

4. **Char #: 4**
   - **Oil Char**:...
   - **Oil Dist**:...
   - **Tidal Zone**:...

5. **Char #: 5**
   - **Oil Char**:...
   - **Oil Dist**:...
   - **Tidal Zone**:...

6. **Char #: 6**
   - **Oil Char**:...
   - **Oil Dist**:...
   - **Tidal Zone**:...

7. **Char #: 7**
   - **Oil Char**:...
   - **Oil Dist**:...
   - **Tidal Zone**:...

8. **Char #: 8**
   - **Oil Char**:...
   - **Oil Dist**:...
   - **Tidal Zone**:...

9. **Char #: 9**
   - **Oil Char**:...
   - **Oil Dist**:...
   - **Tidal Zone**:...

10. **Char #: 10**
    - **Oil Char**:...
    - **Oil Dist**:...
    - **Tidal Zone**:...
### ASAP DATA ENTRY FORM

**SUBSURFACE DATA**

<table>
<thead>
<tr>
<th>SEGMENT ID:</th>
<th>GR-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBDIV:</td>
<td>A</td>
</tr>
<tr>
<td>SITE:</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 1</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 2</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 3</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 4</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 5</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 6</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 7</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT # 8</th>
<th>PIT DEPTH</th>
<th>OIL CHARACTER</th>
<th>OIL INTVAL: FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN BELOW:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIT ZONE:</td>
<td>SU UI MI LI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSURF SEDIMENT:</td>
<td>BK BLD COB PEB</td>
<td>GRN SAM MU</td>
<td>VEG</td>
<td></td>
</tr>
</tbody>
</table>
### ASAP DATA ENTRY FORM

**GENERAL DATA**

- **ANADARKO**: No Number
- **SEG ID**: GR-7
- **SBIV**: V
- **SITE**: 2
- **TEAM**: 2
- **DATE**: 7/31/90
- **OIL CATEGORIES**: W M N 5 VL NO U
- **1991 REASSESSMENT**: USEG: A
- **ADEC**: N
- **LDMGR**: N
- **EXXON**: N
- **NOAA**

**SURFACE DATA**

<table>
<thead>
<tr>
<th>CHAR #</th>
<th>OIL CHAR</th>
<th>OIL DIST</th>
<th>TIDAL ZONE</th>
<th>CHAR 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
</tbody>
</table>

---

**ASAP DATA ENTRY FORM**

**GENERAL DATA**

- **ANADARKO**: No Number
- **SEG ID**: GR-7
- **SBIV**: V
- **SITE**: 2
- **TEAM**: 2
- **DATE**: 7/31/90
- **OIL CATEGORIES**: W M N 5 VL NO U
- **1991 REASSESSMENT**: USEG: A
- **ADEC**: N
- **LDMGR**: N
- **EXXON**: N
- **NOAA**

**SURFACE DATA**

<table>
<thead>
<tr>
<th>CHAR #</th>
<th>OIL CHAR</th>
<th>OIL DIST</th>
<th>TIDAL ZONE</th>
<th>CHAR 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>CONT</td>
<td>SU MI LI</td>
<td></td>
</tr>
</tbody>
</table>
ASAP DATA ENTRY FORM

SUBSURFACE DATA

SEGMENT ID: GR 7
SUBDIV: STRM SITE: 2

PIT # 1
PIT DEPTH: 25
OIL CHARACTER: OR OIL INTERVAL: FROM 0 TO 10
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

PIT # 2
OIL CHARACTER: OIL INTERVAL: FROM 
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

PIT # 3
OIL CHARACTER: OIL INTERVAL: FROM 
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

PIT # 4
OIL CHARACTER: OIL INTERVAL: FROM 
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

PIT # 5
OIL CHARACTER: OIL INTERVAL: FROM 
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

PIT # 6
OIL CHARACTER: OIL INTERVAL: FROM 
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

PIT # 7
OIL CHARACTER: OIL INTERVAL: FROM 
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

PIT # 8
OIL CHARACTER: OIL INTERVAL: FROM 
CLEAN BELOW: 
PIT ZONE: SU_UI_MI_LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG
SHORELINE EVALUATION

SEGMENT ST/ GR-08  SUBDIVISION A (1 OF 1)  DATE  3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Medium recreation use (6/1 to 9/15); High subsistence value area - consult ADF&G and Chenega Bay for dates.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled biota and substrate.

SHPO SIGNATURE: __________________________ DATE: April 4, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 122 m: Narrow 0 m: V.Light 75 m: No Oil 0 m
Subsurface Oil Observed: Yes  No  X  Maximum Depth: _______

RECOMMENDATIONS:
___ No Treatment Recommended  ___ Snare/Absorbent Booms
___ X Treatment Recommended  ___ Oil Snakes (pom poms)
___ Manual Pickup  ___ Absorbents (pads, rolls, etc)
___ X Bioremediation  ___ Spot Washing:  ___ Wands
___ Tarmat:  ___ Breakup  ___ Removal  ___ Other (see comments)

COMMENTS: Recommend bioremediation of area where patchy surface cover found. (See sketch map). Work after 6/15 based on herring constraints - consult ADF&G and Chenega Bay.

TAG COMMENTS:

TAG APPROVAL DATE: 4/11/90
ADEC  EXXON  NOAA  USCG
John Bauer  Fred pants  Bud Wagnett  G.F. Keiter
FOSC:  DATE: 4-19-90
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 6R-08  SUBDIVISION: Rene  DATE: March 30, 1980

NAME Robert Jansen  SIGNATURE: Robert Jansen

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

NAME: Rowan T. Hudnall  SIGNATURE: Rowan T. Hudnall

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

ADEC

Surface sheens in upper intertidal sediments, sand & cobbles area. Recommend stirring up w/picks & shovels before bioremediation. No surfacic or

LAND MANAGER

NAME: Leo Keeler  SIGNATURE: ______________________

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Buitingo site.

Small Tanghirphalt bent found - to break up was suggested. Tight sheen on upper tidal zone to shear.

Area receives high recreation use from nearby public cabin.

Area used by migrating shorebirds (5-10 million)
SHORELINE OILING SUMMARY

SHORELINE OILING SUMMARY

SEGMENT STI 18-08
TEAM NO. 2 TIDE LEVEL: +5.5' to +7.6' DATE 8/24/90

EST. SUBDIVISION LENGTH: 180 m

UPLANDS DESCRIPTION: Grass Forest Rock Snow

SURVEYED FROM: Foot Boat Helo

SURFACE SEDIMENTS: R - % B - % C - % P - % H - % G - % S - % M - % V

SLOPE: Lang % Hang % Vert %

OIL CATEGORY LENGTH: W - m M - m N - m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pooled</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT: H F S __ sq. m by __ cm

PATTIES / TARBALLS ______ BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

<table>
<thead>
<tr>
<th>DEBRIS COLLECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
</tr>
</tbody>
</table>

Photographs:

Roll No. Camera

Frames defective

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL (cm)</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N</td>
</tr>
<tr>
<td>2</td>
<td>3.0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N</td>
</tr>
<tr>
<td>3</td>
<td>3.0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N</td>
</tr>
<tr>
<td>4</td>
<td>3.0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N</td>
</tr>
<tr>
<td>5</td>
<td>3.0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N</td>
</tr>
<tr>
<td>6</td>
<td>3.0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N</td>
</tr>
<tr>
<td>7</td>
<td>3.0</td>
<td>Y</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>N</td>
</tr>
</tbody>
</table>

COMMENTS

Page 1 of __

REVIEWED MH DATE 4-5-90
Segment GR-6 is located on the north-central coast of Green Island. This unit includes a wide and very gently sloping beach of mixed angular sediments, mainly cobble, pebble and sand. The segment is very sheltered by the presence of nearby islands, and the low wave energy environment is reflected by the poor sorting and angular nature of the sediments.

Oil occurs at several locations: 1) near the southwestern extremity, it forms a band 6 m wide by 60 m long with a 30% cover and average thickness of 0.5 cm. Immediately to the north, it forms a patch 20 m wide and 10 m long of 10% cover and 0.5 cm average thickness. To the north again, it occurs in a band 2 m wide by 15 m long with a 30% cover and 2 cm maximum thickness. In this last case, it has concentrated in small depressions 30 cm in diameter that contain some water and a white, bleached filamentous algae.
SHORELINE ECOLOGICAL SUMMARY

Segment ST/GR-05 Subdivision N/A Date (mo/day/yr) 03/30/83
Time (24 hr) 13:30 Biologist John Dixon

(A) Substrate type and % of segments:

(B) Overall % cover of biota (% of segment): Dense 0 Moderate 16 Low 85

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
junior adults (X), new settlement (O)

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mytilus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Gastropods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Fucace</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:
At start of survey waterline was 5 feet above mid tide level.

Ecological Considerations:
In central portion of the segment is raised terrain with subplot behind. Furcace forms a circular band around the perimeter of the raised area. Filamentous red algae forms mat in depressions. Small patches of Fucus are common under larger cobbles. White patches of filamentous algae on cobbles and sand - probably bloomed Asteromphila.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-8 SUBDIVISION A (1 of 1)

WORK WINDOW

| Bioremediation Manual Raking | WORK 6/15 to 7/1 |

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M  Herring Spawning  Closed to bioremediation and manual raking before 6/15.

5S  Shorebird/Waterfowl Concentration  No constraint after 5/15.

7II Subsistence: Deer Harvesting  Closed to bioremediation and manual raking after 8/15.

7Z Subsistence: Salmon Harvesting  Closed to bioremediation and manual raking after 7/1 per Gail Evanoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum prior to 6/15 and after 7/1. Avoid any unnecessary disturbance or damage to uncoiled substrate and biota especially intertidal and subtidal algae and seagrass.

Prepared By:  DATE 6/10/90

FOSC  DATE 6-10-90
SHORELINE EVALUATION

SEGMENT ST/ GR-09 SUBDIVISION A* DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Shorebird/Waterfowl concentration (58)-4/25 to 5/15; Herring spawning area (2M) 4/1 to 6/15; Special use destination (6Y)- 6/1 to 9/15; Deer harvesting (7 II)- 8/15 TO 2/28; Restrict disturbance of unoiled fucus in lower and middle intertidal zones.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE: DATE: April 5, 1990

OILING CATEGORIZATION:
0 m Wide, 0 m Medium, 219 m Narrow, 0 m V. Light, 0 m No Oil
Subsurface Oil Observed__Yes__X__No Maximum Depth________

RECOMMENDATIONS:
__X__Bioremediation SPOT WASHING
__X__Manual Pickup__Snare Booms/Sorbents ___Tarmat Breakup/Removal
__X__Wands
_____Beach Cleaner

Comments: Recommend manual pickup of oiled vegetation and mousse
territories in Pocket 1. (see Sketch Map) Also recommended bio-
remediation of area where surface coat found. All work after
6/15/90 based on constraints.

TAG COMMENTS: Due to inconsistencies contained within the report
that were clarified within the modifications to the recommended
approach were warranted.

TAG APPROVAL DATE:
ADEC JOHN BAUER
EXXON
JOAA
SCG

*Subdivision covers entire segment.
SHORELINE OILING SUMMARY

SEGMENT ST/ CR-9

TEAM NO.: 1

EXXON / C. Levine / ADEC

TIME: 10:30 to 11:45

DATE: 7/20/90

EST. SUBDIVISION LENGTH: 238 m

TIDE LEVEL: -1.9 m

SOBX: LAND REP

W. o: CAN

SURVEYED FROM: Foot

WORKING DIRECTION: W to E

SURFACE SEDIMENTS: 

SLOPE: Lang 

WAVE EXPOSURE: Low

OIL CATEGORY LENGTH:

PAVEMENT:

OILED DEBRIS AMOUNT

OILED DEBRIS COLLECTE

DEBRIS TYPE

NEAR SHORE SHEEN?

OILED AMOUNT DEBRIS COLLECTED

_ YES _ NO

NO OIL

PAVEMENT: H F S _ _ sq. m by _

PATTIES / TARBALLS _______ ___ BAG

Photographs:

Roll No. 51-11

Frames 23-34

COMMENTS

GR-10 is similar to GA-1A. Bedrock is close to surface or exposed in many areas. Oil coats boulders and fills interstices between boulders. Fine sediments beneath & between boulders are saturated with oil. Oil is not penetrating beyond 3-5 cm in bays.
SEGMENT ST/GR-9

DATE 3/29/90

CHECKLIST
- Orientation
- Approx. Scale
- Seg/Sub Boundary
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Ext. HWL/LLW
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 A
- Pit - No Subsurface Oil

2 A
- Pit - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Broken Distribution

CT/P
- Patchy Distribution

CT/S
- Splashed Distribution

Oiled Vegetation
- Oiled Vegetation

N

Exposed Bedrock

Oil Character Length (m): AP PO CV CT 230 ST MS PT TB FL NO
Upper & mid intertidal: brown algae or kelp, sparse bedrock w/ patches of herbivore-grazing algae & organisms. Few species in lower intertidal & often fewer when rocks were larger in lower intertidal. No kelp or brown algae patches in lower intertidal. Several dense patches of Fucus in mid intertidal.

Leg 1B 3/20/50 5, Schottler Team 3/2
1280 - 1400 only 1 fort of brown kelp field
40 w/ Brachiopods & mussels on bedrock
60% bedrock
Several patches of brown algae & Fucus on bedrock
Small depigmented algae common. No seaweed
Stress + no algae. W.A. study. Not very high
how many?
SHORELINE ECOLOGICAL SUMMARY

Segment ST1: GR-09  Subdivision: N/A  Date: 3/30/96

Time (24 hr): 1000-1100  Biologist: S. Schroeder

(A) Substrate type and % of segments:
   (1) Bedrock 20  (2) Boulder 20  (3) Cobble 20  (4) Pebble 60  (5) Sand 60

(B) Overall % cover of biota (% of segment): Dense 10  Moderate 25  Low 60

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
   1) juveniles/adults (X), new settlement (3)

BARNACLES

Dense  Moderate  Sparse  Rate
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6

MYTILUS

Dense  Moderate  Sparse  Rate
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6

GASTROPODS

Dense  Moderate  Sparse  Rate
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6

FUCUS

Dense  Moderate  Sparse  Rate
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6

Wildlife Observations/ General Comments: 4 NOTED 3 & 4 OTTER CARTAGE ON LEFT & CENTER OF SEGMENT; 3 NO MUS. OYSTERS & 9 SPOTTED SEALS OFFSHORE;

Ecological Considerations:
   moderate abundance of adult non-recruited Fucus in low + mid intertidal; 65% of low intertidal with dense cover of Littoralia (Eclipta, Patella, Rhodoma). Moderate abundance of juvenile Pyura aequatae & dressing Lepas terebratae in low intertidal. Echinoderms had below low tide mark on Eastern half of segment; dense recruitment of terminus fibulata; upper Sh.
SEGMENT 1 BR-69  SUBDIVISION: NO SUBDIVISION  DATE: 30 March 90

AME: James C. Gambin  SIGNATURE: James C. Gambin

[ ] NO TREATMENT RECOMMENDED  [X] TREATMENT SUGGESTED

COMMENTS:

Coating and patching spot of reflectivity and multiple patches, upper T.OA/Zone also because of round boulder and slick surface to dangerous to put lot of personnel on beach.

AME: Brian Fitzsimons  SIGNATURE: Brian H. Fitzsimons

[X] NO TREATMENT RECOMMENDED  [X] TREATMENT SUGGESTED

COMMENTS:

1) 100-200m of beach (west to east) similar to GRO01A + same exception & suggestions apply.

2) Rest of segment is boulder over bedrock = Boulder's patchy coat = Some sediments present in oiled zone - Unfeasible to treat other than broken.

3) HIGHETZ has oiled gravels which extend under snow cover at SUZETZ.

Depth = ø 2.2cm to Boulder Barrier - Treat.

4) Small area on east end of segment (17m x 75m)

Surface BR → Coated 30-40% BR (ø 17cm)

Sub " PSC → Saturated (0-15) 17cm

Treat.

AND MANAGER
AME: Carol L. Heber  SIGNATURE: Carol L. Heber

[ ] NO TREATMENT RECOMMENDED  [X] TREATMENT SUGGESTED

COMMENTS:

Dangerous beach for large crews, extremely slick boulders and cothds. Oil soaked gravels in upper intertidal zone.

Recommend for Impact methods.
SEGMENT ST/ GR-10       SUBDIVISION A (1 OF 1) DATE  3/3090

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Special use destination (6Y) - 6/1 to 9/15; Deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of uncoiled fucus in lower and middle intertidal zones.

SHPO SIGNATURE:  

OILING CATEGORIZATION:
Wide 75 m: Medium 178 m: Narrow 0 m: V.Light 306 m: No Oil 0 m
Subsurface Oil Observed:  Yes X No  Maximum Depth 20 cm

RECOMMENDATIONS:
X No Treatment Recommended
X Treatment Recommended
X Manual Pickup
X Bioremediation
Tarmat: Breakup
Removal

Spot Washing: X Wands
Snare/Absorbent Booms
Oil Snares (pom poms)
Absorbents (pads, rolls, etc)

COMMENTS: Recommend bioremediation where coat indicated on sketch map. Also recommend removal of debris from supra-tide zone on pocket #1. Recommend all work after 6/15 based on herring spawning constraints. Spotwash as required and indicated on sketch.

TAG COMMENTS:

TAG APPROVAL DATE: 4/1/80
ADEC JOHN BAUER
EXXON  
NOAA  
USCG  
FOSC:  
DATE: 4-19-90
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Special use destination (6X) - 6/1 to 9/15; Deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of unoi led fucus in lower and middle intertidal zones.

OILING CATEGORIZATION:

Wide 75 m: Medium 178 m: Narrow 0 m: V.Light 306 m: No Oil 0 m

Subsurface Oil Observed: Yes X No ___ Maximum Depth 20 cm

RECOMMENDATIONS:

____ No Treatment Recommended ____ Snare/Absorbent Booms
X Treatment Recommended ______ Oil Snares (pom poms)
X Manual Pickup ______ Absorbents (pads, rolls, etc)
X Bioremediation ____X Spot Washing: X Wands
____ Tarmat: _____ Breakup _____ Removal _____ Other (see comments)

COMMENTS: Recommend bioremediation where coat indicated on sketch map. Also recommend removal of debris from supra-tide zone on pocket #1. Recommend all work after 6/15 based on herring spawning constraints. SPOTWASH AS REQUIRED AND INDICATED ON SKETCH.
SEGMENT ST 6R-10 SUBDIVISION: No Subdivision DATE 30-March-90

NAME: James C. Lankin SIGNATURE: James C. Lankin

NO TREATMENT RECOMMENDED   TREATMENT SUGGESTED

SEE SKETCH BELOW

The area west of mid section needs treatment.
The area east of mid section likely staining no treatment area also very dangerous to put a lot of personnel on
carefully because of round boulder.

ADEC
NAME: Brian K. Ettermane SIGNATURE: Brian K. Ettermane

NO TREATMENT RECOMMENDED   TREATMENT SUGGESTED

COMMENTS:
1) Much oil remains in 1/2 of segment (west to east) is of
   no Conditions to GR-101A is
   \[ \frac{\text{OP-OF}}{\text{OP-OF}} \]
   \[ \frac{\text{PSG-100}}{\text{PSG-200}} \]

2) Needs Treatment because boulders can be removed to gain
   access to saturated sediments if front end loader, backhoe,
   and dozer

3) If boulders moved, treat possibly with HPWT wash in header

4) East 1/2 is GR headlands with only patchy film, stain, cast present

AND MANAGER
NAME: Carol S Huber (SUP) SIGNATURE: Carol S Huber

NO TREATMENT RECOMMENDED   TREATMENT SUGGESTED

COMMENTS:
Dangerous beach for large crews, slick boulders
and cobbles. Large, underlying boulders and cobbles
are oil saturated in upper intertidal zone

Recommend for Impact methods.
SHORELINE OILING SUMMARY

SEGMENT ST/ GR-10

TIME: 11:30 to 12:30

TIDE LEVEL: +1.0 to +4.0

DATE 1/30/90

---

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT: H F S __ sq. m by ____ cm

PATTIES / TARBALLS _______ BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G — % N — % V — %

SLOPE: Lang — % Hang — % Vert — %

WAVE EXPOSURE: Low Med High

OIL CATEGORY LENGTH: W 200 m M 180 m N — m VL 200 m NO — m

---

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL (ft-4cm)</th>
<th>OIL / FILM COLOR</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
</table>

COMMENTS

Bedrock is close to surface throughout segment. Majority of oiling exists as 'coat' on boulders or in underlying fine sediments between interstices. Little oilation in fine sediments 3-4 cm.

Page 1 of 9

REVIEWED: O H DATE: 4/2/90
**SHORELINE OILING SUMMARY**

**OG** Dr. Pendland  
**USCG** J. Gamble  
**SEGMENT ST** GR-10

**BIO** S. Schreiner  
**LAND REP** C. Fitzsimons  
**SUBDIVISION**

**EXXON** C. Exxion  
**ADEC**

**TEAM NO:** 1  
**TIDE LEVEL:** +1.0 l. +6.0

**DATE:** 3/13/90

**EST. SUBDIVISION LENGTH:** 5.0 km  
**M** Sun  
**C** Clouds  
**F** Fog  
**R** Rain  
**S** Snow

**SURVEYED FROM:**  
**FOOT**  
**BOAT**  
**HELO**

**WORKING DIRECTION:** W  
**TO** E

**UPLANDS DESCRIPTION:**  
**GRASS**  
**FOREST**  
**ROCK**

**SURFACE SEDIMENTS:** R 40 % B 30 % C 20 % P 10 % G 5 % S 5 % M 2 % V 5 %

**SLOPE:** Lang 50 % Hang 30 % Vent 20 %

**WAVE EXPOSURE:**  
**LOW**  
**MED**  
**HIGH**

**OIL CATEGORY LENGTH:** W 500 m M 150 m N 200 m V 300 m NO

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>X3</td>
<td>1:3</td>
<td>1:3</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT:** H F S sq. m by.

**OILED DEBRIS AMOUNT:**

Log  
Vegetation  
Trash  
Debris

**DEBRIS COLLECTED TYPE:**

**NO OIL**

**NEAR SHORE SHEEN? NO**

**BR RW SL TL**

**PHOTOGRAPHS:**

**REEL NO:** S.I-1-1  
**FRAMES:** 35-36

**COMMENTS:**

Bedrock is close to surface throughout segment.

Majority of oiling exists as coat on boulder or in underlying fine sediments between 1-3 cm. Little oiling in fine sediments 2-3 cm.

**REVIEWED**  
**DATE:** 3/13/90

---

**Page 1 of 4**
### SHORELINE ECOLOGICAL SUMMARY

**Segment S11 GR-10**
**Subdivision:** N/A
**Date (mo/day/yr):** 3/20/90

**Time (24 hr):** 1130 to 1230
**Biologist:** S. Schroeder

#### A) Substrate type and % of segments:
- (1) Bedrock
- (2) Boulder
- (3) Cobble
- (4) Pebble
- (5) Sand
- (6) Silt

#### B) Overall % cover of biota (% of segment):
- Dense
- Moderate
- Low

#### C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
- (upper-U; mid-M; low tidal-L)
- Juveniles / adults
- New settlement

### BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Wildlife Observations/General Comments:**
- Oiled from other carcasses; felt turned inside
- Adult mussels

**Ecological Considerations:**
- Dense patches of Fucus, mussels, barnacles on bedrock in mid & upper intertidal
- Dense eel grass over Fucus & red algae in upper portion of low intertidal
- Zel grass, crustal coralline, many limpets & chitons on bedrock at depth in upper intertidal

**Photographs:**
- Roll No. S1-1
- Frames 28

**Wildlife Observations/General Comments:**
- Adult mussels
- Oiled from other carcasses; felt turned inside

- Adult mussels
- Oiled from other carcasses; felt turned inside

- Adult mussels
- Oiled from other carcasses; felt turned inside

- Adult mussels
- Oiled from other carcasses; felt turned inside
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT GR-10 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK 6/15 to 8/15</td>
</tr>
<tr>
<td>Spot Washing</td>
<td></td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
<td>Closed to bioremediation and spot washing before 6/15. No constraint to manual pickup.</td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl</td>
<td>No constraint after 5/15.</td>
</tr>
<tr>
<td></td>
<td>Concentration</td>
<td></td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>Closed to bioremediation and spot washing after 8/15. No constraint to manual pickup.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to uncoiled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict disturbance of uncoiled Fucus in LITZ and MITZ. Restrict air traffic and beach disturbance to essential minimum 8/15.

FOSC [Signature] Date 6-10-90
Prepared by [Signature] Date 6/10/90
ECOLOGY MAP
SEGMENT GR-10

EXXON COMPANY, USA
Map Key: PwS-GR-10

EXXON

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest

EXXON

Subdivision A (of 2)

METERS
SEGMENT ST/ GR-11 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Herring spawning area (2M) - 4/1 to 6/15; active bald eagle nests (5T) - 3/1 to 6/1; Shorebird/Waterfowl concentrations (5S) - 4/25 to 5/15; Deer harvesting (7II) - 8/15 to 2/28; Deer habitat (9FF).
Limit air and boat traffic to minimum necessary.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: April 11, 1990

OILING CATEGORIZATION:
Wide 6 m: Medium 0 m: Narrow 0 m: V.Light 9 m: No Oil 445 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended
____ Treatment Recommended
____ Manual Pickup
____ Bioremediation
____ Tarmat: Breakup
____ Removal
____ Spot Washing: Wands
____ Beach Cleaner
____ Other (see comments)

COMMENTS: No treatment recommended.

TAG COMMENTS:

TAG APPROVAL DATE: 9/11/90
ADEC [Signature] DATE: 4/19/90
EXXON [Signature] FOSC: [Signature]
NOAA [Signature]
USCG [Signature]
SEGMENT ST 6R - 11  SUBDIVISION: None  DATE March 30, 1997

NAME Robert Jensen  SIGNATURE [Signature]

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Small splashes of oil only. Rocky outcrop w/ healthy & abundant biota. Treadous walking.

ADEC

NAME Rowan T. Hudnall  SIGNATURE [Signature]

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

5-6 splashes of very small size in all that was found.

LAND MANAGER

NAME U.S. Forest Service  SIGNATURE [Signature]

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS


**SHORELINE OILING SUMMARY**

**SEGMENT ST/ SE A**

**TIME:** 3:00 to 3:13

**DATE:** 3/10/91

**SEGMENT:**

**TEAM NO.:** 8

**TIDE LEVEL:** -1' to +2'

**DATE/REVIEWED:** 3/01/91

**EST. SUBDIVISION LENGTH:** 550 m

**DATE/REVIEWED:** 3/01/91

**UPLANDS DESCRIPTION:**

- Grass
- Forest
- Rock
- Snow

**SURVEYED FROM:**

- Foot
- Boat
- Helo

**WORKING DIRECTION:** East to West

**SURFACE SEDIMENTS:**

- R: 20%
- B: 60%
- C: 10%
- P: 10%
- G: 0%
- S: 0%
- M: 0%
- V: 0%

**SLOPE:**

- Lang
- Hang
- Vert

**WAVE EXPOSURE:**

- Low
- Med
- High

**SHORELINE OILING SUMMARY**

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- PAVEMENT: H F S ______ sq. m by ______ cm

- PATTIES / TARBALLS ______ BAGS

- NEAR SHORE SHEEN? NO BR RW SL TL

- OILED DEBRIS ______ NO AMOUNT

- DEBRIS COLLECTED
  - Logs
  - Vegetation
  - Trash
  - Debris
  - TYPE ______
  - #BAGS ______

**Photographs:**

- Roll No. Camera ______
- Frames ______

**COMMENTS**

---

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>TRAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>TRAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>TRAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>TRAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

---

**REVIEWED:** [Signature] DATE 4/3/91
GR-11, Green Island, March 30, 1990

Segment GR-11 is located on the north-central coast of Green Island. It is exposed to a fetch of about 20 km to the northwest and to a larger fetch to the north. Its exposure window is also large (180 degrees).

The shoreline consists of large boulders and some cobbles over a gently sloping bedrock ramp in the intertidal zone, backed by bedrock cliffs. At several location along this segment, bedrock forms low-lying outcrops. At the time of field work, snow covered the backshore and hinterland areas. With the exception of a small area at the northeastern end of the segment where stains of splashes occurs, no oil was found on this segment.
SHORELINE ECOLOGICAL SUMMARY

Segment ST/GR-11 Subdivision N/A Date (mo/day/yr) 03/30/96

Time (24 hr) 12:15 Biologist John Diken

(A) Substrate type and % of segments:
  (1) Bedrock 20 (2) Boulder 60 (3) Cobble 10 (4) Pebble 10 (5) Sand 50 (6) Soil

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L):
  juveniles/adults (X), new settlement (3)

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments: Tide at +2.0. Rest at start of survey.
No data for lower Intertidal zone. Weak in Intertidal.

Ecological Considerations:
This segment begins to the NE at a rocky headland with heterogeneous habitats & a very diverse biota. The exposed side of the headland & exposed Mytilus extend higher than on the other side. 80-100% cover of algae in low to middle zones on large boulders. At one point, the size of the boulders decreases & the general appearance is the aid to high Intertidal is of a very physically disturbed area. Most bio to large stable surfaces; encrust & imparts gas small.
<table>
<thead>
<tr>
<th>JDD</th>
<th>CR-12</th>
<th>3/30/40</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>01230 +4'</th>
</tr>
</thead>
</table>

| Day 1 n 8m | GB 80 C  |
|------------|

| Meal eaten | lunch & dinner  |
|------------|

| 3000 lbs. | 1000 lbs. |

| Food eaten | 1500 lbs.  |
|------------|

| Dinner | 80 lbs.  |
|--------|

| 60 lbs. | 40 lbs. |

| 10 lbs. | 18 lbs. |

| Overall | 20 lbs.  |
|---------|

| 10 lbs. | 18 lbs. |

| Overall | Steak 20 |
|---------|

| Bald 40 | Bald 80 |
|---------|

| Bald 80 | Bald 18 |
SEGMENT NA-11
SUBDIVISION None
DATE 26/07/90

CHECKLIST
- N Arrow
- Approx. Scale
- Segments Only
- Oil Dist.
- Water
- Length
- % Cover
- Substrate Character
  - Est. HW/LWL
  - SSL
  - Profile Location(s)
  - Profile(s)
  - Pit Location(s)
  - Photo Location(s)

LEGEND
1 △
- Pit - No Subsurface Oil

2 △
- Pit - Subsurface Oil
  - CT/C
  - Continuous Distribution
  - CT/B
  - Broken Distribution
  - CT/P
  - Patchy Distribution
  - CT/S
  - Splashed Distribution

Oiled Vegetation
1 oo
- Photo location, direction, and number

Oil Character Length (m): AP --- PO --- CV --- CT --- ST --- MS --- PT --- TB --- FL --- NO 5y9
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Deer harvesting area (7II) - 8/15 to 2/28; Herring spawning area (2M) - 4/1 to 6/15; Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Deer habitat area (9FF); Anchorages (6V) - 6/1 to 9/15.
Limit boat and air traffic to essential minimum.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled biota and substrate.

SHPO SIGNATURE: Date: April 11, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 9 m: No Oil 341 m
Subsurface Oil Observed: Yes __ No X Maximum Depth _____

RECOMMENDATIONS:
X No Treatment Recommended _____ Snare/Absorbent Booms
____ Treatment Recommended _____ Oil Snares (pom poms)
____ Manual Pickup _____ Absorbents (pads, rolls, etc)
____ Bioremediation _____ Spot Washing: ______ Wands
____ Tarmat: _____ Breakup _____ Beach Cleaner
____ Removal _____ Other (see comments)

COMMENTS: ____________________________________________

TAG COMMENTS: __________________________________________

TAG APPROVAL DATE: 4/1/90
ADEC: ____________ FOSC: ____________ DATE: ____________
EXXON: ____________
NOAA: ____________ USCG: ____________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / G R - 12  SUBDIVISION: ________________________ DATE March 30, 1990

NAME  Robert Jensen
SIGNATURE  

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADEC

NAME: Rowann T. Hudnall
SIGNATURE: Rowann T. Hudnall

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Spalshes of stain & tar on cobble, boulder beach. No subsurface oil

LAND MANAGER

NAME: US Forest Service
SIGNATURE: Lee Hailer

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

No oil found of any significance
Small 10' wide x 30' long band of small oil-covered splashes - let natural forces continue to work on.
### SHORELINE OILING SUMMARY

**Date**: 03/22/90

**Segment**: 8B-12

**Time**: 15:18 to 16:52

**Tide Level**: +3.1 to +5.4

**Est. Subdivision Length**: 4100 m

**Uplands Description**: Grass, Forest, Rock, Snow-covered ground, HR

**Surveyed From**: Foot

**Working Direction**: North to South

**Surface Sediments**: R, %, B, %, C, %, P, %, O, %, S, %, Z, %, V, %

**Slope**: Lang, %, Hang, %, Vert, %

**Wave Exposure**: Low, Med, High

**Oil Category**: Length: W - m, M - m, N - m

### SURFACE OIL

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td>D</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pooled</td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td>D</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td>D</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pavement**: H F S _ sq. m by ___ cm

**Patties / Tarballs**: ___ BAGS

**Near Shore Sheen?** NO

**Oiled Debris Amount**: SM MD LG

**Debris Collected**: YES  NO

**Vegetation**: _

**Trash**: _

**Debris**: _

**Photographs**:

- Roll No.: 
- Frames: ___

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below Oil / Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments**
GR-12, Green Island, March 30, 1990

Segment GR-12 occurs on the north-central coast of Green Island. It is exposed to a moderate fetch to the west, less than 20 km, although waves from Montague Strait could reach this beach by refraction. The shoreline consists of a uniform rounded cobble/pebble beach with some boulders and low-lying bedrock. With the exception of a small area of stains of splashes at the northern extremity, no oil was found on this beach.
SHORELINE ECOLOGICAL SUMMARY

Date (mo/day/yr) 03/30/96

Barnacles:

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>1L</td>
<td>1L</td>
<td>1L</td>
</tr>
<tr>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

Mytilus:

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>1L</td>
<td>1L</td>
<td>1L</td>
</tr>
<tr>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

Gastropods:

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>1L</td>
<td>1L</td>
<td>1L</td>
</tr>
<tr>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

Fucus:

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>1L</td>
<td>1L</td>
<td>1L</td>
</tr>
<tr>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments: "Arrive 1030 when water line at 4 feet. Worked out for 2 hours to examine to about 12 ft. No data for low intertidal."

Ecological Considerations: This is a high energy beach made up of rounded, smoothed boulders and cobbles. Most barnacles are on the low shore although gastropods are common under rocks in the higher areas, as are mussels.
JDD GR-12 2/2

Bed rock at each
headland
+576 to +10
Spare Fuses, Spare Pan
Spare Key (4 min.)
Spare Gages

High groundwater
only tested in 1932

JDD GR-08 7/20/39

1st 1300 jute 75 ft.
Wk headland Rock (Jerry)
in +12, 80C 20B 74B

2nd 8:45 pm Band 203 Fuses
10-20 ft. Benzel, ledge, flats
4.5 ft. along cobble space
but fairly uneven areas of
mud lines settled among cobble
10-30 along Shen is
dragonfly, red algae, fan.
Filament, red algae, Ben-
ting +40 ft. 30% cobble
80% pebbles
No mussel

2. Mid Segment
1312 46' of water
0-20 m. Filament, Red Algae
Dense, scattered cookies
40-70 Boll, 10 cm. cobble
15 cm. 7.3 pebbles, 10" sand
white limestone sand, coarse
3. sand over all
SEGMENT ST/ GR-13  SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 227-20-17890
1A Salmon stream mouth – fry outmigration (3/1 to 5/15)
1B Salmon stream mouth – spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: DATE: 4/20/90

OILING CATEGORIZATION:
Wide: 0 m: Medium: 0 m: Narrow: 0 m: V.Light: 1504 m: No Oil: 0 m
Subsurface Oil Observed: Yes: No: X: Maximum Depth:

RECOMMENDATIONS:
X No Treatment Recommended _____Snare/Absorbent Booms
_____Treatment Recommended _____Oil Snares (pom poms)
_____Manual Pickup _____Absorbents (pads, rolls, etc)
_____Bioremediation _____Spot Washing: _____Wands
_____Tarmat: _____Breakup _____Beach Cleaner
_____Removal _____Other (see comments)

COMMENTS:

TAG COMMENTS: High Energy + Field Comments + Broken Cover
IS A NARROW BAND. THEREFORE NTR

TAG APPROVAL DATE: 4/20/90
ADEC Art Weinz Art Weinz
EXXON epoxy Tex Kenneth Kirk
NOAA Brian Werny Brian Werny
USCG Kenneth Kone

FOSC: DATE: 4-26-90
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C Salmon fry nursery area (4/31 to 7/31)
1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unripped intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 6/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U Recreation:
6V Tent sites (6/1 to 9/15)
6W Anchorages (6/1 to 9/15)
6X Forest Service cabins (6/1 to 9/15)
6Y Lodge (6/1 to 9/15)
6Z Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/23)
7JJ Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
SEGMENT ST 6R 13  

SUBDIVISION:  

DATE 4/4/90  

NAME Robert Jensen  
SIGNATURE  

NO TREATMENT RECOMMENDED  

COMMENTS  
Patchy / sporadic  
Splashes - very few.  

ADEC  
NAME Rowann T. Hudnall  
SIGNATURE Rowann T. Hudnall  

NO TREATMENT RECOMMENDED  

COMMENTS  
Scattered tar spots in mid intertidal,  
Continue natural cleaning  

LAND MANAGER  
NAME U.S. Forest Service  
SIGNATURE Lee Tollef  

NO TREATMENT RECOMMENDED  

COMMENTS  
Continued natural cleaning  
Found very scattered splashes of oil  
Very small and hard to locate  
Dearest in area near junction 6R 02
## SHORELINE OILING SUMMARY

**SEGMENT ST/**  A

**TEAM NO.**  2  
**DATE**  4/14/90

**TIME:**  5:40 to 15:40

**EST. SUBDIVISION LENGTH:**  1775 m  
**UPLANDS DESCRIPTION:**  Grass Forest Rock

**SURVEYED FROM:**  Foot Boat Helo

**WORKING DIRECTION:**  W to E

**SURFACE SEDIMENTS:**  R 50% SP 40% G 10% S 10%

**SLOPE:**  Lang 60% Hang 40% Vert 0%

**WAVE EXPOSURE:**  Low Med High

**OIL CATEGORY LENGTH:**  W 775 m  M 850 m  N 775 m  V 775 m  NO 850 m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td>X X X</td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td>X X X</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td>X X X</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td>X X X</td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td>X X X X</td>
</tr>
</tbody>
</table>

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm-Gm)</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>A N A</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>pL 1a 5a 1c</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### COMMENTS

**REVIEWED**  4/11/90

**PHOTOGRAPHS:**
- Roll No. 57-3-6
- Frames 7-27

**DEBRIS:**
- Logs
- Vegetation
- Trash
- Debris

**DEBRIS TYPE:**  YES

**DEBRIS BAGS:**  0
Green Island, GR-13, April 4, 1990

Segment GR-13 is a 1.7 km long section of shoreline located on the central north coast of Green Island. It is exposed to a relatively long fetch to the northwest that is blocked by several small nearshore islands and shoals. The segment is indented and has a very limited fetch window. The sediments reflect this very well and only on the east side of the head of the central cove do they show any evidence of sorting and rounding. Very little bedrock is present in this segment, the shoreline consists, from west to east, of angular boulder/cobble/pebbles, angular cobble/boulder/pebble, and subrounded pebble/cobble/boulder beaches. Two streams intersect this segment.

Oil is present throughout this segment mostly as: small stains on cobbles and pebbles on the western part, small coatings of splatters on the eastern part, and two very small patches totalling about 2.5 sq. m. that were broken up during the field work. All evidence of oil occurs in the lower part of the upper intertidal zone. The backshore and upper part of the upper intertidal zone were obscured at the time of the field work by a heavy and light snow cover respectively.
SHORELINE ECOLOGICAL SUMMARY

Segment ST/GR-13 Subdivision N/A Date (mo/day/yr) 04/04/90

Time (24 hr) 1440 Biologist John Dixon

(A) Substrate type and % of segments:
1) Bedrock 2) Boulder 3) Cobble 4) Pebble 5) Sand 6) Silt

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 50 Low 40

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles / adults (X), new settlement (3)

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:
Tide varied from -6' to +25' during the period of observations.

Ecological Considerations:
2 streams - prob. anadromous. This segment is predominantly small cobble beach in the mid-high zones with a moderate cover of barnacles (B. glandula + C. rathkei), Fucus d. mytilus. The mussel tend to be small & nestled among the pebbles & cobble rather than attached to a particular rock. Gastropods are abundant & small, mostly littorina sitka, + succedanea, Nucella lapillus.

Where sand + gravel is close to the surface, the density of goosy...
Wednesday 4/14/90
Segment GR-13 Observed from 12:50 - 14:40
(+6' to +25')

This segment is composed of 3 sections distinguishable on the basis of substrate composition, beach profile, etc. From the N.W. point to the stream at the back of the inlet, the beach is narrow and relatively steep. There are bedrock outcrops at the point but the rest of the section of beach is about 30' B, 50' C and 10'. From +6' to +10' there is scattered Fucus + Rhomboides and square Brunelles (B. glandula + C. tetragona), Mytilus and Portunus (Johnson nutthara, I. nutthara, H. nutthara). The proportion of kelp increases higher on the slope. The noticeable brown band of Brunelles & Fucus is about 1 m wide. Fucus + Brunelles continue into the mid shore but red algae predominates below about +2'.

Between the 2 anomalous streams at the back of the inlet, the substrate is much firmer with a higher proportion of sand and pebbles. A large wedge E. of the first stream is about 60' wide. There is a moderate cover of Osmundea + Mytilus on the low sloping mid intertidal. Large shells of mussels and clams.

Beyond the second stream the beach is still relatively wide with a gentle slope but the substrate is coarser - similar in composition to the first section. However, there is less Fucus, Brunelles + Mytilus in the upper intertidal.
SHORELINE EVALUATION

SEGMENT ST/GR-14  SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 41 m: No Oil 696 m
Subsurface Oil Observed: Yes___ No X___ Maximum Depth_____

RECOMMENDATIONS:
X No Treatment Recommended ___ Snare/Absorbent Booms
___ Treatment Recommended ___ Oil Snares (pom poms)
___ Manual Pickup ___ Absorbents (pads, rolls, etc)
___ Bioremediation ___ Spot Washing: _____ Wands
___ Tarmat: ______ Breakup _____ Beach Cleaner
____ Removal _____ Other (see comments)

COMMENTS: _____________________________________________
__________________________________________________________________________
__________________________________________________________________________

TAG COMMENTS:____________________________________________
__________________________________________________________________________
__________________________________________________________________________

TAG APPROVAL DATE: 4/21/90
ADEC AcT Weiner  Act Weiner
EXXON Ann Tetz
NOAA Bill Westra
USCG Kenneth Kime

FOSC: ___________________ DATE: 5-6-90
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
   No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
   No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior
to treatment for permits.
1C Salmon fry nursery area (4/31 to 7/31)
1D Ester Hatchery releases (4/15 to 6/1)
1E Main Bay Hatchery releases (4/20 to 5/10)
1F Sewmill Bay Hatchery releases (4/15 to 6/1)
1G Cannery Creek Hatchery releases (4/21 to 6/1)
1H Remote release site
1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
   For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Herring spawning (4/1 to 6/15)
   Restrict boat traffic to essential minimum. Avoid damage to unspoiled intertidal and subtidal algae and seagrass.
   Contact ADF&G for specific dates and locations.

3N, 3P
3O, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
   Harbor seal and sea lion molting (8/15 to 9/15)
   Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m
   horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 9/1)
   Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m
   vertical distance. Contact ADF&G and USFWS prior to treatment.

5S Shorebird/waterbird concentration (4/1 to 5/15)
   Restrict all activity to essential minimum, especially air traffic.

5T All Bald Eagle nests (3/1 to 6/1)
   Active Bald Eagle nests (3/1 to 9/1)
   Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from
   and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to
   treatment for confirmation of dates.

6U Recreation:
   Tent sites (6/1 to 9/15)
   Anchorages (6/1 to 9/15)

6V Forest Service cabins (6/1 to 9/15)

6X Lodge (6/1 to 9/15)

6Y Special use destination

7Z Subsistence area:
   Salmon harvesting (5/1 to 9/30)
   Finfish harvesting

7HH Deer harvesting (8/15 to 2/28)

7JJ Invertebrates harvesting
   For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  /G-R 662  SUBDIVISION:  
DATE 4/4/80

NAME  Robert Jensen  SIGNATURE  Robert Jensen

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Just sporadic splashes at the beginning of the segment only. Could be handled with Segment G-R 68 for treatment. This area has shorebird & high recreational use.

ADEC
NAME  Rowann J. Hudnall  SIGNATURE  Rowann J. Hudnall

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Some oil in surface sediments; sporadic suggest stirring; bioremediation. No subsurface oil.

LAND MANAGER
NAME  U.S. Forest Service  SIGNATURE  Lee Hales

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

Found small patch of oil at junction with G-R 08. Could be handled as part of G-R 08 treatment 4/14.

Rest of tract was free of oil. None found.
**SHORELINE OILING SUMMARY**

**SEGMENT ST:** QA-14

**TEAM NO.:** 2

**EST. SUBDIVISION LENGTH:** 4259 m

<table>
<thead>
<tr>
<th>UPLANDS DESCRIPTION</th>
<th>Grass</th>
<th>Forest</th>
<th>Rock</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SURVEYED FROM:</strong></td>
<td>Foot</td>
<td>Boat</td>
<td>Helo</td>
</tr>
<tr>
<td><strong>WORKING DIRECTION:</strong></td>
<td>SW to NE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SURFACE SEDIMENTS</th>
<th>R</th>
<th>B</th>
<th>C</th>
<th>L</th>
<th>P</th>
<th>G</th>
<th>S</th>
<th>M</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SLOPE:</strong></td>
<td>Lang</td>
<td>Hang</td>
<td>Vert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WAVE EXPOSURE:</strong></td>
<td>Low</td>
<td>Med</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OIL CATEGORY</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>W</strong></td>
<td>M</td>
</tr>
</tbody>
</table>

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm - cm)</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.0</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>0</td>
<td>MD</td>
</tr>
<tr>
<td>2</td>
<td>3.0</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td>0</td>
<td>MD</td>
</tr>
<tr>
<td>3</td>
<td>3.0</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td>0</td>
<td>MD</td>
</tr>
<tr>
<td>4</td>
<td>3.0</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td>0</td>
<td>MD</td>
</tr>
<tr>
<td>5</td>
<td>3.0</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td>0</td>
<td>MD</td>
</tr>
<tr>
<td>6</td>
<td>3.0</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td>0</td>
<td>MD</td>
</tr>
</tbody>
</table>

**COMMENTS**

**REVISED NO. 03/02/90**

**REVIEWED** J.W. **DATE** 4/14/90
SKETCH MAP

LEGEND

1 ▲
Plt - No Subsurface Oil

2 ▲
Plt - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 ◀
Photo location, direction, and number

Oil Character Length (m): AP O PO O CV O CT 50 ST O MS O PT O TB O FL O NO 1 2 0 9
Segment GR-14 is a 1.2 km section of shoreline located on the north central coast of Green Island. It is in a very sheltered environment with the fetch being blocked by a large unnamed island to the north and several smaller ones to the east and west. The only wave energy this segment can receive is from swell travelling from the northeast or southwest and refracting along the shoreline.

The shorezone of segment GR-14 consists of a wide and gently sloping intertidal zone of mixed angular sediments, mainly pebble, sand, cobble, and very little boulders and bedrock. A major indentation in the coastline of the western part of the segment gives it the appearance of a sand flat.

Oil was found on the western part of this segment only. There, it consists of patchy coatings covering about 10% of a 20 m wide and 50 m long band of the upper intertidal zone. The thickness of the oil is about 1 mm or less. Test pits in this area and in the eastern part of this segment showed no subsurface oil.
SHORELINE ECOLOGICAL SUMMARY

Segment ST / GR-14 Subdivision N/A Date (mo/day/yr) 04/05/90
1925 - Time (24 hr) 1910 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock(2) Boulder(3) Cobble(4) Pebble(5) Sand(6) Silt

(B) Overall % cover of biota (% of segment): Dense (5) Moderate (25) Low (70)

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles / adults (X), new settlement (3)

BARNACLES

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>1U</th>
<th>1M</th>
<th>L</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sparse</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rare</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments: Many crabeating goose on the area.

Ecological Considerations: This segment is a sand flat with many rock, shell, and dead clam shells at the surface. Most cover is provided by filamentous and green algal mats and large patches of Rhodochrom. Barnacles and new settlement (3) on edges of the sand flat.
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N, JP  Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q  Harbor seal and sea lion molting (8/15 to 9/15)
5S  Shorebird/Waterfowl concentration (4/1 to 5/15)
2 eagle nests nearby in GR-101.
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE:  5/25/90

OILING CATEGORIZATION:
Wide 0 m: Medium 81 m: Narrow 0 m: V.Light 607 m: No Oil 1335 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
_____ No Treatment Recommended  _____ Snare/Absorbent Booms
____ X Treatment Recommended  _____ Oil Snares (pom poms)
_____ Manual Pickup  _____ Absorbents (pads, rolls, etc)
____ X Bioremediation  _____ Spot Washing:____ Wands
_____ Tarmat Removal  _____ Beach Cleaner
_____ Oil Snares (pom poms)
_____ Other (see comments)

COMMENTS: Recommended treatment includes bioremediation of areas indicated on sketch map. Work should be conducted between 7/1 and 8/15 due to seal and sea lion pupping, and with approval of USFWS due to eagle nest constraint.

TAG COMMENTS:  BIO DUE TO ENVIRONMENTAL SENSITIVITY - WATERSAL

TAG APPROVAL DATE:  4/30/90
ADEC  Exxon  NOAA  USCG

FOSC:  DATE:  6/9/90
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (5/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
   No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
   AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

1C Salmon fry nursery area (4/31 to 7/31)
   No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
   AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sewmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
   No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
   AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
   1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzomoto 424-7511

1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
   Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict boat operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
   AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

2M Herring spawning (4/1 to 6/15)
   Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
   AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
   Harbor seal and sea lion molting (6/15 to 9/15)
   Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of lnipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
   AGENCY CONTACT PERSON: ADF&G Don Callkins 267-2403
   US National Marine Fisheries Service Steve Zimmerman 586-7235

5R Seabird colony (5/1 to 9/1)
   Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
   AGENCY CONTACT PERSON: USFWS Jill Parker 766-3377

5S Shorebird/waterfowl concentration (4/1 to 5/15)
   Restrict activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
   AGENCY CONTACT PERSON: USFWS Jill Parker 766-3377
   ADF&G Tom Roth 267-2206

7F 7T All Bald Eagle nests (3/1 to 6/1)
   Active Bald Eagle nests (3/1 to 9/1)
   Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
   AGENCY CONTACT PERSON: USFWS Jill Parker 766-3377

6U Recreation; Tent sites (6/1 to 9/15)
6V Anchorages (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7H Finfish harvesting
7I Deer harvesting (8/15 to 2/28)
7J Invertebrates harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
   AGENCY CONTACT PERSON: ADF&G Jim Fail 267-2359

PWS-C002 AM 4/25/90
FIELD SHORELINE COMMENT SHEET

Inner Islands Between Green and Burke Islands

SEGMENT ST | Islands: 4 | Subdivision: None

Name: Robert Jansen
Signature: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

No evidence of oil found on small island #2. The remaining islands had a very few splatters in a very small area.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Splattered rocks found on Islands 1, 3, 4, 5, 6. Island 1 has broken distribution - suggest remediation.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

6 islands monitored, numbered 1-6, North to South:

- Found oil on southwest side Island 1.
- No oil on rocky Island 2.
- Small patch on Island 3 southwest.
- Small patch on Island 4.
- Small area on Island 5.
- Few scattered splatters on one small area.

Bio-fouling areas on Islands 1 and 3.

REVISION NO. 03/21/90
**SHORELINE OILING SUMMARY**

**Date:** 1/7/90

**EXXON Team Leader:** A. D. H. Hudson

**Estimated Subdivision Length:** 1,000 m

**Surveyed From:** Foot

**Working Direction:** E to W

**Surface Sediments:** R 34% B 16% C 33% P 21% G 0% S 0% M 0% V 0%

**Slope:** Long 80% Hang 0% Vert 0%

**Wave Exposure:** Low Med High

**Oil Category Length:** W 100 m M 80 m N 0 m V 52.5 m

**Upland Description:**
- Grass
- Forest
- Rock

**Notes:**
- A. Island, piece section of sand and no oil.
- Too small to measure meaningfully.

**Near Shore Oil Puts:**
- Cover:
- Coat:
- Stain:
- Mousses:
- Patties/Tarballs:
- Film:
- No oil:

**Surface Oil**

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt PAVEMENT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pooled</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stain</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Subsurface Oil**

None found

**Photographs:**
- Roll No. ST-2-9
- Frames 26-34

**Comments**
Jean Marie Survey
Segment C.R. Immediate Subdivision: Nome
DATE: April 7/1990

BIOREMEDIATION Two Areas

Island I
Zodiac nursery, intertidal rocks, no oil seen

Island II
Note: 3 pits each ~ 40 cm diameter
Oil evidenced ~ 3 cm thick

Island III

SKETCH MAP

Island IV

Island V

Island VI

Scale 1 m = 20 m

BM 15 (tidal)
BM 14 X

Cabin
Green Island, OR-Inner Islands, April 7, 1990

Segment OR-Inner Islands was surveyed on April 7, 1990. Although not part of the assigned list of segments and not part of the GIS data base, our presence in the area and the presence of oil on shorelines in the vicinity led us to survey 6 small islands located in Gibbon Anchorage, on the north coast of Green Island.

All 6 islands are in a sheltered environment except for the northwestern shore of islands 5 and 6. These last two sections are exposed to a long fetch in a northwesterly direction and have a narrow fetch window. Shorelines in this segment consist of low bedrock bluffs with small talus, short sections of bedrock ramps, or beaches of angular pebble/cobble.

Oil was found on 5 of the 6 islands: island no. 2 is an intertidal island and was observed from the zodiac only. Most of the oil occurs as scattered stains or coatings of splatters in a band along the upper intertidal zone. Island 4 shows the heaviest concentration in a band 5 x 80 m of patchy coatings with 20% coverage.
**SHORELINE ECOLOGICAL SUMMARY**

Segment: ST
Islands: 1-6
Subdivision: N/A
Date (mo/day/yr): 04/07/90
Time (24 hr): 10:30
Biol.: John Dixon

---

**Substrate type and % of segments:**
1. Bedrock
2. Boulder
3. Cobble
4. Pebble
5. Sand
6. Silt

**Overall % cover of biota (% of segment):**
- Dense: 10
- Moderate: 26
- Low: 65

**Vertical zonation of major taxa:**
- Juveniles / adults
- New settlement

### Barnacles

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### Mytilus

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### Amphipods

- NOT PRESENT

### Fucus

### Wildlife Observations / General Comments:

+4.5' and higher observed.

---

**Ecological Considerations:**

These islands are made up of boulder & cobble brakes with small areas of bedrock outcrop. Typically, the E & W ends of the islands have higher numbers of *Fucus*, *Mytilus*, *Gastropods* & *Barnacles* compared to the shaded N sides of the islands.
<table>
<thead>
<tr>
<th>Frame</th>
<th>Time</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>8:50 AM</td>
<td>4FL</td>
<td>On Pleasant 1st Bluffs, salmon fishery near Pleasant.</td>
</tr>
<tr>
<td>27</td>
<td>8:50 AM</td>
<td>4FL</td>
<td>On Pleasant 1st Bluffs, salmon fishery near Pleasant.</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>4FL</td>
<td>Salmon fishery near Pleasant, 1st Bluffs.</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>4FL</td>
<td>Salmon fishery near Pleasant, 1st Bluffs.</td>
</tr>
<tr>
<td>30</td>
<td>9:00</td>
<td>4FL</td>
<td>Salmon fishery near Pleasant, 1st Bluffs.</td>
</tr>
<tr>
<td>31</td>
<td></td>
<td>4FL</td>
<td>Salmon fishery near Pleasant, 1st Bluffs.</td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>4FL</td>
<td>On Pleasant 1st Bluffs, salmon fishery near Pleasant.</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>4FL</td>
<td>On Pleasant 1st Bluffs, salmon fishery near Pleasant.</td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>4FL</td>
<td>Clean up down ground on Island 3.</td>
</tr>
</tbody>
</table>
## PHOTOGRAPHY LOG

<table>
<thead>
<tr>
<th>FRAME</th>
<th>PHOTOGRAPH</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>477</td>
<td>Seals mating on K haul 45</td>
</tr>
<tr>
<td>2</td>
<td>9:40 AM</td>
<td>Tied up at Nenana on #3 and Reliant 4.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Tied up at Nenana on #3 and Reliant 4.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Tied up at Nenana on #3 and Reliant 4.</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Tied up at Nenana on #3 and Reliant 4.</td>
</tr>
<tr>
<td>6</td>
<td>11:00 AM</td>
<td>Took 5 along shore. Reliant 46.</td>
</tr>
</tbody>
</table>

*PHOTOLOG.WK1 03/28/90 BAT*
Ocean Marine Services
Segment: GR-Farne Islands
Subdivision: None
Date: April 17/1990

BM 15 (Tidal)
BM 14 X

Daiting Map: Inland
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-15 SUBDIVISION A (1 of 1)

WORK WINDOW

| Bioremediation | WORK 7/1 to 7/31 |

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 3N, O, P, Q | Harbor Seal & Sea Lion Pupping and Molting | Closed to bioremediation prior to 7/1 and after 7/31. |
| 5S | Shorebird/Waterfowl Concentration | No constraint to bioremediation. |
| 5T | Bald Eagle Nest | NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site. |

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to uncollied biota and substrate.

FOSC

Date 6/13/90

Prepared by

Date 6/12/90
### SEGMENT ST/ GR-101 SUBDIVISION A (1 OF 2) DATE 4/7/90

#### SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- **2M**  Herring spawning (4/1 to 6/15)
- **3N,3P** Harbor seal and sea lion pupping (5/15 to 7/1)
- **3O,3Q** Harbor seal and sea lion molting (8/15 to 9/15)
- **5T**  All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
- **5R**  Seabird colony (5/1 to 9/1) - within 1/2 a mile
- **5S**  Shorebird/Waterfowl concentration (4/1 to 5/15)
- **6Y**  Recreation: Special use destination
- **7II**  Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

### SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border within GR-302.

---

**SHPO SIGNATURE:** [Signature]  **DATE:** 4/23/90

**OILING CATEGORIZATION:**

- **Wide 383 m:** Medium 780 m: Narrow 0 m: V.Light 524 m: No Oil 0 m

**Subsurface Oil Observed:** Yes [X] No [___]  **Maximum Depth** 6 cm

**RECOMMENDATIONS:**

- No Treatment Recommended
- X Treatment Recommended
- X Manual Pickup
- X Bioremediation
- X Tarmat: ___Breakup
- ___Removal
- ____Snare/Absorbent Booms
- X Oil Snares (pom poms)
- ____Absorbs (pads, rolls, etc)
- X Spot Washing: X Wands
- Beach Cleaner
- ____Other (see comments)

**COMMENTS:** Recommended treatment includes 1) removal of oiled debris and vegetation, 2) spot wash areas on map with wands and using snares/pom poms to control sheening, 3) bioremediation of areas shown on map. Work should be conducted between 7/2 and 8/14 due to above herring and pinniped constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

**TAG COMMENTS:** **[Comment]**

**TAG APPROVAL DATE:** **4/21/90**

**ADEC** Art Weiner  **EXXON** [Signature]

**NOAA** [Signature]  **USCG** [Signature]

**FOSC:** [Signature]  **DATE:** 4/27/90
## PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Activity</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Salmon stream mouth - fry outmigration</td>
<td>3/1 to 5/15</td>
</tr>
<tr>
<td>1B</td>
<td>Salmon stream mouth - spawning</td>
<td>7/10 to 8/31</td>
</tr>
<tr>
<td>1C</td>
<td>Salmon fry nursery area</td>
<td>4/31 to 7/31</td>
</tr>
<tr>
<td>1D</td>
<td>Esther Hatchery release</td>
<td>4/15 to 6/1</td>
</tr>
<tr>
<td>1E</td>
<td>Main Bay Hatchery release</td>
<td>4/20 to 5/10</td>
</tr>
<tr>
<td>1F</td>
<td>Sewnill Bay Hatchery release</td>
<td>4/15 to 6/1</td>
</tr>
<tr>
<td>1G</td>
<td>Cannery Creek Hatchery release</td>
<td>4/21 to 6/1</td>
</tr>
<tr>
<td>1H</td>
<td>Remote release site</td>
<td></td>
</tr>
<tr>
<td>1I</td>
<td>Gill net area</td>
<td>6/7 to 8/31</td>
</tr>
<tr>
<td>1J</td>
<td>Purse seine area</td>
<td>7/20 to 9/30</td>
</tr>
<tr>
<td>1K</td>
<td>Purse seine hook-off</td>
<td>7/20 to 9/30</td>
</tr>
<tr>
<td>1L</td>
<td>Set net sites</td>
<td>6/11 to 7/25</td>
</tr>
<tr>
<td>1M</td>
<td>Herring spawning</td>
<td>4/1 to 6/15</td>
</tr>
<tr>
<td>1N</td>
<td>Harbor seal and sea lion pupping</td>
<td>5/15 to 7/1</td>
</tr>
<tr>
<td>1O</td>
<td>Harbor seal and sea lion molting</td>
<td>5/15 to 9/15</td>
</tr>
<tr>
<td>1P</td>
<td>Sea bird colony</td>
<td>5/1 to 9/1</td>
</tr>
<tr>
<td>1Q</td>
<td>Shorebird/waterfowl concentration</td>
<td>4/1 to 5/15</td>
</tr>
<tr>
<td>1R</td>
<td>All Bald Eagle nests</td>
<td>3/1 to 6/1</td>
</tr>
<tr>
<td>1S</td>
<td>Active Bald Eagle nests</td>
<td>3/1 to 9/1</td>
</tr>
<tr>
<td>1T</td>
<td>Tent sites</td>
<td>6/1 to 9/15</td>
</tr>
<tr>
<td>1U</td>
<td>Anchorages</td>
<td>6/1 to 9/15</td>
</tr>
<tr>
<td>1V</td>
<td>Forest Service cabin</td>
<td>6/1 to 9/15</td>
</tr>
<tr>
<td>1W</td>
<td>Lodge</td>
<td>6/1 to 9/15</td>
</tr>
<tr>
<td>1X</td>
<td>Special use destination</td>
<td></td>
</tr>
<tr>
<td>1Y</td>
<td>Salmon harvesting</td>
<td>5/1 to 9/30</td>
</tr>
<tr>
<td>1Z</td>
<td>Finfish harvesting</td>
<td></td>
</tr>
<tr>
<td>1AA</td>
<td>Deer harvesting</td>
<td>9/15 to 2/28</td>
</tr>
<tr>
<td>1AB</td>
<td>Invertebrate harvesting</td>
<td></td>
</tr>
</tbody>
</table>

**Restrictions:**
- No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
- No biomethanization or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

**Contacts:**
- For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

- For Codes 1M through 1P contact ADF&G and specific dates, locations and constraints.
- For Codes 1Q through 1T contact ADF&G and specific dates, locations and constraints.
- For Codes 1U through 1Y contact ADF&G and specific dates, locations and constraints.
- For Codes 1Z through 1AB contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

**Habitat:**
- Contact ADF&G and USFWS prior to treatment.
SEGMENT ST1  GR101  SUBDIVISION: A  DATE 4-7-20

FIELD SHORELINE COMMENT SHEET

NAME James E. Campbell  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Mostly oily and greasy foam from 10-20 m wide MITZ to VINT. Light sheen

On drift. Slight sheen in sight, lot of sand along north. Some blocks are stuck.

Add then Omit. See Extra Sketch map place.

ADEC
NAME Brian K. FitzSimons  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

100% of segment has been contaminated; light sheen into 150 observed.

Segment almost of segment. Majority of oiling consists of a pelagic coat on gravel, rubble,

and bedrock (stickle). Areas of concern requiring treatment are the second

beach to the southwest of the Northeast end of the segment (W) and the mid

of the last beach on the southwest end of the segment (E).

Beach 1.5x8' CT Patchy/Irregular. This beach is made up of large boulders

PFG 10cm OP takes overlying a discontinuous layer of

BR CT fine sediments (saturated) on bedrock (oil

Muddy leaching is occurring forming rainbow sheens on the.

Both boulders and bedrock within @ 25-40m band (MITZ 8 NITZ) are coated.

LAND MANAGER
NAME Carol S. Huber  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Most patchy band of oil 10-20m wide in MITZ and

UNITZ. Thickness is from coat to coverage

Some leaching of oil noted.

Resource sensitivites include: eagle nests

(eagle sighted), Special use destination, deep

harvesting, peninsular pupping, molting herring,

spawning and shorebird/waterfowl concentration.
Suggested Treatment(s):

1. If boulders can be moved to access saturated fine sediments—HP/HP wash with leader flood entire area of beach.
2. Bio-remediate if no other option available.

Beach #2: B → CT → Broken - This beach consists of medium to small boulders overlying a pebble gravel layer that is saturated and beginning to form pavement. Underneath this layer are boulder, cobble gravels that contain no observable oil. The boulders are coated with a dull black, tarry type oil within @ 12 meter band from NITZ to NITZ.

Suggested Treatment(s):

1. This may be an area where discing/trenching to rip up the subsurface fine sediments would prove beneficial. The boulders are not overly large and this would break up the hardpan which is beginning to form in the fine sediments.
2. Bio-remediation and/or natural cleansing may be sufficient to complete the tasks.

NOTE: The NITZ storm-berm was frozen and snow covered throughout most of segment and needs to be re-evaluated
SHORELINE OILING SUMMARY

BIO: Turner & Turner
LAND REP: C. Mason
SUBDIVISION: B

DATE: 4/17/80
TIME: 7:00

TEAM NO.: 1
ST. SUBDIVISION LENGTH: 13.96 m
TIDE LEVEL: 1.7 to 6.0 m

LANDS DESCRIPTION: ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow

SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
WORKING DIRECTION: ☐ NE to SW

SLOPE: ☐ Lang ☐ Hang ☐ Vert

WAVE EXPOSURE: ☐ Low ☐ Med ☐ High

OIL CATEGORY LENGTH: W 3.30 m M 7.46 m N 9.58 m VL 3.50 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>1 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NO OIL

PAVEMENT: H F S None sq. m by cm

PATTIES/TARBALLS None BAGS

NEAR SHORE SHEEN? ☐ BR RW SL TL

SURFACE SEDIMENTS: ☐ B10%, ☐ S10%, ☐ G10%, ☐ P5%, ☐ % 

OILED SHEEN

<table>
<thead>
<tr>
<th>OILED DEBRIS</th>
<th>AMOUNT</th>
<th>DEBRIS COLLECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td></td>
<td>☐ YES ☐ NO</td>
</tr>
<tr>
<td>Vegetation</td>
<td></td>
<td>☐YES ☐ NO</td>
</tr>
<tr>
<td>Trash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debris</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photographs:
Roll No.: 51-1-3
Frames: 10-14.

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>OIL / FILM COLOR</th>
<th>OIL / FILM COLOR</th>
<th>OIL / FILM COLOR</th>
<th>OIL / FILM COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>X</td>
<td>0 - 1</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>X</td>
<td>0 - 1</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>X</td>
<td>0 - 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTs

This segment has a patchy to broken coat of oil centered near the mid Upper Intertidal Zone. The coat is relatively thick (8 cm). It coats the surface of boulders and at times saturates the surrounding gravel at the base of the boulders. Subsurf ace oilling does not appear to be a problem based on test pits and the shallow bedrock. There is considerable vegetation along the storm beam but it is generally unoined.

Page 1 of 8

REVIEWED: __________ DATE: __________
SHORELINE ECOLOGICAL SUMMARY

Segment ST/GR161 Subdivision A Date (mo/day/yr) 4/7/90

Bioligist Steve Schroeter

(A) Substrate type and % of segments:
   (1) Bedrock 20 (2) Boulder 47 (3) Cobble 20 (4) Pebble 13 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 28 Moderate 37 Low 34

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
   juveniles / adults (X) . new settlement (3)

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnacles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dense</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 2</td>
<td>4 3</td>
<td>5 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>X</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Sparse</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Rare</td>
<td>1U 3</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 4</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
</tbody>
</table>

Mytilus

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 2</td>
<td>4 3</td>
<td>5 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>X</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Sparse</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Rare</td>
<td>1U 3</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 4</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
</tbody>
</table>

Gastropods

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 2</td>
<td>4 3</td>
<td>5 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>X</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Sparse</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Rare</td>
<td>1U 3</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 4</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
</tbody>
</table>

Fucus

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 2</td>
<td>4 3</td>
<td>5 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>X</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Sparse</td>
<td>1U 2</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 4</td>
<td>5 5</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>Rare</td>
<td>1U 3</td>
<td>1M 2</td>
<td>1L 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 4</td>
<td>6 6</td>
<td>6 6</td>
<td></td>
</tr>
</tbody>
</table>

Photographs:
Roll No. N/A
Frames None

Wildlife Observations/General Comments:
Beached. No principal hazards. No sensitivity. 2-3 oystercatchers every 300-400 units observed.

Ecological Considerations:
Segment is series of bedrock + cobble pocket beaches, separated by shallow rock headlands. There is littleлезвята in these wet tidal shelter. Density of Oyster + the algal, 2nd section on the perch. The mud + upper low tide tidal, shell in the pocket beaches in the mud + upper low tidal. The daily tide bands have high cover of Fucus serratus + Fucus vesiculosus. The tidal mud flats contain some crustose brown algae, such as Fucus serratus. The tidal flats contain some crustose brown algae, such as Fucus serratus.

Photographs:
Roll No. N/A
Frames None
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT GR-101 SUBDIVISION A (1 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>CLOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Spot Washing</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Other Approved Treatment</td>
<td></td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning
Closed to bioremediation, spot washing and other approved treatment before 6/15. No constraint to manual pickup.

3N,P Harbor Seal & Sea Lion
3O,Q Pupping and Molting
Closed to bioremediation, spot washing and other approved treatment before 7/2 and after 7/31. Closed to manual pickup before 7/2 and after 8/14.

5T Bald Eagle Nest
USFWS 6/1/90 map indicates an active nest in adjacent Segment GR-3A. Closed to manual pickup, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to manual pickup, bioremediation, spot washing, and other approved treatment more than 400m from nest.

5R Seabird Colony
Active seabird colony within 800m of all work areas in subdivision. Closed to manual pickup, bioremediation, spot washing, and other approved treatment until 9/1.

5S Shorebird/Waterfowl Concentration
No constraint after 5/15.

7II Subsistence: Deer Harvesting
Closed to bioremediation, spot washing and other approved treatment after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

If seabird colony constraint is removed, other ecological considerations will apply.

FOSC

Date 6-12-90

Prepared by

Date 6/10/90
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-101 SUBDIVISION A (1 of 2)

WORK WINDOW

| Manual Pickup Less Than 400m From Active Nest | CLOSED |
| Manual Pickup More Than 400m From Active Nest | OPEN |
| Bioremediation, Spot Washing & Other Approved Treatment Less Than 400m From Active Nest | CLOSED |
| Bioremediation, Spot Washing & Other Approved Treatment More Than 400m From Active Nest | WORK PRIOR TO 7/31 |

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning
Closed to bioremediation, spot washing and other approved treatment before 6/15. No constraint to manual pickup.

3N,P Harbor Seal & Sea Lion
3O,Q Pupping and Molting
Closed to bioremediation, spot washing and other approved treatment before 7/2 and after 7/31. Closed to manual pickup before 7/2 and after 8/14.

5T Bald Eagle Nest
USFWS 6/1/90 map indicates an active nest in adjacent Segment GR-3A. Closed to manual pickup, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to manual pickup, bioremediation, spot washing, and other approved treatment more than 400m from nest.

5R Seabird Colony
No constraint to manual pickup, bioremediation, spot washing, and other approved treatment as per letter dated 7/10/90 from USFWS to Otto Harrison/Exxon.

5S Shorebird/Waterfowl Concentration
No constraint after 5/15.

7II Subsistence: Deer Harvesting
Closed to bioremediation, spot washing and other approved treatment after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle constraint is removed, other ecological considerations will apply.

FOSC

Date 7/14/90

Prepared by 1/17/90

Date 7/14/90
SEGMENT ST/ GR-101 SUBDIVISION B (2 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
ST All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SEGMENT ST/ GR-101 SUBDIVISION B (2 OF 2) DATE 4/7/90

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border with GR-03.

SHPO SIGNATURE: DATE: 4/23/90

OILING CATEGORIZATION:
Wide 28 m: Medium 1521 m: Narrow 0 m: V.Light 985 m: No Oil 252 m
Subsurface Oil Observed: Yes X No Maximum Depth 20+ cm

RECOMMENDATIONS:

No Treatment Recommended Snare/Absorbent Booms
X Treatment Recommended X Oil Snares (pom poms)
X Manual Pickup Absorbents (pads, rolls, etc)
X Bioremediation X Spot Washing: X Wands
Tarmat: Breakup Removal
X Manual Pickup Other (see comments)

COMMENTS: Recommended treatment includes 1) spot washing with wands and using snares/pom poms to control sheen. 2) bioremediation after washing and on areas indicated on attached sketch map. 3) manual pick up of oil-ed debris and vegetation. Work should be conducted between 7/2 and 8/14 due to above herring and pineneed constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

TAG COMMENTS: Manully Rake + Sio AREA OF PIT 10. AS SHOWN ON SKETCH

TAG APPROVAL DATE: 4/21/90

ADEC Art Wehner Art Chinn
EXXON Marilene
NOAA Bud Wescott Bud Wescott
USCG Kenneth Keane
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 69-101 SUBDIVISION: & DATE 7/13/95

NAME James C. Comb SIGNATURE James C. Comb

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

There is some moderately oiled beach. Natural cleansing seems to be removing much of the gross contamination from boulder. Some sheltered areas of concern is Headland and sheltered bays. See attached GC sheets for.

ADEC

NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS I concur with the OGS report maps and comments. Most of this segment, by definition is moderately oiled. Natural cleansing seems to be removing much of the gross contamination from boulder, cobble and bedrock surfaces of beaches when compared to condition of beaches last year. Areas of concern are where oil has collected in sheltered areas, (Coves, Pocket beaches and sides of headlands). There are at least two locations requiring treatment.

Location #1. Cove at Northeast end of segment.

GC → CR (patchy) → 30m wide

There is a 6 meter band of

FCG → OR → 2cm → Intermittent

Broken Coat within the 30 meter band.

See Attached.

LAND MANAGER

NAME Carol S. Huber SIGNATURE Carol S. Huber

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS Agree with ADEC, natural cleansing not effective in sheltered areas. Two major oiled areas require treatment. Approximately 1/3 of segment Resource sensitive as mentioned in CR1014
The heaviest oiling occurs along the southeast side of the beach.

Suggested Treatment
1. HTHP wash with header flood
2. Might be excellent area for discing/trenching due to low gradient and manageable aggregate size.
3. Bioremediate

Location #2. Southwestern 1/3 of 1st beach to the southwest of the peninsula on the NE end of segment GR101B. The beach ends with headlands on its SW end. Adjacent to these headlands is the heaviest concentration of oil. (See OG sketch map GR 101B Test Pit #9 Location)

Heaviest oiling occurs on B/ fractured Bedrock / Dark B Bedrock / Shiny B

Suggested Treatment
1. HPHT wash with header flood

Notes: Entire segment should be monitored throughout summer for evidence of sheening and mobile oil.

Storm berms should be reevaluated after breakup - Most were frozen and snow covered.

[Signature]
### SHORELINE OILING SUMMARY

**TEAM NO.:** 1  
**TIME LEVEL:** 10 to 20 ft

**SEGMENT**  
**DATE:** 4/7/90

**LAND REP.**  
**STUDY No.**  
**SUBDIVISION**  
**ENT.**  
**USCG**  
**CLIMATE**  
**GROUND DESCRIPTION**

---

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPAQTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>1</td>
<td>1</td>
<td>1:1</td>
</tr>
<tr>
<td>STAIN</td>
<td>1</td>
<td>1</td>
<td>1:1</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>1:1</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**PAVEMENT:** H F S  
**OILED DEBRISS**  
**AMOUNT**  
**DEBRIS COLLECTED**  
**TYPE**  
**BAGS**  

**NEAR SHORE SHEEN?** NO  
**BR**  
**RW SL TL**

**OIL CATEGORY LENGTH:** W 20 m M 1240 m N 1531 m NO 410 m

**SURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PITT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEEDMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>0.20</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/S (Beneath Boulder)</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>X</td>
<td>0.10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/S (Beneath Boulder)</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>X</td>
<td>0.3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/S (Beneath Boulder)</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/S (Beneath Boulder)</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/S (Beneath Boulder)</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/S (Beneath Boulder)</td>
</tr>
</tbody>
</table>

**COMMENTS:**

---

**REVIEWED**

---

**Page 1 of 1**
**SHORELINE OILING SUMMARY (PAGE 2 of 2)**

**SEGMENT ST/ GR-101 SUBDIVISION B**

### SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (CM-GAL)</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>30</td>
<td>X</td>
<td>0.5</td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>G/5 (Bermuda Boulders)</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>G/5 (Lown Bum)</td>
</tr>
<tr>
<td>9</td>
<td>40</td>
<td>X</td>
<td>10.18</td>
<td>X</td>
<td>X</td>
<td></td>
<td>C/G (Lown Bum)</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
<td>X</td>
<td>6.20</td>
<td>X</td>
<td>X</td>
<td></td>
<td>P/G</td>
</tr>
<tr>
<td>11</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>C/P/G (Bermuda Boulders)</td>
</tr>
<tr>
<td>12</td>
<td>30</td>
<td>X</td>
<td>0.10</td>
<td>X</td>
<td>X</td>
<td></td>
<td>C/G/5 (Lown Bum)</td>
</tr>
<tr>
<td>13</td>
<td>30</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>C/G/5</td>
</tr>
<tr>
<td>14</td>
<td>40</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>C/G/5</td>
</tr>
<tr>
<td>15</td>
<td>40</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>C/G/5</td>
</tr>
</tbody>
</table>

**COMMENTS**

The segment has a generally patchy coat of oil located in the upper intertidal zone. There are localized areas of heavier coats (broken to continuous). Usually these are located in the back ends of protected areas or pocket beaches. Beaches generally consist of boulder. Frequently, surface boulders are clean or only partially coated, while the underlying boulders are uniformly coated. Storm Bums are relatively free of subsurface oil. The degree of oiling tends to decrease to the SW along this segment. The SW sector being lightly oiled.

**REVIEWED____ DATE____

---

**NOTES:**

- Clean
- Cont
- No oil

**APPENDIX:**

- APP-09-1990 17:25 FROM DON BULLINGER Site 25
Exposed Bedrock

SKETCH MAP (1 of 2)

OIL CHARACTER LENGTH (m): AP PO CV CT 3241 ST 190 MS PT TB FL 180 NO 410
SUBDIVISION B

DATE 4/7/90

CHECKLIST
- N A none
- Approx. Scale
- Slope/Soil Body
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HML/LWL
- SSL
- Profile Location(s)
- Plot(s)
- Plot Location(s)

LEGEND

1 A
- Pt. No Subsurface Oil

2 A
- Pt. Subsurface Oil

CT/C
- Combust Distribution

CT/B
- Broken Distribution

CT/P
- Patchy Distribution

CT/S
- Splattered Distribution

Oiled Vegetation

- Fop location, direction, and member

Oil Change Length (m): AP ______ PO ______ CV ______ CT ______ ST ______ MS ______ PT ______ TB ______ FL ______ NO ______

See sketch 1 for totals.
SHORELINE ECOLOGICAL SUMMARY

Segment ST  
Date (mo/day/yr) 4/7/90

Time (24 hr)  
Biologist S. Schroeter  
Tidal Range +1.4

1) Substrate type and % of segments:
   (1) Bedrock 84 (2) Boulder 24 (3) Cobble 34 (4) Pebble 17 (5) Sand 1 (6) Silt

(2) Overall % cover of biota (% of segment): Dense 29 Moderate 31 Low 40

(3) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (X); new settlement (3)

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2U</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>3U</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4U</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5U</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6U</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2U</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3U</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4U</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5U</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

TROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2U</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3U</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4U</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5U</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2U</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3U</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4U</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5U</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Photographs:
Roll No. ST-1-3
Frames 5, 17, 19-31

Wildlife Observations/General Comments: Tidal Range: 7 +4.3
No pinniped tracks or trends

Ecological Considerations: Substratum consisted numerous ragweed and willow foliage with high concentration of crustose & fleshy coralline algae. Gastropods were absent with in decaying organic debris. Barnacles were abundant in cobble habitats with some species in brackish habitats. Tropids were abundant in all habitats but most prominent in brackish and cobble habitats in the mid and lower intertidal. Tropids typically feed on barnacle larvae. Kelp beds were abundant along with barnacles and algae. Strands of E. nummular and mussels in the lower-upper intertidal.
This subdivision consists of 4 subhabitats: 1) shale bedrock platforms in the upper and mid-intertidal with boulder and cobble beaches in the low, 2) boulders and cobbles throughout the intertidal zone, 3) Cobble and gravel in the upper and mid-intertidal with sand and gravel in the low, and 4) boulder and cobble in the upper and mid-intertidal and shale bedrock in the low intertidal.

Subhabitat (1) contained many tidepools in the upper and mid-intertidal with high cover of crustose coralline algae and Hildenbrandia. Anemones were common in these pools, and in decreasing order of abundance were: Epiactis proliferata, Anthopleura elegantissima, and Tealia grasseicornis. Grazers were also common and in decreasing order of abundance were: N. acuta, Topica linaea, Nepalia linnea, and juvenile Katherina spicata linaea. One large bedrock pool in the upper intertidal contained moderate densities of small (<3 cm) Strongylocentrotus drobachiensis and a single individual of S. franciscanus (21 cm). The urchins occurred under 7 of 10 large boulders examined. This is a remarkably high density of juvenile S. drobachiensis based on observations to date, and the first observation of S. franciscanus.

Gastropods were abundant in all of the subhabitats, but particularly so in boulder and cobble habitats in the mid and low-upper intertidal.

Brooding Lepas sp. were abundant in the low and mid-intertidal of habitats (1) and (2). All were found beneath boulders.

There were moderate to dense concentrations of mussels and barnacles in the upper and mid-intertidal in subhabitats 3 and 4. The mussels were most abundant around the bases of the boulders and cobbles, and occasionally in dense patches where they created a gravel/cobble/mussel matrix. The barnacles in these areas were almost all B. glandula, and tended to occur on the upper surfaces of the boulders and cobbles.
## ADDENDUM: SUBDIVISION CONSTRAINTS

**SEGMENT GR-101 SUBDIVISION B (2 of 2)**

### WORK WINDOW

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup</td>
<td>WORK 7/1 to 8/15</td>
</tr>
<tr>
<td>Bioremediation, Spot Washing,</td>
<td>WORK 7/1 to 7/31</td>
</tr>
<tr>
<td>Other Approved Treatment,</td>
<td></td>
</tr>
<tr>
<td>Manual Raking</td>
<td></td>
</tr>
</tbody>
</table>

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Event</th>
<th>Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M Herring Spawning</td>
<td>Closed to bioremediation, spot washing, other approved treatment, and manual raking before 6/15. No constraint to manual pickup.</td>
</tr>
<tr>
<td>3N,0 Harbor Seal &amp; Sea Lion Pupping and Molting</td>
<td>Closed to bioremediation, spot washing, other approved treatment, and manual raking before 7/1 and after 7/31. Closed to manual pickup before 7/1 and after 8/15.</td>
</tr>
<tr>
<td>5T Bald Eagle Nest</td>
<td>NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site.</td>
</tr>
<tr>
<td>5S Shorebird/Waterfowl Concentration</td>
<td>No constraint after 5/15.</td>
</tr>
<tr>
<td>5R Seabird Colony</td>
<td>NO CONSTRAINT. Work areas are more than 800m from colony.</td>
</tr>
<tr>
<td>7II Subsistence: Deer Harvesting</td>
<td>Closed to bioremediation, spot washing, other approved treatment, and manual raking after 8/15. No constraint to manual pickup.</td>
</tr>
</tbody>
</table>

### OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 8/15. Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas.

Date: 6/2/00
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M  Herring spawning (4/1 to 6/15)
5S  Shorebird/Waterfowl concentration (4/1 to 5/15)
5T  All bald eagle nests (3/1 to 6/1) – Active eagle nests (3/1 to 9/1)
6V  Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
9CC Research natural area, closed

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: ______________________ DATE: 4/20/90

OILING CATEGORIZATION:

- Wide 0 m: Medium 7 m: Narrow 0 m: V. Light 905 m: No Oil 620 m
- Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

RECOMMENDATIONS:

- X No Treatment Recommended
- Treatment Recommended
- Manual Pickup
- Bioremediation
- Tarmac: Breakup
- Removal
- Snare/Absorbent Booms
- Oil Snares (pom poms)
- Absorbents (pads, rolls, etc)
- Spot Washing: Wands
- Beach Cleaner
- Other (see comments)

COMMENTS: Area has been set aside for research and, as such, no treatment is to be conducted on this segment.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC [signature] DATE: 4-26-80
EXXON [signature] FOSC: [signature]
NOAA [signature] DATE: 4-26-80
USCG [signature]
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C
Salmon fry nursery area (4/31 to 7/31)

1D
Estuary Hatchery release (4/15 to 6/1)

1E
Main Bay Hatchery release (4/20 to 5/10)

1F
Sawmill Bay Hatchery release (4/15 to 5/11)

1G
Cannery Creek Hatchery release (4/21 to 6/1)

1H
Remote release site

1I
Gill net area (6/7 to 6/31)

1J
Purse seine area (7/20 to 9/30)

1K
Purse seine hook-off (7/20 to 9/30)

1L
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2A
Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to uncultivated intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (5/15 to 7/1)

3O, 3Q
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R
Seabird colony (5/1 to 11/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

5S
Seabird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

5T
All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 6/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U
Recreation:
Tent sites (6/1 to 9/15)
Anchorages (6/1 to 9/15)

6V
Forest Service cabins (6/1 to 9/15)

6X
Lodge (6/1 to 9/15)

6Y
Special use destination

7Z
Subsistence area: Salmon harvesting (5/1 to 9/30)

7HH
Finnish harvesting

7JJ
Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST, G R 102  SUBDIVISION:  8  DATE  4/7/90

NAME  Robert G. Jensen  SIGNATURE  Gerald Jensen

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS  Just a few splashes.

ADEC

NAME  Rowann T. Hudnall  SIGNATURE  Rowann T. Hudnall

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS  Patchy distribution of splashes.

LAND MANAGER

NAME  U.S. Forest Service  SIGNATURE  Lee Hall

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS  Only minor splashes found and these only near 07 with Segment 10.
Continue Natural Treatment.
**SHORELINE OILING SUMMARY**

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT/PAVEMENT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>POOLED COVER</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN MOUSSE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES TARBALLS</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm-cm)</th>
<th>OILED BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>No</td>
<td>Pb</td>
<td>Pb/sd</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>1</td>
<td>Sd</td>
<td>Pb</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>1</td>
<td>Sd</td>
<td>Pb</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>1</td>
<td>Pb</td>
<td>Pb/sd</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>1</td>
<td>Pb</td>
<td>Pb/sd</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>1</td>
<td>Pb</td>
<td>Pb/sd</td>
</tr>
</tbody>
</table>

**COMMENTS**

---

**PAVEMENT:** H F S sq. m by cm

**NEAR SHORE SHEEN:** No S B RW SL TL

**OILED DEBRIS AMOUNT:** SM MD LG

**DEBRIS COLLECTED TYPE:** Yes No

**PHOTOGRAPHS:** Roll No. 57-3-9 Frames 7-35

**REVIEWED** 4/11/90
Diagram 1

Diagram 2
Segment CR-102 is located on the northeastern coast of Green Island. This 1.8 km segment is exposed to a moderate fetch to the west and a much longer one to the northeast, and its exposure window is relatively large (180 degrees).

From north to south, this segment consists of
1: a bedrock ramp headland with coatings of splatters less than 2 mm thick and 5% coverage in the upper intertidal zone;
2: a section of bedrock ramp with a cover of boulder/cobble/pebble and a band 5 m wide by 300 m long of stains of splatter covering much less than 1% of the area;
3: a pebble/sand beach and bedrock ramp/boulder area forming an inflection point in the direction of the coast. South of this change in direction, a long band 5 m wide by 150 m long of coatings of splatters covers about 10% of the area and one patch 5 x 6 m of broken coatings with 60% coverage and 1 cm average thickness occurs in the upper intertidal zone; and
4: a long cove of boulder/cobble/pebble beach with a narrow band of stains covering less than 1% of the area.

A well defined storm berm of pebble is present throughout the area except where the backshore consists of cliffs. Where this storm berm is present, it is backed by a flat and grassy backshore area that often includes clean logs and other debris. Test pits dug at several location along this segment showed no subsurface oil.
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST** / **GR-102**  
**Subdivision**  
**N/A**  
**Date (mo/day/yr)**  
**04/07/90**

**Time (24 hr)**  
**06:35**  
**Biolgist**  
**John Dixon**

(A) Substrate type and % of segments:
1. Bedrock  
2. Boulder  
3. Cobble  
4. Pebble  
5. Sand  
6. Silt

(B) Overall % cover of biota (% of segment):
- Dense  
- Moderate  
- Low

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

---

### BARNACLES

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### MYTILUS

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### ASTROPODS

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

**Wildlife Observations/General Comments:** Low Water n+1'++3' during observations

**Ecological Considerations:** Sensitivity: 3, 7, 11, 6V, 5T, 9CC, 2M, 5S

Rocky, headlands bordering cobble beaches, lower beaches sand, with sparse cover of *Phyllophora* scattered numerous egg cases & small shells. *Pycnopodia homogama* common. *Lamellibrachia* + *Neptunea* on cobble. M.I. rocks sparsely covered with *Fucus*, abalone with high density on stable substrates. Sparse near mostly kelp matrix. Small density increases on high shore most are littorines. Also more barnacles + sparse cover of mussels. *Lepidasterias* + *Blennies* + murex under boulders.
This segment is made up of 3 rocky headlands, bounded by two cobbled beaches. The northernmost head is a boulder/cobble beach with a good deal of sand in the lower intertidal. The southern head is a long stretch that is large tides seaward of the central boulder headland and which grades to smaller boulders and finally mostly cobbles as one proceeds down the shore. Toward the southern end of the segment there are 3 finger-like projections of boulders and cobbles normal to the shore line.

In the sandy lower part of the cobbled beach, there is a sparse cover of *Tubulipora*, scattered mussel shells, corals, dead shells of clams, and occasional *Terebratula* (15-20 cm). The scattered boulders and cobbles bear a moderate to dense cover of *Fucus*, *Ulva*, *Dridea* & *Phalacrosa*.

On the middle shore the rocks are sparsely covered with *Fucus* and barnacles, with greater density on larger rocks. Due to sparse vegetation, mostly *Fucus* and *Dridea*. On the high shore the density of *Fucus* increases and the majority are littorines. The density of barnacles is also high and sparse population of *mussels* occur around the base of rocks & in crevices. There are dense aggregations of hermit crabs under large boulders in the middle of upper intertidal. *Tectocera*, *Criocaris* & *S. seticornis* are common.
SHORELINE EVALUATION

SEGMENT ST/GR-103 SUBDIVISION A (1 OF 3) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADFG anadromous stream no. 227-20-17880.
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-3 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination

ST-3 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles S. Adair DATE: 4/26/90

OILING CATEGORIZATION:

Wide 182 m: Medium 427 m: Narrow 87 m: V. Light 0 m: No Oil 217 m
Subsurface Oil Observed: Yes X No
Maximum Depth 30+ cm

RECOMMENDATIONS:

--- No Treatment Recommended --- Snare/Absorbent Booms
--- No Treatment Recommended --- Oil Snares (pom poms)
X Manual Pickup --- Absorbents (pads, rolls, etc)
X Bioremediation --- Spot Washing: Wands
X Tarmat: Breakup X Tarmat: Removal
--- Beach Cleaner --- Other (see comments)

COMMENTS: Recommend (a) tarmat removal; (b) manual pickup of mousse and oiled debris and vegetation and oiled logs if >10% coverage and splash impact; and (c) bioremediation of coat and subsurface oil areas. Work should be conducted between 6/16 and 7/9 and with permission of USFWS due to eagle nest constraint. Note that this is also a subsistence salmon harvesting area from 5/1 to 9/30.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC
EXXON
NOAA
USCG

FOSC: DATE: 4/26/90
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioengineering or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)
Estuary Hatchery release (4/15 to 6/1)
Main Bay Hatchery release (4/20 to 5/10)
Sawmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)
Remote release site

Gill net area (6/7 to 6/31)
Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net sites (6/11 to 7/25)

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal eelgrass and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterbird concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Recreation:
Tent sites (6/1 to 9/15)
Anchorage (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destinations

Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrates harvesting

For Codes 7Z through 7JJ contact ADF&G and Chena Corporation for specific dates, locations, and constraints.
SEGMENT ST/6/1/63 SUBDIVISION: A DATE 4/6/80

NAME: Brian K. Fitzsimons SIGNATURE: Brian K. Fitzsimons

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:  1. Vegetation in upper Intertidal Zone. Im. oil barrier headland west end Strait of 3.
2. Small in middle Intertidal Zone. Pit #3 oil 0.5m deep. See Esther Island note. Saw 60 of brown signs on this segment.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS: Storm Berm on first 100m of end of segment. Saturated Oil L 1m 3m wide x 100m long. At base of oil Berm (end) Pt = NO - sand  
only pit dug in whole segment which revealed oil/sediment PG I OR NO - 30cm. 
Storm Berm along rest of segment consists of patchy oiled Yukon. EV 40  
extending shoreline under snow pack. Ever lowing exposed BR made most of eastern 1/2  
of segment. BR contained patchy mousse in cracks. Under boulders and boulders  
had patchy larry coat. Boulder Broken BR over BR on western end of segment against  
vertical headland. Contained dark brown coat underneath and around bases of boulders.  
Seep saturated fine in cracks of BR throughout segment. Surface 2m sheetsing  
throughout eastern 1/2 of Segment to streams. One larry patch (3m x 3m = 3m x 3m x 3m)

LAND MANAGER
NAME: Carol St. Huber SIGNATURE: Carol St. Huber

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS: Protect anadromous stream (East end of this  
subdivision) with a buffer zone. Resource sensitivities  
include: bald eagle nests, special use destination,  
subsistence deer harvesting, salmon harvesting, salmon  
spawning, herring spawning, and shorebird/waterfowl  
concentration.
Suggested Treatment:

1. Move oiled storm berms to active tidal area and disperse or remove

2. Bioremediate B/BR areas due to lack of penetration (possibly HT/HP wash with header flood prior to Bio treatment)

3. Consideration given to protecting area around anadromous stream.

[Signature]

[Page 6/8]
SHORELINE OILING SUMMARY

DATE: 4/19/90
TIME: 15:00 10:30:00
TEAM NO.: 4
TIDE LEVEL: +1.8 ft + 6'
DATE: 4/19/90
WESTERN SUBDIVISION LENGTH: 2.50 m
SUN: Clouds: Fog: Rain: Snow
PLAN DESCRIPTION: [Grass: Forest: Rock: Helo]
SURVEYING FROM: [Foot: Boat: Helo]
WORKING DIRECTION: W to E
SURFACE SEDIMENTS: 10-20% B 10-20% C 30-40% P 20-30% G 0-10% S 0-10% M 0-10% V
SLOPE: Lang % Hang % Van %
WAVE EXPOSURE: [Low: Med: High]
OIL CATEGORY LENGTH: W 82 m M 46.5 m N 60 m V - m NO 240 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT: H F 8 sq. m by - cm
PATTIES/TARBALLS: 5 BAGS
NEAR SHORE SHEEN? [NO]
BR: RW: SL: TL

OILED DEBRIS AMOUNT
- [SM: MD: LG]
- [Log: Vegetation: Trash: Debris]
- [TYPE: YES: NO]
- [BAGS: ]

Photographs:
- Roll No.: ST-1-2
- Frames: 33-26

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OIL/FILM CHARACTER</th>
<th>INTERVAL</th>
<th>OILED</th>
<th>BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>X</td>
<td></td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>X</td>
<td>0.30</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/P</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>70</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>G/S</td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS

Next page.
## SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>30</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td>X</td>
<td>0.15</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>C (Veg. mixed with</td>
</tr>
</tbody>
</table>

### COMMENTS

The western end has a heavily oiled section near the HWL. The storm beam contains a large amount of oiled vegetation. This protected pocket probably has had less wave action. Slightly to the east, there is greater wave exposure and the beach consists of fine sediments. This area is relatively oil-free, probably due to reworking of the fine sediments (The beach appears heavily scoured).

In the eastern half, the beach consists largely of a small-scale bedrock ramp with scattered boulders. The boulder tops are coated (patchy or Broken). A brown mousse is found in the cracks and crevices of the bedrock (petechy, UI + Upper MZ zone). The storm beam is continuous and contains considerable vegetation. Some oiled vegetation was observed but snow cover prevented complete observation.

Oil distribution reflects substrate.

Reviewed: __________ Date: __________
**SEGMENT ST/103**

**SUBDIVISION** A

**DATE** 4/4/80

**CHECKLIST**

- Name
- Apprx. Scale
- Topographic
- Oil Dist.
- Width
- Length
- % Cover
- Sediment Character
- Ext. HMA
- SWL
- Profile Location(s)
- Position(s)
- Pit Location(s)
- Photo Location(s)

**LEGEND**

1. A
   - RT = No Surface Oil

2. A
   - RT = Surface Oil

**SKETCH MAP**

- Manual Pick-Up
- Mouse Oiled Details

**Note**

- Berm (90°) is continuous
- along most of segment. Scattered
- Oil and vegetation present but snow
- cover prevented complete observation.

**Oil Character Length (m):**

- AP
- PO
- CV 80
- CT 550 ST
- MS
- 150 PT
- TB
- FL 385 NO. 240
SHORELINE ECOLOGICAL SUMMARY

Segment ST / GR-103 Subdivision A

Time (24 hr) 5/7/83

Biolosit: S. Schroeter

Date (mo/day/yr) 4/4/90

(A) Substrate type and % of segments:
(1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Silt (7)

(B) Overall % cover of biota (% of segment):
Dense 30 Moderate 25 Low 44

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles/adults (X), new settlement (O)

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>L</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>L</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>L</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>L</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>L</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>L</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>L</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>L</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>L</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>L</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>L</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>L</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>L</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>L</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>L</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>L</td>
</tr>
</tbody>
</table>

Wildlife Observational General Comments:
Tidal Height observed 24.9. Anadromous stream at east end of subdivision, sensitive. 15-17% 18-21% 30

Ecological Considerations:
Segment comprised roughly 57% headland +
43% Bluff/coastal Gravel pocket backed, Fucaceae + barnacles
moderately to densely in mud with tidel on bluffs over bedrock +
bedrock. Mid-intertidal or headlands was dominated by
red algae (Rhodymena + Irdead) + Fucaceae. S. casei were
moderately to absent on headlands & there were four KALWACI
that may have helped to high concentrations of Steloprora + Encrati-
This segment/subdivision consisted of about 57% bedrock and 43% boulder/cobble/gravel pocket beaches. The bedrock headland on the western end of the subdivision (bordering GR-104) had very high densities of sea stars (E. ochraceus and Pavonopsis with occasional Dotasterias). Star densities around this headland averaged over 2 per m^2.

There were moderate to dense patches of large E. ochraceus in the mid-intertidal on the headlands, but very few Katherina in the cleared patches among the barnacles. This differs from the pattern I've observed on more exposed bedrock headlands with fewer stars, and may be the consequence of more sea star predation at this site.

There were moderate to high densities of gastropods beneath large cobbles and small boulders overlying the bedrock. In the pocket beaches, densities of gastropods under similar sized cobbles and boulders were much lower. At the eastern end of the subdivision was a large tidepool in the high intertidal (approx. 100m x 25m) that had high densities of Fucus and barnacles and moderate to high densities of Mytilus. The Mytilus were most abundant along the edges of cobbles or boulders at the boundary of the gravel in which they were embedded. This tidepool receives a trickle of fresh water during the low tides.

There were a number of very small freshwater streams on the bedrock in this segment in which there were dense patches of small mussels, barnacles, littorines, and limpets (mainly N. obtusum and C. paraspora). In many cases, all 4 kinds of organisms could be found immersed in the running fresh water.
This subdivision is a series of boulder/cobble pocket beaches separated by bedrock headlands composed of vertically tilted shale. There is one location at the NE end of the segment where a small freshwater streamlet trickles through the fractures in the bedrock, but by and large, there is little fresh water in this intertidal. Some notable features of this subdivision include:

1. High densities of gastropods (littorines and N. acuta) throughout the intertidal in the boulder cobble pocket beaches. On the headlands, Siphoneria are occasionally found in dense patches.

2. High densities of Halosaccion and Rhodysea in the mid intertidal on bedrock benches. Pools in the mid intertidal average about 10% cover of eelgrass.

3. Pools in the high intertidal have high cover of crustose coralline algae and commonly contain large Tania crassicornis.

4. Endocladia occurs rarely on bedrock and large boulders in the high intertidal.

5. P. aequale are common in mid-intertidal pools on the bedrock benches.

6. High densities of N. lima, mussels, and barnacles (mainly N. glabella) in cobble/boulder/pebble pocket beaches near the SE end of this segment. Moderate densities of L. hebertia under boulders (stars found under 2/10 boulders).
GR-302

GR-104

XXXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

GR-103

ADEC Segment Length: 4278m

Map Key: PWS-2400
Name: D. Bengland
Date: 4/14/10
Date Entered:

0 100 200 300 400 Meters
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-103 SUBDIVISION A (1 of 3)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>Tarmat Removal</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation and Manual Tilling (if anaerobic)</td>
<td>More Than 100m From Stream</td>
<td>WORK 6/15 - 7/1</td>
</tr>
<tr>
<td>Bioremediation and Manual Tilling (if anaerobic)</td>
<td>Less Than 100m From Stream</td>
<td>WORK 6/15 - 7/1</td>
</tr>
</tbody>
</table>

(ADF&G MONITOR REQ.)

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream
ADF&G catalogued anadromous stream (227-20-17880) is in Subdivision A. This subdivision is closed to bioremediation and manual tilling less than 100m from stream 7/10 to 6/31. Before 7/10, bioremediation and manual tilling are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual tilling more than 100m from stream. No constraint to manual pickup and tarmat removal.

2M Herring Spawning
Closed to bioremediation and manual tilling prior to 6/15. No constraint to manual pickup and tarmat removal.

5T Bald Eagle Nest
NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

5S Shorebird/Waterfowl Concentration
No constraint to manual pickup, tarmat removal, bioremediation and manual tilling.

7I Subsistence: Deer Harvesting
Closed to bioremediation and manual tilling after 8/15. No constraint to manual pickup and tarmat removal.

7Z Subsistence: Salmon Harvesting
Closed to bioremediation and manual tilling after 7/1. No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inpoc to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor’s presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1.

FOSC: __________________ Date: 6/3/90

[Signature]
SHORELINE EVALUATION

SEGMENT ST/GR-103 SUBDIVISION B (2 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-3 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE:

OILING CATEGORIZATION:

Wide 509m: Medium 1236m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No___ Maximum Depth 10 cm

RECOMMENDATIONS:

X No Treatment Recommended X Snare/Absorbent Booms
X Treatment Recommended X Oil Snares (pom poms)
X Manual Pickup X Absorbs (pads, rolls, etc)
X Bioremediation X Spot Washing: X Wands
X Tarmat: _ Breakup
X Removal _ Beach Cleaner
X Other (see comments)

COMMENTS: Recommend (a) manual pick up of tar patties and oiled debris (see sketch map), (b) spot washing, and (c) bioremediation of oil coat and subsurface oil areas (see sketch map). Work between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint.

TAG COMMENTS: MONITORS TO ASSIST UPPER STREAM BERM DURING TREATMENT. SNOW COVERED DURING SSAT.

TAG APPROVAL DATE: 4/19/90
ADEC JOHN PATER
EXXON
NOAA
USCG
FOSC: L__ DATE: 5-12-90
Considers telling before bioremediation.
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A  Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C  Salmon fry nursery area (4/31 to 7/31)

1D  Esther Hatchery release (4/15 to 6/1)

1E  Main Bay Hatchery release (4/20 to 5/10)

1F  Cannery Creek Hatchery release (4/15 to 6/1)

1H  Remote release site

1I  Gill net area (6/7 to 8/31)

1J  Purse seine area (7/20 to 9/30)

1K  Purse seine hook-off (7/20 to 9/30)

1L  Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M  Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to uncollared intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

3N, 3P  Harbor seal and sea lion pupping (5/15 to 7/1)

3O, 3Q  Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R  Seabird colony (5/1 to 9/1)
Restrict all activity to essential minimum. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

5S  Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum. Especially air traffic.

5T  All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U  Recreation:
Tent site (6/1 to 9/15)
Anchorage (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

7Z  Subsistence area:
Salmon harvesting (6/1 to 9/30)

7H  Herring harvesting

7I  Deer harvesting (6/15 to 2/28)

7JJ  Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GR 103 C

SUBDIVISION: B

DATE 05/10/92

SCG

NAME: James C. Sandall

SIGNATURE: James C. Sandall

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

50 ft. Tree toppled about 40 ft. of stream in the upper Intertidal Zone. And oil 50
of 50 ft. Tree toppled from mid upper Intertidal Zone To mid middle Intertidal Zone. Oil in St
Berm 2-10 cm deep. Oil vegetation in the storm beam under snow.

ADEC

NAME: Brian E. E. Simmes

SIGNATURE: Brian E. E. Simmes

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

1. Hand remove mouse paths along salmon stream on east end of segment.
   Careful and scatter to 1172.

2. Most of segment has wide band of patchy to broken coat on surface. Oil in
   broken coat. Oil layer is only inocks of Bedrock and around and under boulders. Oil
   coated with dull black oil. The oil may contain more than one type of oil.

3. Water Berm: CSO → coat

   Much of berm was

   See attached

   frozen and/or under

LAND MANAGER

NAME: Carol S. Huber

SIGNATURE: Carol S. Huber

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

Oil in storm beam. Some of storm berm under
snow. Oil cover oil amount unknown. Major
band of oiling about 15 ft. wide in upper inter-
tidal zone. Mobil oil just below surface.

ESA buffer zone at anadromous
stream (W boundary of subdivision) For resource
sensitivities see sec. 6R103A.

REVISION NO. 05/21/92
GRI 103B

Oiled berm could be moved to active tidal area and dispersed.

Re-evaluate HITZ and SUITZ after break-up.

Note: Entire oiled zone including HITZ Berm from small non-anadromous stream eastward to end of segment contained strong petroleum smell.

Date 8/10
**SHORELINE OILING SUMMARY**

**SEGMENT ST/GR-103**

**OIL: D. Devoland USCG J. Gamble**

**EXXON C. Levine ADEC T. Fitzsimonds**

**TIME: 14:00 10/14/90**

**TIDE LEVEL: +G 110**

**DATE: 10/15/90**

**UPLANDS DESCRIPTION:**
- Grass
- Forest
- Rock

**SURVEYED FROM:**
- Foot
- Boat
- Helo

**SURFACES DESCRIPTION:**
- Water
- Land
- Forest
- Rock

**COVER:**
- Grass
- Forest
- Rock

**STAIN:**
- Wet
- Dry

**MOUSSE:**
- White
- Black

**TAR BALLS:**
- Small
- Large

**FILM:**
- Spilled
- Stained

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pave</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OILED SHORE SHEEN:**
- No
- BR
- RW
- SL
- TL

**NEAR TAR BALLS:**
- 2 Bags

**OILED DEBRIS AMOUNT:**
- Logs
- Vegetation
- Trash

**DEBRIS COLLECTED TYPE:**
- Yes
- No

**PIT PIT SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>X</td>
<td>0.2</td>
<td>X X X</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>X</td>
<td>0.2</td>
<td>X X X</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>X X X X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>110</td>
<td>X X X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PIT ZONE:**
- C
- (Adjacent to Beach)

**SUBSURFACE SEDIMENTS:**
- C/P
- C/P/G

**NOTES:**
- All oil observed is visible the entire length of this segment, located near a couple meters below the HWL. It varies from a patchy to continuous coat. The beach consists largely of a sandstone cap with scattered boulders. The sides of the boulders are coated. At the base of the boulders the sand and gravel are frequently saturated with oil. Accumulations of oil (±5 cm) are present in the cracks of the bedrock.

**REVIEWED:**
- J. Gamble

**DATE:**
- 10/15/90
Due to the shallow bedrock (frequently exposed) subsurface oiling does not appear to be a problem. The storm debris (boulders & cobbles) did not appear to have significant subsurface oiling based on test pits. However, snow cover prevented a thorough investigation (possibly re-evaluate in May).

Typical Oil:ing (Close up view):

Accumulation in
Cracks of
Shaley
Bedrock
gravel saturated with oil

CT on boulder
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST/GR103**  
**Subdivision B**  
**Date (mo/day/yr): 4/5/90**

**Time (24 hr):**  
**Biologist: S. Schroeter**

#### (A) Substrate Type and % of Segments:
1. Bedrock: 39%  
2. Boulder: 13%  
3. Cobble: 28%  
4. Pebble: 19%  
5. Sand: 1%  
6. Surf: 0%

#### (B) Overall % Cover of Biota (% of Segment):
- Dense: 33%  
- Moderate: 24%  
- Low: 42%

#### (C) Density, Substrate Preference (by number from A, above), & Vertical Zonation of Major Taxa:
- **Juveniles / Adults (X)**  
- **New Settlement (3)**  

### BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Wildlife Observations/General Comments:

- Sensitivity: [S-3 6/17 11 72 1 0m 53]
- Priority: 2 3 4 1 3 1

### Ecological Considerations:

Noted: Rockweed (Fucus) contains many invertebrates including a high cover of Crustacea spp. (crab, sea spider). Algae and various substrates (boulders, cobble) provide habitat for various marine invertebrates and fish.
This subdivision runs NE from a large anadromous stream that is the NE boundary of GR103A. For the first 400 meters the intertidal consists of gently sloping shale bedrock through which trickles numerous small freshwater streamlets. There are moderate to high densities of adult and juvenile mussels and barnacles in these streamlets, and high densities of L. sikkana and L. acutula and Notocrypta acutua. The red algae, Rhodymenia palustris accounts for about half of the dense biota along this stretch of the subdivision.

The NW end of the subdivision is bordered by a bedrock headland. Halangium and Iridaea occur in a dense, more or less continuous band in the mid and low-upper intertidal. The headland contains many pools in the mid and lower intertidal. These pools have high cover (>60%) of coralline crusts, and most have >25% cover of E. acutula. The anemones, Anthopleura elegansissima and Epictis prolifera are common in these pools. A number of the pools have high densities of Piaester cabriscus. One pool measuring 34x40 cm contained 14 P. cabriscus with ray lengths about 6-8 cm. Pycnopodia and Dermasterias were also found in the pools. Alaska adults and juveniles are common in the low and lower-mid intertidal along the NW headland of this subdivision. Katherine tunicata also occur rarely among B. cariosus in the mid intertidal.
XXX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

GR-103

END OF GR103

PWS 249F →
PWS 249B

Map Key: PWS-249F
Name: B. Berglund
Date: 4/5/90
Date Entered:

ABEC Segment Length: 4278m
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-103 SUBDIVISION B (2 of 3)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Tilling</td>
<td></td>
</tr>
<tr>
<td>Bioremediation</td>
<td></td>
</tr>
<tr>
<td>Spot Washing</td>
<td>WORK 6/15 to 7/1</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (227-20-17880) is outside Subdivision B work areas. No constraint to manual pickup, spot washing, bioremediation, and manual tilling.

2M Herring Spawning

Closed to bioremediation, manual tilling, and spot washing before 6/15. No constraint to manual pickup.

5S Shorebird/Waterfowl Concentration

No constraint after 5/15.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site.

7II Subsistence: Deer Harvesting

Closed to bioremediation, manual tilling, and spot washing after 6/15. No constraint to manual pickup after 8/15.

7Z Subsistence: Salmon Harvesting

Closed to bioremediation, manual tilling and spot washing after 7/1 per Gail Evanoff/Chenega Corp. to Tom Kelley/Exxon, on 6/8/90. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum before 6/15. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 7/1.
ECOLOGY MAP
SEGMENT GR-103
SUBDIVISION B (2 of 3)

EXXON
Exxon Company, USA
Map Key: Pw-GR-103
June 04, 1990

ECOLOGY MAP
SEGMENT GR-103
SUBDIVISION B (2 of 3)

METERS

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest
WORK PLAN ADDENDUM

Segment GR-103 Subdivision B Dated 7/5/90

MODIFICATION

1. REASON FOR MODIFICATION
   Supra Resurvey Team indicated larger work area

2. ADJUSTMENT TO WORK PLAN
   Manual removal of pooled oil, and oiled debris.
   Bioremediate oil coat and subsurface oil as indicated on attached map.

SHPO APPROVAL NEEDED YES X SHPO SIGNATURE ________________ DATE 7/5/90

TAG APPROVAL DATE 7/5/90
ADEC Ray Weaver, Potato
EXXON Amy Tea, Deal
NOAA Joseph Talbot, Yalove
USCG C.A. Reiter, C.A. Reiter

DATE 7/10/90
Supratidal Resurvey

GR-06
GR-08
GR-03
GR-104
GR-105
GR-14

ECOLOGY MAP
SEGMENT GR-103
SUBDIVISION ___ (___ of ___)

METERS
0 138 1476
1 inch = 2421 feet

A Eagle Nest

GR-06
GR-03
GR-103
GR-102
GR-101

this area not
surveyed because
of eagle nest

Manual removal
of pooled oil and
oiled debris
Bioremedate oil
coot and subsurface
oil

low angle,
forested
shoreline

-oiled debris
common here

GR-08

 Exxon Company, USA
P.O.S-CR-103
May 11, 1990
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONTRASTS FOR STREAM NO. 227-20-17880

SEGMENT GR-103 SUBDIVISION A/B*

**WORK WINDOW**

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarmat Removal</td>
<td>Work prior to 7/1 (ADF&amp;G Monitor Req.)</td>
</tr>
</tbody>
</table>

*Stream is boundary between Subdivisions A and B

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream

ADF&G catalogued anadromous stream (227-20-17880) is in Subdivision A/B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

2M Herring Spawning

Closed to bioremediation and manual raking prior to 6/15. No constraint to manual pickup and tarmat removal.

5S Shorebird/Waterfowl Concentration

No constraint to manual pickup, tarmat removal, manual raking and bioremediation.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A/B work site.

7II Subsistence: Deer Harvesting

Closed to bioremediation and manual raking after 8/15. No constraint to manual pickup and tarmat removal.

7Z Subsistence: Salmon Harvesting

Closed to bioremediation and manual raking after 7/1. No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow inlet to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application. If ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unoiled substrate and biota especially intertidal and subtidal algae and seagrass.

SEE SUBDIVISION CONSTRAINT ADDENDUM GR-103 A & B FOR ADDITIONAL CONSTRAINT INFORMATION.

Prepared by Phillips Date 6/4/90

FOSCO Date 5/4/90
SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION C (3 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-3 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: ______________________ DATE: 4/20/90

OILING CATEGORIZATION:

Wide 275 m: Medium 685 m: Narrow 0 m: V. Light 660 m: No Oil 0 m

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X Treatment Recommended X Snare/Absorbent Booms
X Treatment Recommended X Oil Snare (pom poms)
X Manual Pickup X Absorbents (pads, rolls, etc)
X Bioremediation X Spot Washing: Wands
X Tar mat: Breakup
X Removal Other (see comments)

COMMENTS: Recommend manual pick up of mousse at east end of segment (see sketch map). Bioremediate broken cover area as indicated on sketch map. Work should be conducted between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint.

TAG COMMENTS: ______________________

TAG APPROVAL DATE: 4/19/90

ADEC: ______________________ FOSS: ______________________
EXXON: ______________________ DATE: 5/12/90
NOAA: ______________________
USCG: ______________________
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)
Esther Hatchery release (4/15 to 6/1)
Main Bay Hatchery release (4/20 to 5/10)
Seawall Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 5/1)
Remote release site

Gill net area (6/7 to 8/31)
Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Recreation:
Tent sites (6/1 to 9/15)
Anchorages (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

Subsistence area:
Salmon harvesting (5/1 to 9/30)
Finfish harvesting

Deer harvesting (9/15 to 2/26)
Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chanega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 GR 103 # SUBDIVISION: Sub C DATE 4/5/98

USCG NAME: Robert Jensen
SIGNATURE: Robert Jensen

☐ NO TREATMENT RECOMMENDED
☒ TREATMENT SUGGESTED

COMMENTS
Oil cover on this beach running patchy. Also some staining. Also oiled debris at storm bar and the beginning of this sub segment.

ADEC
NAME: Rowena F. Huddell
SIGNATURE: Rowena F. Huddell

☐ NO TREATMENT RECOMMENDED
☒ TREATMENT SUGGESTED

COMMENTS
Coating on rocks in mid intertidal. Shiny oil and small (3cm square) asphalt patches in crevices of bedrock. Oiled debris in storm bar. Oil is patchy in distribution but forms a wide band.

LAND MANAGER
NAME: U.S. Forest Service
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED
☒ TREATMENT SUGGESTED

COMMENTS
Found wide band up to 20meters of oil in area. Primarily a splattered coating running on protected areas.
**SHORELINE OILING SUMMARY**

**TEAM NO.: TIDE LEVEL:** 7.35 m (Sun, Clouds, Fog, Rain, Snow)

**EST. SUBDIVISION LENGTH:** 0.376 m

**UPLANDS DESCRIPTION:**
- Grass
- Forest
- Rock

**SURVEYED FROM:**
- Foot: Boat
- Helo: WORKING DIRECTION:
- Low: Med: High

**SURFACE SEDIMENTS:** R 39% S 26% C 25% P 9% G 10% S - M - V -

**SLOPE:**
- Long: 75% Hang: 25% Ven: 15%

**OIL CATEGORY LENGTH:** W 3.0 m M 5.5 m N 0 m V 57.6 m NO -

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>O X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**OILED DEBRIS**

- Logs
- Vegetation
- Trash
- Debris

**Amount**

- SM
- MD
- LG

**DEBRIS COLLECTED**

- Yes
- No

**PATTIES/TARBALLS**

- BAGS

**NEAR SHORE SHEEN**

- NO BR RW SL TL

**PAVEMENT:**

- H F S: 34.84 m by

**OIL FILM RoNo.**

- No Oil

**Nearshore Oil**

- NEAR SHORE SHEEN

**OIL COAT**

- Oiled

**OILED SEDIMENTS**

- Oiled

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p61c61</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p61c61</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p61c61</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p61c61</td>
</tr>
<tr>
<td>5</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

**Photographs:**

- Roll No. ST-3-7
- Frames F5-34 F5-6
Jean Marie Sampels

Segment 8A-103
Subdivision C
April 4 and 5, 1990

Diagram 1

cCliff
Rock Strum
Line Bedrock and Manual Pickup

Diagram 2

Bedrock ramp 80° 90

29,380
C.W. B
Segment GR-103, subdivision C, is a 1370 m long section of shoreline located at the northwestern extremity of Green Island. It is exposed to a relatively long fetch to the north east and to a narrow fetch window (30 degrees).

The shoreline of this subdivision consists mainly of gently sloping bedrock ramp with a thin cover of boulders/cobbles and pebbles, alternating with bedrock headlands and sections of talus of angular boulders. From west to east, the subdivision begins with a segment of bedrock ramp intertidal zone with few pockets of pebble/cobbles. Two well defined storm berms of pebbles are present at the upper limit of the intertidal zone, and on the intertidal ramp, the vertical bedding of the metamorphic rocks gives the area a very jagged surface. Patches resulting from the degradation of mouse patties occur over the intertidal ramp within a 10 m wide, 140 m long band. At this location, their combined coverage does not exceed 5%.

Further to the west, the segment forms two small coves with cobble/boulder beaches. The steeply sloping bedrock sides of the coves show patches of coatings that sometime have accumulated in fractures and depressions. Patches of tarry coatings are also found in the cobble/boulder/bedrock ramp intertidal zone where similar accumulations can be found between coarser sediments. Test pits in the storm berm area showed no oil to depths of 40 cm.

A prominent headland separates this area from a cove with boulder cobble beach to the east. Patches of tarry black coating can be found in a 20 m wide band across the upper intertidal zone of both the bedrock headland and adjacent cove. In this area, coverage reaches 75% with several patches approximately 2 x 4 m attaining 90% and a maximum thickness of 2 cm. Test pits across the intertidal zone show that the oil cover is restricted to
surface sediments only. Some clean logs and other debris are present on top of the storm bar of this cove.

Between the head of this cove and the headland adjacent to the west, the oil cover decreases considerably to form stains of splatters only on the boulder/bedrock ramp intertidal zone. One exception to this general condition is indicated on the map where a 1 m wide by 60 m long band occurs with a surface coverage attaining 20%. Splatter and stains are also found on the east side of the headland composed of vertically tilted, northeasterly trending metamorphic rocks.
SHORELINE ECOLOGICAL SUMMARY

Segment ST GR-10 Subdivision "C" Date (mo/day/yr) 09/27/01

Time (24 hr) 11:44-16:42 Biologist John Dixon

(A) Substrate type and % of segments:

(B) Overall % cover of biota (% of segments): Dense 25% Moderate 30% Low 45%

(C) Density, substrate preference (by number from A), and vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles/adults (x); new settlement (

<table>
<thead>
<tr>
<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>L</td>
<td>X</td>
<td>1U 1M</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MYTILUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>L</td>
<td>X</td>
<td>1U 1M</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GASTROPODS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>L</td>
<td>X</td>
<td>1U 1M</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FUCUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M</td>
<td>L</td>
<td>X</td>
<td>1U 1M</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:


Ecological Considerations:

This subdivision is a rocky shoreline made up of bedrock cutters & a few boulder/cobble pockets. Boulders moderate to dense cover of algae & boulders on ordock with partial hardy dense on the more horizontal surfaces. Small littleneb sites among boulders. The cobble is in pools but past monomers on partially covered cobble is in pools. Eel toe dense along edge of pools in pocket boulders. Phyllophora & erect coralline growth at wind of subdivision. Phyllodesmium at rock cobble in pools. High barnacles are on gently sloping boulders in pools.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-103 SUBDIVISION C (3 of 3)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK 6/15 - 7/1</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B  Salmon Stream

ADF&G catalogued anadromous stream (227-20-17880) is more than 100m from work site. No constraint to manual pickup and bioremediation.

2M  Herring Spawning

Closed to bioremediation before 6/15. No constraint to manual pickup.

5S  Shorebird/Waterfowl Concentration

No constraint to manual pickup and bioremediation after 5/15.

5T  Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision C work site.

7l  Subsistence: Deer Harvesting

Closed to bioremediation after 8/15. No constraint to manual pickup.

7Z  Subsistence: Salmon Harvesting

Closed to bioremediation after 7/1 per Gall Evanoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic and beach disturbance to essential minimum after 7/1.

FOSC ~

Prepared by ~

Date 6/10/90

Date 6/10/90
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Salmon harvesting (5/1 to 9/30)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: ___________________________ DATE: 5/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 711 m: Narrow 289 m: V.Light 0 m: No Oil 123 m
Subsurface Oil Observed: Yes____ No____ Maximum Depth:_____

RECOMMENDATIONS:
____ No Treatment Recommended   ____ Snare/Absorbent Booms
X Treatment Recommended  ____ Oil Snares (pom poms)
____ Manual Pickup  ____ Absorbents (pads, rolls, etc)
X Bioremediation  ____ Spot Washing:____ Wands
____ Tarmat: ____ Breakup  ____ Beach Cleaner
____ Removal  ____ Other (see comments)

COMMENTS: Recommend bioremediation of oil covered and coated areas
(see sketch map). Work should be conducted between 6/16 and 8/14.

TAG COMMENTS: ____________________________________________________________

TAG APPROVAL DATE: 4/21/90.
ADEC  ART WEINER  ART WEINER  FOSC: L____ DATE: 4-27-90
EXXON  ANDY TELF  KEITH  SCG  SOUTH WESSON  BERNARD  KEANE
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C Salmon fry nursery area (4/31 to 7/31)
1D Esthwaite Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U Recreation:
Tent sites (6/1 to 9/15)
Anchorage (6/1 to 9/15)

6V Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7I Deer harvesting (3/15 to 2/28)
7JJ Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
**SHORELINE OILING SUMMARY**

**USCG**

**DATE**: April 4, 1990

**TEAM**: ADEC

**TIME**: 11:30 A.M.

**BOAT NO.**: 19

**WEATHER**: Sun, Clouds, Fog, Rain, Snow

**SURVEYED FROM**: Foot, Boat, Helo

**WORKING DIRECTION**: N to S

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>B X</td>
<td>1/2 X</td>
<td>X X</td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SURFACE OIL**

<table>
<thead>
<tr>
<th>PAVEMENT</th>
<th>H F S</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMOUNT</td>
<td>No sq.m by 0 cm</td>
</tr>
<tr>
<td>DEBRIS</td>
<td>Logs</td>
</tr>
<tr>
<td>TYPE</td>
<td>YES (NK)</td>
</tr>
<tr>
<td>BAGS</td>
<td>0</td>
</tr>
<tr>
<td>NEAR SHORE SHEEN</td>
<td>NO BR RW SL TL</td>
</tr>
</tbody>
</table>

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm/cm)</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>P/B 15d / cb</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>P/B 15d / cb</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>P/B 15d / cb</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>P/B 15d / cb</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td>P/B 15d / cb</td>
</tr>
</tbody>
</table>

**COMMENTS**

1. Pit 7 in Canada Road area shows the following:
   1. Oil is restricted to top 2 cm.
   2. No B/P/plated material found beneath to 40 cm.

**REVIEWED**: J W  DATE: 4/11/90
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 6-R 104 SUBDIVISION: ___________________ DATE 5/4/20

3CG NAME Robert Jensen SIGNATURE Robert Jensen

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Surface and present ranging shades to streaks. The coat can be evaluated as running from continuous in some spots to broken in others.

ADEC NAME Rowann T. Hurdall SIGNATURE Rowann T. Hurdall

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Streamband of oil in mid to upper individuals. Ranges from splattered stains to tar coated rocks, cobbles & boulders overlying pebble and gravel. No subsurface oiling.

LAND MANAGER NAME U.S. Forest Service SIGNATURE Lee Pickard

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Found splashes of oil throughout area,
3 bands of asphalt found near high tide area.
Diagram I

Segment GR-104
Subdivision None
Apr. 5 / 1916.
Segment GR-104 is a 1.4 km long segment located on the north central coast of Green Island. It forms the outside of an elongated northeasterly trending promontory, probably once an island, that is now connected to the main body of Green Island by a narrow and short accumulation of sediments at its northern extremity. Most of this segment is exposed to a very short fetch to the northwest. Its northern extremity, however, can receive large amounts of wave energy from the northeast, as it is exposed to a long fetch in this direction.

At its northeastern extremity, segment GR-104 consists of a narrow and steep talus of large angular boulders lying at the base of a headland of bedrock cliffs. Oil occurs within a 2 m wide band of the upper intertidal zone as coatings about 1mm thick and 20% surface coverage on bedrock and boulder surfaces. Not occurrence of thick accumulations was found in this area. This section of talus gives way to the southwest to a relatively short segment of mainly subrounded boulder/cobble, gently sloping beach. Over this area, oil occurs within a 6 m wide band of surface cover on boulders and cobbles and as accumulations between large sediments. The average thickness is 5 mm and the overall surface coverage is 50%. A test pit in the upper intertidal zone shows oil in the top 2 cm, 5 cm of clean pebble/sand, and 33 cm of peat.

The rest of this segment is composed mainly of gently sloping beach of angular pebble/sand/cobble, with occasional low outcrops of bedrock, particularly at its southwestern extremity. Oil occurs on the northern and southern parts of this area and forms a bands of surface cover that decreases both in width, average thickness and percent coverage towards the south. Pits dug across shore showed no subsurface oil.
SHORELINE ECOLOGICAL SUMMARY

Segment ST GR-104 Subdivision N/A Date (mo/day/yr) 04/04/90
Time (24 hr) 16:30 Biologist John Dixon

(A) Substrate type and % of segments:
   1) Bedrock (5) 2) Boulder (3) 3) Cobble (4) 4) Pebble (5) 5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 5 Moderate 35 Low 60

(C) Density, substrate preference (by number from A, above), &
vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles/adults (X), new settlement (3)

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments: Oyster catchers working to extend! Many Canada geese overhead.

Ecological Considerations: The P.E. 1/3 of this segment is made up of bedrock outcrops and large talus, grading to smaller cobble to gravel to sand. Stable substrate analysis shows an obvious shift to the right. The flat, stable area is colonized by barnacles. The rest of the segment is predominantly cobble to pebble with much sand in U. A. Close to shore there is abundant phytoplankton & pelagic eggs, in L. E. Small mussel attachment limmers in mid to high shore. Sensitive to "U" species.
The N.E. end of this segment is a rocky outcrop made up of heliotroch grazing and large talus. As one proceeds to the S. W. the large talus gives way to smaller boulders and proportion of cobble size rocks increases. Mid way along the segment there is a abrupt change in heliotroch corresponding to a more gently sloping beach substratum indicating runoff and 100% long stretch of 90% sand in the mid intertidal. The lower half of the segment is predominately small cobbles and pebbles.

In the heliotroch areas, habitats and diet are diverse. In the L.T. cover is 67% with mostly filamentous red algae and scattered seaweed. Mussels, barnacles and barnacles are rare. Shells can sit under boulders with kelp and some lettuce. In the H.T. algae appear more diverse with Fucus, Pneophycus, Odonthalia, Ulva, coal mine, Rhodosira and a veined leaf-like algae (Monoraphid) all well represented. Pteropus ophiocoma is present. In the H.T. the major algae are Fucus, Macrocystis, Endocladia, + Sepitripoda. Porphyra on high kelp all surface.
On the areas of small cobbles & pebbles the communities are much simpler. The lower intertidal is a 20% sand and covered with dead clown shells. The barnacle, in common and there are many barnacle egg cases, although no barnacles were seen. The middle intertidal has a sparse cover of barnacles (B. glandula & atlantica) Fucus & Mytilus (within the pebble cobbles matrix) Barnacles, especially F. setosus are moderately abundant. On the high shore barnacles & mussels are the main sessile organisms, fucus & littorina the major wetted species.
CLIFFS WITH TRACES OF ANGULAR Boulders

Angular pebble/sand/cobble gravel

Boulders Bead

Dolostone nunnip

WALKED

6-28c
CU/B
5 mm 50%

20-260
CU/B
5 mm 50%

Approximate H.W.L

Approximate L.W.L

Oil Character Length (m): AP PO CV 164° CT 60 ST MS PT TB FL NO 266

REVISION 05/04/09
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT GR-104 SUBDIVISION A (1 of 1)

WORK WINDOW

| Bioremediation | WORK 6/15 to 7/1 |

ARCHAEOLOGICAL STANDARD CONSTRAINT
If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 2M | Herring Spawning | Closed to bioremediation prior to 6/15. |
| 5S | Shorebird/Waterfowl Concentration | No constraint to bioremediation. |
| 7II | Subsistence: Deer Harvesting | Closed to bioremediation after 8/15. |
| 7Z | Subsistence: Salmon Harvesting | Closed to bioremediation after 7/1. |

OTHER ECOLOGICAL CONSIDERATIONS
Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unlocated substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC: [Signature]  Date: 6/15/90
Prepared by: [Signature]  Date: 6/14/90
ECOLOGY MAP
SEGMENT GR-104

EXxon Company, USA
Map Key: PWS-GR-104
June 04, 1990

- Seabird Colony
- Active Eagle Nest
- Inactive Eagle Nest

SCALe:

100 Meters
**ADDENDUM: SUBDIVISION CONSTRAINTS**

**SEGMENT GR-104 SUBDIVISION A (1 of 1)**

**WORK WINDOW**

<table>
<thead>
<tr>
<th>Bioremediation</th>
<th>WORK 6/15 to 7/1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(CUSTOMER'S MONITOR REQ.)</td>
</tr>
</tbody>
</table>

**ARCHAEOLOGICAL STANDARD CONSTRAINT**

If cultural resources are uncovered, PHONE 564-3274.

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

<table>
<thead>
<tr>
<th>ST</th>
<th>BALB ENSEMBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl Concentration</td>
</tr>
<tr>
<td>711</td>
<td>Subsistence: Deer Harvesting</td>
</tr>
<tr>
<td>7Z</td>
<td>Subsistence: Salmon Harvesting</td>
</tr>
</tbody>
</table>

**OTHER ECOLOGICAL CONSIDERATIONS**

Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unaltered substrate and biota especially intertidal and subtidal algae and seagrass.
NEW ACTIVE EAGLE NEST LOCATED BY SURVEY OF MIKE LUKR ON 6/15/90. TREATMENT PERMITTED WITH VORPAS MONITOR PROJECT. ACCESS MUST BE AS SHOWN FROM SOUTH. IN A SMALL BOAT WITH 4-5 MAN CREW.
SHORELINE EVALUATION

SEGMENT ST/GR-105 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T All bald eagle nests (3/1 to 6/1)—Active eagle nests (3/1 to 9/1)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE ___________________________ DATE: 4/20/90

OILING CATEGORIZATION:
Wide 0 m; Medium 0 m; Narrow 0 m; V.Light 0 m; No Oil 2119 m
Subsurface Oil Observed: Yes____ No X____

RECOMMENDATIONS:
X____ No Treatment Recommended
____ Treatment Recommended
____ Manual Pickup
____ Bioremediation
____ Tarmat: Breakup
____ Removal
Snare/Absorbent Booms
Oil Snares (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: Wands
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS: ____________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG COMMENTS: _________________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG APPROVAL DATE: 4/20/90
ADEC
EXXON
NOAA
USCG

FOSC: ___________________________ DATE: 4/26/90

TAG APPROVAL DATE: 4/20/90
ADEC
EXXON
NOAA
USCG

FOSC: ___________________________ DATE: 4/26/90
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)

Esther Hatchery release (4/15 to 6/1)

Main Bay Hatchery release (4/20 to 5/10)

Sawmill Bay Hatchery release (4/15 to 6/1)

Cannery Creek Hatchery release (4/21 to 6/1)

Remote release site

Gill net area (6/7 to 8/31)

Purse seine area (7/20 to 9/30)

Purse seine hook-off (7/20 to 9/30)

Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)

Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Recreation:

Tent sites (6/1 to 9/15)
Anchorage (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

Subsistence area:
Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/26)

Invertebrates harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: G-9 105
SUBDIVISION: ______________________

DATE 4/4/90

PCG NAME: Robert Jensen
SIGNATURE: ______________________

☐ NO TREATMENT RECOMMENDED
☐ TREATMENT SUGGESTED

COMMENTS

No oil

ADEC NAME: Rowann T. Hudnall
SIGNATURE: ______________________

☐ NO TREATMENT RECOMMENDED
☐ TREATMENT SUGGESTED

COMMENTS

No oil

LAND MANAGER
NAME: U.S. Forest Service
SIGNATURE: ______________________

☐ NO TREATMENT RECOMMENDED
☐ TREATMENT SUGGESTED

COMMENTS

No oil found.
### SURFACE OIL

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moussie</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td>X X X X</td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm-cc)</th>
<th>Below Oil / Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Comments

- **Photographs:** Roll No. No photo taken.
- **Frames:**

### SHORELINE OILING SUMMARY

- **Date:** 4/1/90
- **Tide Level:** +3.5 ft
- **Sun:** Yes
- **Clouds:** Yes
- **Rain:** Yes
- **Fog:** No
- **Snow:** No
- **Surf:***
- **Working Direction:** SW to NE
- **Surface Sediments:** R: 1% B: 7% C: 44% P: 37% G: 0% S: 7% M: 0% V: 0%
- **Slope:** Lang: 2.0% Hang: 5.0% Vert: 0%
- **Wave Exposure:** Low
- **Oil Category Length:** W: 2 m M: 0 m N: 0 m V: 0 m
- **Pavement:** H: F: S: O
- **Oiled Debris:** No
- **Amount:** SM
- **Debris Collected:** No
- **Type:** O

---

**COMMENTS**
Note: Very spongy area.

Oil Character Length (m): AP XXX PO XXX CV XXX OT XXX ST XXX MS XXX PT XXX TB XXX FL XXX NO 249
SHORELINE ECOCLOGICAL SUMMARY

Segment ST / GR-105

Subdivision: N/A

Date (mo/day/yr): 04/04/80

Time (24 hr): 1615

Biologist: John Dixon

(A) Substrate type and % of segments:
(1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Silt

(B) Overall % of biota (% of segment): Dense 5 Moderate 40 Low 55

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L).

juvenile/adults (X), new settlement (+)

Photographs:

Roll No. None

Frames

BARNACLES

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1M</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1L</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

NOT PRESENT

MYTILUS

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1M</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1L</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

NOT PRESENT

GASTROPODS

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1M</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1L</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

NOT PRESENT

FUCUS

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1M</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1L</td>
<td>2 3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

NOT PRESENT

Wildlife Observations/General Comments:

Bear scent, fox track along with shell debris, & oyster catchers in intertidal. Sea otter skull & door moultings in intertidal. Mush Shell debris in lower area (max 4 shells). Several hundred common goose in area.

Ecological Considerations:

This section is predominately cobble & pebble beach within a sheltered inlet. The proportion of sand & gravel increase toward the back of the inlet. The epibiotic decrease in middle & upper intertidal. Cobble, cobbles, & small pebbles on rocks, with density higher on larger cobble. Barnacles, limpets, & limpet eggs are common. M. Nacella lima & egg cases. Small mussels within pebble matrix with large proportion of dead shells. Scattered Fucus spp. in mid/low.

Elements could appear to predominate in...
Segment GR-105 is a 2.5 km long section of shoreline located in a deep and narrow embayment on the north central coast of Green Island. Its fetch window is very narrow and oriented to the south west to an open water distance of about 30 km. This fetch, however, is restricted further by the presence of small islands and headlands on the main island. Wave energy can reach this segment by travelling up the channel in a northeasterly direction and refracting around the small islands present there.

The shoreline of GR-105 consists, along its western part, of a wide gently sloping intertidal zone of angular cobble/pebble/sand interrupted by two streams. Further to the northeast, and particularly near the cabin indicated on the sketch map, the intertidal zone is considerably narrower and steeper and low outcrops of bedrock are present in the backshore area. No surface and subsurface oil were found along this segment.
The shoreline along this segment borders a narrow inlet, primarily composed of pebbles and small cobbles in the more protected sections. Small areas of beach at the head of the inlet define the W. shore and at the mouth of the stream running along the E. shore. Increased proportion of sand and gravel at the head of the inlet. Much mussel & clam shell debris in the lower areas. Barnacle beard on the tree line full of shell fragments and small oysters along the water line that may be a result of fishing activities by boat. Sen anti shell & Tea marelle in intertidal. 2 green alders present.

Balanus glandula, Chthamalus, Mytilus & Fucus
Dominant sessil organisms in middle & upper intertidal. Filamentous red algae & phyllospadix dominant in lower sandy areas. Based on sipper holes & shell debris, clams are most common. Siphonaria siphon & ascidians moderately abundant, says where there is less sand & gravel. Nereidae live abundant along E. shore. Egg masses & eggs common.
SEGMENT ST/GR-300

SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M  Herring spawning (4/1 to 6/15)
5S  Shorebird/Waterfowl concentration (4/1 to 5/15)
ST-3 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
7II  Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uniled biota and substrate.

SHPO SIGNATURE: [Signature]  DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 43 m: No Oil 7378 m
Subsurface Oil Observed: Yes  No X  Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended  ___Snare/Absorbent Booms
X Treatment Recommended  ___Oil Snare (pom poms)
X Manual Pickup  ___Absorbents (pads, rolls, etc)
___Bioremediation  ___Spot Washing: ___Wands
___Tarmat: Breakup  ___Beach Cleaner
___Removal  ___Other (see comments)

COMMENTS: Recommend manual pick up of oiled log if >10% coverage and splash impact. Work should be conducted between 6/1 and 8/14 with USFWS permission due to eagle nest constraint.

TAG COMMENTS: MONITORS TO ASSESS LOGS AND DETERMINE NEED TO ADDRESS.

TAG APPROVAL DATE: 4/21/90
ADEC [Signature]  DATE: 4/21/90
NOAA [Signature]  DATE: 4/27/90
USCG [Signature]  DATE: 4/27/90
Salmon stream mouth - fry outmigation (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)

Estuary Hatchery release (4/15 to 8/1)

Main Bay Hatchery release (4/20 to 5/10)

Sawmill Bay Hatchery release (4/15 to 8/1)

Cannery Creek Hatchery release (4/21 to 8/1)

Remote release site

Gill net area (8/7 to 8/31)

Purse seine area (7/20 to 9/30)

Purse seine hook-off (7/20 to 9/30)

Set net sites (5/11 to 7/25)

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 8/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 8/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Tent sites (8/1 to 9/15)

Anchorage (8/1 to 9/15)

Forest Service cabins (8/1 to 9/15)

Lodge (8/1 to 9/15)

Special use destination

Salmon harvesting (5/1 to 9/30)

Finfish harvesting

Deer harvesting (8/15 to 2/26)

Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 6 P 300 SUBDIVISION: ______________________ DATE 4/7/8

NAME Robert G. Jensen
SIGNATURE Robert J.

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Occasional splatters or drips.

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Splashes and drips. Scattered distribution.

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Ground scattered pieces of splatter, generally very small and broken up. See Geologist report.

Continue Natural Cleaning.
SEGMENT ST: 38-38
SUBDIVISION: [Blank]
DATE: 1/7/90

CHECKLIST:
- N Arrow
- Approx. Scale
- Seg/Sub Details
- Oil Dist.
- Wpnt
- Length
- % Cover
- Substrate Character
- Est. HWL/WL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND:
1 ❌
P1: No Subsurface Oil

2 ❌
P1: Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/D
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction,
and number

Oil Character Length (m): AP PO CV CT ST J5 MS PT TB FL NO
Segment GR-300 makes up the west coast of Green Island. It is a 9.5 km long section of shoreline exposed to a moderate (west) to long fetch (southwest). The shoreline is relatively indented with long projecting headlands composed of vertically tilted metamorphic rocks trending northeast. The same trend and dip was observed throughout the segment and in many places, it gives rise to bedrock ramps on the northwestern side ("top" side of dipping beds) and accumulation of boulders and cobbles on the southeastern side ("bottom" side of dipping beds) of southwesterly trending headlands. The vertical bedding also gave the bedrock intertidal ramps a very jagged surface.

From north to south, the segment includes a series of bedrock headlands separated by bedrock ramps with some coarse sediments, or boulder beaches. The coves occurring between headlands are generally composed of boulders with accumulations of pebbles in the storm berm area, and in two occasions, substantial deposits of sand in the middle and lower intertidal area at the head of the cove.

Very little oil was found on this segment. Where it occurs, it consists mainly of stains and small patches of tarry coatings of splatters in the upper intertidal zone. No subsurface oil was found in the test pits that were dug on this segment.
SHORELINE ECOLOGICAL SUMMARY

Segment ST / GR-300  Subdivision N/A  Date (mo/day/yr) 04/07/90
Time (24 hr) 05-09-90  Scientist John Dixon

(A) Substrate type and % of segments:
   1) Bedrock 34  2) Boulder 26  3) Cobble 20  4) Pebble 10  5) Sand 10  6) Silt

(B) Overall % cover of biota (% of segment): Dense 23  Moderate 26  Low 5

(C) Density, substrate preference (by number from A, above), &
vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles/adults (X), new settlement (3)

BARNACLES

Density

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

MYTILUS

Density

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

ASTROPODS

Density

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

FUCUS

Density

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1L</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/ General Comments:


Ecological Considerations:

This 7.4 km segment is made up of a variety of habitats: rocky
boulders/ large rocks, cobble beds, and a mid tidal zone with much
seagrass growth & diversity. Diversity ratings are 3's or 4's in most
areas. The seagrass Zostera marina is abundant in pelitic
matrix. The pillow Cymodoceae communis under borders in
these areas. Volitana is locally abundant under boulders in
bedrock. Focus recruiting in many areas Cadium present.
This long segment is made up of a great variety of habitats and a heterogeneous assemblage of benthic communities. There are seven headlands or promontories composed of bedrock outcrops. Typically these grade into large talus and then boulders and cobbles of decreasing size as one proceeds from a point to an embayment. Toward the back of the embayments, the beach slope decreases and there is considerable freshwater runoff. The runoff generally occurs over a wide, poorly delineated area but discrete streams discharge into two of the embayments. The areas of runoff tend to be sandy or gravelly with scattered cobbles and boulders.

The headlands support the most diverse and highest density biota. The bedrock outcrops tend to form large areas of relatively flat, bench interspersed with more erosion resistant rock with considerable vertical relief. In the sub-tidal zone is typically a 80% cover of algae, mostly Fucus and Rhodomela. Large Thalassic and Chlorophytes also be abundant. Under Tidal Emergent rocks and greens, Ulva and Algae are often present. Barnacles are extremely rare on bedrock but may occur on small cobbles. Gastropods are also rare. Mussels are generally absent. Astacs are often abundant, with Pygospio elegans most common in sheltered locations. Shanks (non-coptice)
In the middle intertidal (+2 - +7) there tends to be more open spaces and more proximal areas with scattered boulders and cobbles. Fucus ranges from moderate density in lower areas to sparse in higher locations. Barnacles tend to be sparse with B. verrucosa most common. Mussels tend to occur on horizontal boulders from around +5' - +6'. On these boulders barnacles have produced alternating high and low areas - a 30 cm ridge and trough. Fucus + barnacles, B. verrucosa + B. glandulosa tend to occur on the ridge, whereas Mytilus, Rhodacastra + Phyllophora dominate the trough. Under large boulders there are bouldery Tabletecta, Idetina, large P. ceratina, flatworms, holothurians, sponges, often dense aggregations of hermit crabs.

On the high shore along headlands cover is much more sparse. Fucus is sparse, Mytilus occurs in patches that tend to be sparse to more overall. Barna + verrucosa give way to B. glandulosa + sometim echinoderms. Barnacles and gastropods tend to be rare to sparse usually small. Inertina + cobbles scattered light. Under boulders + cobbles gastropods are often present. On boulders led und + in rocks lettuce often attain very high densities.
The rock or large tidal terraces tend to be similar to that on sheltered, sandy beaches. On sheltered beaches, during storms, water levels are much lower. If the beach is a level or slope, the sediment of the sand and pebbles are shallow, they are less subject to a thin layer of seaweed (10 cm, 4 inches) and other deposits. In some areas, kelp grows, and bare rocks and seaweed are common. As one moves up the shore, seaweed often replaces stones as the most abundant plants. On the low shore, there is usually a thin cover of filamentous and green algae.

Where the beach is made up of boulders and cobble, in a coarse sand/gravel matrix, algae are often very abundant in the middle and upper intertidal. This often in the case is areas of freshwater seeps. The small puddles, which are often in sandy areas, are often level water basins in rock locations.
GR-300
AOEC Segment Length: 7435m

Jean-Marie Teytel
GR-300
No Subdivision
Apx. 107-990
Oiling Map 2013

From Terce Tempe
Segment GR-300
No subdivision
April 7/1990

GR-300
DEC Segment Length: 7435 m

100 200 300 METERS
From Location Sample
GR 320
No Subdivision
April 7, 1990.

GR 300
Segment Length: 7435m

Scale: 1:500,000
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT GR-300 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup
OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
<td>No constraint to manual pickup</td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl Concentration</td>
<td>No constraint to manual pickup.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>No constraint to manual pickup.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum before 6/15 and after 8/15. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially Intertidal and subtidal algae and seagrass.

FOSC [Signature] Date 6/14/90
Prepared by [Signature] Date 6/14/90
ECOLOGY MAP
SEGMENT GR-300

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest

EXXON
Exxon Company, USA
Map Key: P&H-GR-300
June 04, 1990
SHORELINE EVALUATION

SEGMENT ST/ GR-301      SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M     Herring spawning (4/1 to 6/15)
5S     Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-9   All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6V     Recreation: Anchorages (6/1 to 9/15)
7II    Subsistence area: Deer harvesting (8/15 to 2/28)
9CC    Research Natural area - closed
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE:  
DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 6892 m
Subsurface Oil Observed: Yes  No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended     Snare/Absorbent Booms
     Treatment Recommended     Oil Snares (pom poms)
     Manual Pickup             Absorbents (pads, rolls, etc)
     Bioremediation            Spot Washing: Wands
     Tarmat: Breakup           Removal
     Removal

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90
ADEC  ART WEISS  ART WEISS  FOSE:  DATE: 5-1-90
EXXON  ANN TELL  BILL B  NOAA  BILL WILCOX  BILL WILCOX
NOAA  BILL WILCOX  BILL WILCOX  USCG  KENNETH KEANE  KENNETH KEANE
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)

Esther Hatchery release (4/15 to 5/1)

Main Bay Hatchery release (4/20 to 5/10)

Sawmill Bay Hatchery release (4/15 to 6/1)

Cannery Creek Hatchery release (4/21 to 6/1)

Remote release site

Gill net area (6/7 to 8/31)

Purse seine area (7/20 to 9/30)

Purse seine hook-off (7/20 to 9/30)

Set net sites (6/11 to 7/25)

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (6/15 to 6/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 6/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Recreation:
Tent sites (6/1 to 9/15)
Anchorages (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

Subistence area: Salmon harvesting (5/1 to 9/30)
S Пр. fish harvesting
Deer harvesting (9/15 to 2/26)
Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

PWS-CODE 4/11/90
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 6R301 SUBDIVISION: A DATE 4-8-90

SCG
NAME: James C. Conley SIGNATURE: [signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS: No oil found.

ADEC
NAME: Brian R. Fitcher SIGNATURE: [signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS: No oil observed within this subsegment.

LAND MANAGER
NAME: Carol S. Huber SIGNATURE: [signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS: No oil observed.
## SHORELINE OILING SUMMARY

**Date:** 5/11/90  
**Reviewed by:**  
**Date reviewed:**  

**SUMMARY**

**ST. SUBDIVISION LENGTH:** 7.74 m  
**TIME:** 7:00 to 10:20  
**DATE:** 5/11/90  
**OIL CATEGORY LENGTH:**  

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphault Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TLM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**PAVEMENT:**  
**PATTIES/TARBALLS:** None  
**NEAR SHORE SHEEN?**  

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED OL (cm)</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### COMMENTS

This subdivision is predominately a bouldin beach with a few sand and gravel sections and exposed bedrock. Most of the beach was walked and no oil was found (A Gis Map is provided but no sketch map).
This subdivision was composed largely (~80%) of boulder/cobble beaches where the density of the biota was sparse to low. The remaining 20% of shoreline consisted of boulder and shale bedrock headlands where densities were high to moderate in the low and mid intertidal, and sparse in the upper intertidal. There were few stars in the low and mid intertidal, and the only species seen was *Pisaster ochraceus*.

On the cobble and boulder beaches composing most of the subdivision, the most abundant organisms were *Fucus*, gastropods (primarily *L. obtusata*, *L. acutula*, and *N. obtuse*), and the red alga *Rhodymenia palmata*. *Rhodymenia* was most abundant in the mid and upper-low intertidal on horizontal bedrock benches where cover of 50% to 70% is common. A variety of leafy and filamentous red algae were abundant in the low intertidal. Laminarians were not abundant in the low intertidal and shallow subtidal.
SHORELINE ECOLOGICAL SUMMARY.

Segment ST / GR 3d Subdivision A

Date (mo/day/yr) 4/8/90

Time (24 hr) 10:40

Bacter S. Schroeder

Tidal Range: 0.2

Substrate type and % of segments:

Overall % cover of biota (% of segment):
Dense 16, Moderate 17, Low 67

Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
Juveniles / Adults (X), new settlement (3)

Photographs: Roll No. N/A

Frames: None

<table>
<thead>
<tr>
<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MYTILUS</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
</tr>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TROPOSIS</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
</tr>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUCUS</td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
</tr>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations / General Comments:
Kingfisher abundant, birds & waterfowl were seen

Ecological Considerations:
Subdivision large in scale, composed of cobble/pebble
subunits, and density of benthic taxa was about 20% of subdivision consists of hard substrate with
much of mid-shore area covered by a family
Eutrophication, Fucus & gastropods (bittern & O. Scutum) were

Most abundant organisms; were found mainly in the
most intertidal. Phytoplankton also abundant in the
Note
All Areas were walked unless indicated.

Map Key: PWS-2016
Name: B. Bingham
Date: 7/6/90
Date Entered:

--- Narrow
TTTT Very Light
0000 No Oil

All Areas were walked unless indicated.
SEGMENT ST/ GR-301 SUBDIVISION B (2 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-9 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
9CC Research Natural area

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Segment B has 7 bald eagle nests (see ecology map).

SHPO SIGNATURE: [Signature] DATE: 5/23/90

OILING CATEGORIZATION:
Wide 37 m: Medium 0 m: Narrow 40 m: V. Light 1406 m: No Oil 5104 m
Subsurface Oil Observed: Yes No

RECOMMENDATIONS:

X No Treatment Recommended
X Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat: X Removal
X Snare/Absorbent Booms
X Oil Snares (pom poms)
X Absorbents (pads, rolls, etc)
X Spot Washing: Wands
X Beach Cleaner
X Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of tar balls and patties. Work should be conducted after 6/1, with approval of USFWS and ADF&G regarding eagle nests and research natural area respectively.

TAG COMMENTS:

TAG APPROVAL DATE: 4/26/90
ADEC John Bank DATE: MAY 25 1990
EXXON
NOAA George Petra DATE
USCG Kennan Harger
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A
Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C
Salmon fry nursery area (4/31 to 7/31)

1D
Esther Hatchery release (4/15 to 6/1)

1E
Main Bay Hatchery release (4/20 to 5/10)

1F
Sawmill Bay Hatchery release (4/15 to 6/1)

1G
Cannery Creek Hatchery release (4/21 to 6/1)

1H
Purse seine release site

1I
Gill net area (6/7 to 8/31)

1J
Purse seine area (7/20 to 9/30)

1K
Purse seine hook-off (7/20 to 9/30)

1L
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M
Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to uncultured intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (5/15 to 7/1)

3Q, 3Q
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R
Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from haulouts.

5S
Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

5T
All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U
Recreation:
Tent sites (6/1 to 9/15)

6V
Anchorage (6/1 to 9/15)

6W
Forest Service cabins (6/1 to 9/15)

6X
Lodge (6/1 to 9/15)

6Y
Special use destination

7Z
Subsistence area: Salmon harvesting (5/1 to 9/30)

7H-H
Finfish harvesting

7H
Deer harvesting (8/15 to 2/28)

7JJ
Invertebrates harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT STR (R 30) SUBDIVISION: B DATE 4-9-96

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

NAME: James C. Benbow SIGNATURE: [Signature]

COMMENTS:

The wetlands 10m x 8m wide, contain mudflats and sediments within of the UITS. 2m x 3m deep of Tony Rappo's. Spills of oil 3.5m x 1m of oil to date. 3-4 days 2' x 2' cm round patch.

ADEC

NAME: Brian K. FitzSimons SIGNATURE: [Signature]

COMMENTS:

Tar patties occur intermittently along the base of the H1T2 Berm from the northeastern end of the segment to the headlands south of the second anadromous from the beginning. The largest tar party is located adjacent to and to the north of the 1st stream on the NE end of 1x0 segment. Suggested Treatment: Hand removal by shovel of tar patties - start crew at one end of oiled area at H1T2 and patrol work beach till out of oiled zone.

LAND MANAGER

NAME: Carol S. Huber SIGNATURE: [Signature]

COMMENTS:

Only east half of this segment is oiled. There are some locally very thick tar patties (up to 5cm) in a narrow band in the U1T2. Oil very mobile. Leading.

Possible anadromous streams in this area.

Note: Listed as NCC "Research Natural Area" in data table. Resource sensitivities: deer harvesting (deer observed on beach), anchorage, bald eagle nests (eagles sighted),

[Signature]
**SHORELINE OILING SUMMARY**

| Team No.: | 1 |
| TIDE LEVEL: | 3.10 + 6 |
| Date: | 9/90 |
| EST. SUBDIVISION LENGTH: | 630 m |
| Surveys From: | W Foot, Bost, Heio |
| Working Direction: | N.E. to SW |

**Surface Sediments:**
- R: 30 %
- S: 50 %
- G: 20 %
- P: 10 %
- S: 1 %
- M: 1 %
- V: 1 %

**Slope:**
- Longitudinal: 30 %
- Hang: 50 %
- Vertical: 20 %

**Wave Exposure:**
- Low: 20 %
- Medium: 40 %
- High: 40 %

**Surface Oils**
- Distribution: X
- Oil/Film Color: X
- Impacted Zones: X

**Subsurface Oils**
- Pit No.: 1
  - Depth (cm): 20
  - Oiled Character: X
  - Interval: X
  - Oiled Interval (cm): X
  - Oil/Film Color: X
  - Pit Zone: X
  - Subsurface Sediments: P/G/S (Cluster Boulders)

- Pit No.: 2
  - Depth (cm): 30
  - Oiled Character: X
  - Interval: X
  - Oiled Interval (cm): X
  - Oil/Film Color: X
  - Pit Zone: X
  - Subsurface Sediments: P/G/S (Cluster Boulders)

- Pit No.: 3
  - Depth (cm): 20
  - Oiled Character: X
  - Interval: X
  - Oiled Interval (cm): X
  - Oil/Film Color: X
  - Pit Zone: X
  - Subsurface Sediments: G/S (Between Boulders)

**Comments:**
- Only the NE half of this segment is oiled. The oiled section of the beach consists of shallow or exposed bedrock with scattered boulders.
- Oiling is very light, principally isolated splaichy coats near the HWL (Next page).
Surface of boulders are coated. Occasionally small "globs" of oil (0.3 cm³) saturate the gravels between boulders (1 cm in thickness) or oil accumulations are present in cracks of the bedrock.

A few areas have heavier oiling (coat on pavement) as noted on the sketch map. Their distribution suggests they were isolated patches that washed up and were deposited near the HWL. Except in these areas deep oiling does not pose a problem (deep subsurface oiling being prevented by the shallow bedrock).

A storm berm is fairly continuous along this segment. It contains considerable vegetation but it is unoiled.

**Note**

Only a sketch map of the oiled sector was drawn.
**Checklist**

- N. Avenue
- Approx. Scale
- Site/Sub-Basin
- Oil Date
- Wash
- Length
- % Cover
- Substrate Character
- Est. HWL/SL
- SSBL
- Profile Location(s)
- Pits Location(s)
- Photo Location(s)

**Legend**

1 ▲
- Pit: No Subsurface Oil

2 ▲
- Pit: Subsurface Oil
- CT/C: Conventional Distribution
- CT/P: Patchy Distribution
- CT/S: Spattered Distribution
- Oil-Free Vegetation
- Oiled Vegetation
- Oiled Zone
- Shade

**Profile**

- Exposed Bedrock
- SSL (where significantly different than HWL)

**Profile**

-油 Free Vegetation
- Exposed Bedrock
- Volcanic rocks

**CT/S**

- Located at HWL. Usually spattering boulders but also small "globs" of oiling between boulders or in cracks of bedrock. A few areas have heavy oiling as noted.

**Legend**

- Bench consists of shallow or exposed bedrock with scattered boulders.

- Manually remove tail balls and patties.

**Oil Character Length:**

- AP 30 PO CV 27 CT 87 2162 MS PT 10 TB FL NO

See G26 Map for Subdivision boundaries.
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/GR301  **Date (mo/day/yr)** 4/9/90

**Subdivision** B  **Biolgist** S. Schroeder

(24 hr) 11 58

(A) Substrate type and % of segments:
- Bedrock 1
- Boulder 2
- Cobble 26
- Pebble 10
- Sand 5
- Silt 0

(B) Overall % cover of biota (% of segment):
- Dense 13
- Moderate 21
- Low 66

(C) Density, substrate preference (by number from A, above), &
vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles / adults (X), new settlement (3)

<table>
<thead>
<tr>
<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>Frames</th>
<th>Photographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 3 3 3</td>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>3 4 5 6 6</td>
<td>4 4 4 4</td>
<td>4 4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>5 6 6 6 6</td>
<td>5 5 5 5</td>
<td>5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>6 6 6 6 6</td>
<td>6 6 6</td>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MYTILUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>Frames</th>
<th>Photographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 3 3 3</td>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>3 4 5 6 6</td>
<td>4 4 4 4</td>
<td>4 4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>4 5 6 6 6</td>
<td>5 5 5 5</td>
<td>5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>5 6 6 6 6</td>
<td>6 6 6</td>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASTEROIDS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>Frames</th>
<th>Photographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 3 3 3</td>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>3 4 5 6 6</td>
<td>4 4 4 4</td>
<td>4 4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>4 5 6 6 6</td>
<td>5 5 5 5</td>
<td>5 5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>5 6 6 6 6</td>
<td>6 6 6</td>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FUCUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>Frames</th>
<th>Photographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 3 3 3</td>
<td>3 3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>3 4 5 6 6</td>
<td>4 4 4 4</td>
<td>4 4 4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>4 5 6 6 6</td>
<td>5 5 5 5</td>
<td>5 5 5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
<tr>
<td>5 6 6 6 6</td>
<td>6 6 6</td>
<td>6 6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>NOT PRESENT</td>
<td></td>
</tr>
</tbody>
</table>

**Wildlife Observations/ General Comments:**

No priority or sensitivity

**Ecological Considerations:**

This subdivision is very similar to GR310. It is predominantly a cobble/boulder beach with the
remaining boulders, generally large, spaced to
form a terraced effect. The intertidal flora and fauna
are generally sparse. New settlement (3) is not
noteworthy.
This subdivision is similar to GR301A; predominantly a cobble and boulder beach (~80%) with widely spaced headlands making up about 20% of the shore. The predominant organisms on the cobble and boulder beaches are barnacles and gastropods (primarily littorines and N. scutum). Fucus also occurs, but is rare.

The biota on the headlands are dense in the low-middle and low intertidal. The low intertidal is predominated by leafy red algae (e.g. Iridea, Odonthalia, Halosaccion, Rhodoglossum), eelgrass (P. eelgleri), and sparse concentrations of laminarians. P. eelgleri beds border much of the subdivision in the low intertidal and shallow subtidal. Sea stars occur in particularly high densities (3 per m-2 in some areas) in the low intertidal on and under boulders on the headlands. Most of the sea stars (~90%) are Pycnopodia that range in size from 2.5 to 14 cm in ray length. The other sea star species seen include: Pisaster ochraceus, Hemicia leviaculea, Evasterias trochilii, Demasterias irriticate, and Leptasterias hexactis. About half of the Pycnopodia had ray lengths < 10 cm and may represent fairly recent recruits.

In two areas where streams ran across the intertidal there were sparse to medium densities of barnacles (primarily B. glandula) and mussels throughout the intertidal on boulder and cobble substrates. These "islands" of high concentrations may be refuges from predation, as predatory snails and sea stars are absent here. Similar substrates at the same tidal levels 2 - 5 meters from the streams had much higher densities of sea stars (primarily L. hexactis) and barnacles and mussels were rare.
Note
All areas walked unless indicated.

GR-102

XXX Wide
//// Medium
----- Narrow
TTTT Very Light

Map Key: PUS-2611
Name: B. Vaughn
Date: 4/9/90

ADEC Segment Length: 13417m
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT GR-301 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup and Tarmat Removal</th>
<th>CLOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Than 400m From Active Nest</td>
<td></td>
</tr>
<tr>
<td>Manual Pickup and Tarmat Removal</td>
<td>OPEN</td>
</tr>
<tr>
<td>More Than 400m From Active Nest</td>
<td></td>
</tr>
</tbody>
</table>

* EXXON 'A' STUDY S1TL # APB-19 - DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE.

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
<td>NO CONSTRAINT. Authorized by Evelyn Biggs/ADF&amp;G on 5/17/90 to Exxon/Tom Kelley.</td>
</tr>
<tr>
<td>5S</td>
<td>Shorebird/Waterfowl</td>
<td>No constraint to manual pickup and tarmat removal after 5/15.</td>
</tr>
<tr>
<td></td>
<td>Concentration</td>
<td></td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>USFWS 6/1/90 map indicates active nests in Subdivision B. Closed to manual pickup and tarmat removal within 400m of active nests. No constraint to manual pickup and tarmat removal more than 400m from active nests.</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>No constraint to manual pickup and tarmat removal.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unoiled substrate and biota especially intertidal and subtidal algae and seagrass. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC Date 6-12-90
Prepared by John P. Phillips Date 6/4/90
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-301 SUBDIVISION B (2 of 2)

WORK WINDOW

Manual Pickup and Tar mat Removal

Less Than 400m From Active Nest

CLOSED

Manual Pickup and Tar mat Removal

More Than 400m From Active Nest

OPEN

* EXON 'A' STUDY SITE. APB-19 - DO NOT REMOV E STAKES FROM BACK OF INTEGRITY ZONE.

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Evelyn Biggs/ADF&G on 5/17/90 to Exon/Tom Kelley.

5S Shorebird/Waterfowl Concentration

No constraint to manual pickup and tar mat removal after 5/15.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates active nests in Subdivision B. Closed to manual pickup and tar mat removal within 400m of active nests. No constraint to manual pickup and tar mat removal more than 400m from active nests.

7II Subsistence: Deer Harvesting

No constraint to manual pickup and tar mat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unouled substrate and biota especially intertidal and subtidal algae and seagrass. Avoid any unnecessary disturbance or damage to unouled biota and substrata.

FOSC

Date 6-12-90

Prepared by

Date 6/11/90
SEGMENT AS \( GR-301 \) SUBDIVISION: B SITE (new site) DATE 8/1/90
USCG/NOAA P51 Leo Borsalona USCG Leo Borsalona
NAME ART WEINER SIGNATURE Art Weiner

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: If all mousse is removed from site, there would be no reason for reassessment. All mousse appears to be accessible.

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: During reassessment activities mousse was found in this area that was not slated for clean-up. A work modification form was made out. Manual removal was recommended if reassessment is necessary upon completion of work in 1990. In addition reassessment for 1991 is in order to determine any additional clean-up.

NAME John Esh SIGNATURE John Esh

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Mousse was identified beyond cobbled covered with grass. Reassessment should be completed before spring grasses develop, shortly after break up.

NAME Rey Sotelo SIGNATURE Rey Sotelo

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Manual removal of mousse between cobbles as indicated on sketch map. This site was found while looking for other sites in subdivision. After manual work is completed and assessed in 90, suggest application of custom blend. There
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-301  SUBDIVISION B  DATE 6/1/90
MODIFICATION CLASS I

1. REASON FOR MODIFICATION
   Mousse was located in area that was previously recommended for no work.
   (SEE MAP)

2. SUGGESTED ADJUSTMENT TO WORK PLAN
   MANUAL Removal of mousse at U1TE. Popweed
   Small boulders will have to be moved in some areas to expose mousse. Some areas surface mousse is present.
   - Orange flagging: Small rock piles were constructed to locate areas for work crews.

3. TIMING ISSUES

ADEC  Wesley Schomley
EXXON  Ray Stet
NOAA USCG  Art Weiner

LAND MANAGER  John Fickl  (if field rep is on scene)
## SURFACE-OIL

<table>
<thead>
<tr>
<th>SITE 1</th>
<th>SITE 2</th>
<th>SITE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARACTER</td>
<td>DISTRIBUTION</td>
<td>OILED ZONES</td>
</tr>
<tr>
<td>ASPHALT</td>
<td>C / B / P / S</td>
<td>SU / UI / MI / LI</td>
</tr>
<tr>
<td>S.O.P.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES / T.ES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ST. SITE LENGTH**
- SITE 1: 50 m
- SITE 2: 25 m
- SITE 3: 100 m

**SUBSURFACE-OIL**

**NOTES:**
- No pits were dug due to boulders.
- Subsurface oil character:
  - OP or OF: NO
  - OILED ZONE: SU, UI, MI, LI
- CLEAN BELOW: (Y/N)

**SUBSURFACE SEDIMENTS**

**PHOTOGRAPHERS:**
- Roll No. ASAP 2
- Roll #1
- Frames 15 / 16 / 17

**COMMENTS:**
- Site #1 did not appear to have been worked. 12 cm deep pockets of pooled mousse were observed on the UIZ. Scattered sorf t was located at site 2, but most of the oil seems to have
Note: This map was traced from the original.
SKETCH MAP NORTH END OF SUBDIVISION

- ACTUAL BAND IS DISCONTINUOUS
- TOTAL LENGTH 60+ M BUT TOI
- LENGTH IS CLOSER TO 40 M

- MS/B/H 40X2 Mx UPTO 12 CM DEEP
- MS/B/I 10X1 Mx UPTO 6 CM DEEP

- AREA MARKED WITH ROCK CAIRNS AND FLAGGING TAPE

- STREAM

- SITE 1
  - MS/I 65 M LONG AND UPTO 3 M WIDE
  - THIS REGION IS NOT IN A WORK SITE BUT MS/I WAS OBSERVED
  - LARGE DRIFT LOG
  - STEEP ROCK OUTCROP

- SITE 2 WAS WORKED; 2 TROWELS WERE RECOVERED

- SITE 2

- SITE 3

- MONTAGUE STRAIT

- METERS ALONG SHORE
  - 0 300 600 900

- LEGEND
  - A
  - NEW SITE
  - F1: No Subsurface Oil
  - F2: Subsurface Oil
  - CT/C Continuous Distribution
  - CT/B Broken Distribution
  - W: Water
  - CT/CT Patchy Distribution
  - CT/S Splashed Distribution
  - V: Vegetation
  - CT
  - Photo location, direction, and number

- NOTE: THIS MAP WAS TRACED FROM THE ORIGINAL SKETCH MAP WITH MINOR MODIFICATIONS.
8/1/90 ASAP TEAM #2

AREA THAT NEEDS REWORKED
- SEE SMALLER DETAILED MAP

- Exposed Bedrock
- SSL (when significantly different than HLS)

Profile

Oil-free

Exposed Bedrock

Profile

- Forest

- Stream

- beach

- manually remove tar balls and patties

- meters (alongshore)

- (Subdivision B
  continues but is unmarked)

- end of subdivision 301-0
Note: This map was traced from the original.
FIELD SHORELINE COMMENT SHEET

SEGMENT ASL: GR-301 SUBDIVISION: B SITE: 1 DATE 8/1/90

USCG/NOAA PS I Leo Berzalona USCG Leo Barcelona

NAME Art Werner SIGNATURE Art Werner

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: All mousse is accessible for removal using manual methods. If all material is removed, there would be no need for a reassessment in 1991.

ADEC NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Additional manual work is recommended for 1990. Mousse to the depth of 12 cm is present. Reassessment is recommended to determine the effect of manual work and to determine the amount of oil if any, remains after additional work is completed.

— Assessment should also be conducted in 1990 to see if additional work is in order after crew reworks area.

LAND MANAGER NAME John Ebel SIGNATURE John Ebel

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Mousse is readily identified in zone which can be worked. More pile cycles. Marine cobble may be hidden under grasses when green. Reassessment should be performed shortly after break-up.

EXXON NAME Rey Soto SIGNATURE Rey Soto

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: This site was missed by clean-up crews while working on the subdivision. Manual pick-up of all mousse should be followed by application of custard. After all the manual work is done, there should be no need for reassessment in 1991.
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-301  SUBDIVISION B (site #1)  DATE 8/1/90

MODIFICATION  CLASS I

1. REASON FOR MODIFICATION
   LARGE AMOUNT OF MOUSSE WAS NOT WORKED DURING CLEAN-

2. SUGGESTED ADJUSTMENT TO WORK PLAN
   MANUAL REMOVAL OF MOUSSE AND SMALL PATCHES OF ASPHALT.
   USE AVAILABLE HAND TOOLS. WIPE OIL RESIDUE WITH PON-PONS
   UPON REMOVAL OF MOUSSE.
   - BANDS OF MOUSSE LOCATED ON BOTH SIDES OF STREAM
   - SOME AREAS MOUSSE IS PRESENT TO 12CM IN DEPTH.

3. TIMING ISSUES

ADEC  Wesley Ishamley
EXXON  Ken Kirby
NOAA USCG  Art Wener
LAND MANAGER  John Ethel (if field rep is on scene)
ASAP TAG REVIEW SHEET

Segment: GR301  Subd: B  Site: 1  Date PRE-Review 11 Aug 90

Priority For Addressing In 1990

[ ] HIGH  [ ] MEDIUM  [X] LOW  [ ] NTR  N/A Sheet

Treatment Recommended: "MANUAL PICKUP  ASPHALT & MOUSSE"

Priority Site For Reassessment In 1991

[ ] YES CG  [X] NO  [ ] YES ADEC  [ ] NO  [ ] YES EXXON  [X] NO  [ ] YES LAND MGR  [NO]

---

TAG 13 Aug 90

Manual Pick up mouse

HIGH PRIORITY
SEGMENT AS 1  GR-301 SUBDIVISION: B SITE: 2  DATE 8/1/90
USCG/NOAA PS1 Leo Bercialo, USCG Leo Bercialo
NAME Art Weiner  SIGNATURE Art Weiner

☐ YES  ☒ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Remaining oil is not mobile, present in very small amounts and does not represent a threat to resources. Weathering effects during the winter will probably remove most or all of the remaining oil.

ADEC NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Reassessment is required to determine the effects of winter storms on remaining oil. No further treatment is recommended at this time.

LAND MANAGER NAME John Ebel  SIGNATURE John Ebel

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Site reassessment recommended to evaluate effects of weathering on 10/17/90; site not reassessed as a priority.

XXON NAME Ray Sutherland  SIGNATURE Ray Sutherland

☒ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Further treatment or reassessment is needed on this site until work is completed.
ASAP TAG REVIEW SHEET

Segment: GR301  Subd: B    Site: 2    Date PRE-Review 11 AUG 90

Priority For Addressing In 1990

___ HIGH ___ MEDIUM  [see comment]  ___ LOW ___ NTR

Treatment
Recommended: [MANUAL PICKUP  SPORADIC AP]

Realistically should be NTR
But since work being done on site 1 rec. above.

Priority Site For Reassessmen In 1991

YES CG NO  YES ADEC NO  YES EXXON X  YES LAND MGR X

TAG 13 AUG

NTR
SEGMENT AS / CR-301 SUBDIVISION: B SITE: 3 DATE 8/1/90

USCG
NAME ___________________ SIGNATURE ___________________

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: ____________________________

ADEC
NAME Wesley Ghercevoy SIGNATURE Wesley Ghercevoy

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: No further treatment at this time.

LAND MANAGER
NAME ___________________ SIGNATURE ___________________

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: ____________________________

EXXON
NAME Rey Sotelo SIGNATURE Rey Sotelo

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: ____________________________

No oiling observed that requires treatment or assessment.
ASAP TAG REVIEW SHEET

Segment: GR 301  Subd: B  Site: 3  Date  PRE-Review 11/Aug/90

Priority For Addressing In 1990

___ HIGH  ___ MEDIUM  ___ LOW  X NTR

Treatment Recommended:

NO OIL  -  Spontaneous Comb

NTR

Priority Site For Reassessment In 1991

YES  NO  YES  ADEC  NO  YES  EXXON  NO  YES  LAND MGR  X

TAG  13 Aug 96  NTR
### Surface Oil (Continued)

**New Site 4**

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oiled Zones</th>
<th>Distribution</th>
<th>Oiled Zones</th>
<th>Distribution</th>
<th>Oiled Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.O.R.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES/T.B.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Est. Site Length:** 65

### Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Clean Below (Y/N)</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:** The new area which was identified had a discontinuous band of MSP along the U172 which was partially covered with seaweed. The area is adjacent to a steep rock outcrop.
ASAP TAG REVIEW SHEET

Segment: GR 301    Subd: B    Site: 4    Date: 11/12/80

Priority For Addressing In 1990

___ HIGH    ___ MEDIUM    ___ LOW    X NTR

Treatment Recommended:


SPERMATIC MUSSE


NTR


Priority Site For Reassessment In 1991

YES  NO    YES  ADEC  NO    YES  EXXON  NO    YES  LAND MGR  NO


TAG 13  06  80

Manual Pick up mousse

HIGH - PRIORITY
SHORELINE EVALUATION

SEGMENT ST/ GR-302 SUBDIVISION A (1 OF 1) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-4 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 1102 m: Narrow 0 m: V.Light 2816 m: No Oil 2491 m
Subsurface Oil Observed: Yes No Maximum Depth 35 cm

RECOMMENDATIONS:

--- No Treatment Recommended
X Treatment Recommended
--- Oil Snares (pom poms)
--- Snare/Absorbent Booms
--- Absorbents (pads, rolls, etc)
--- Manual Pickup
--- Manual Pickup
--- Bioremediation
--- Spot Washing:
--- Tarmac: Breakup
--- Removal
--- X Other (see comments)

COMMENTS: Manual pick up of oiled logs with >10% coverage and splash impact. Bioremediate subsurface oil (pit 1 location). Work between 6/1 and 8/14 with ADF&G and USFWS approval regarding eagle nest constraints and herring spawning.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC Art Walker Art Walker
EXXON [Signature] [Signature]
NOAA Joseph Trefethen
USCG [Signature] [Signature]
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bio remediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)
Esther Hatchery release (4/1 to 6/1)
Main Bay Hatchery release (4/20 to 5/10)
Sawmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)
Remote release site
 Gill net area (6/7 to 8/31)
Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unciled intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Tent sites (5/1 to 9/15)
Anchorages (5/1 to 9/15)
Forest Service cabins (5/1 to 9/15)
Lodge (5/1 to 9/15)
Special use destination
Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Door harvesting (8/15 to 2/28)
Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / 6.9 / 302

SUBDIVISION: __________________________ DATE: 4/15/90

SCG

NAME: Robert Jensen
SIGNATURE: Robert J.

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Oil distribution is patchy for the first kilometer on the north side of this segment. It then reduces down to splashes post this location to very hard to find.

ADEC

NAME: Rowan T. Hudwall
SIGNATURE: Rowan T. Hudwall

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

North end of segment has sporadic staining and coats. South end is very lightly oiled - hard to find splashes of stain.

LAND MANAGER

NAME: U.S. Fish & Wildlife
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Formed oil was discontinuous land on splatter cover at Northeast end of segment. Band became less obvious as proceeded southward along segment. By this reached 1st small coat it was very thin and hard to find. By 2nd small geyser area very treated. Only small patches splatter found below geyser.
**SHORELINE OILING SUMMARY**

**SEGMENT ST/ 4R.309**

**BIO**

**LAND REP**

**ADEC**

**Revised By**

**TIME**

**DATE**

**EST. SUBDIVISION LENGTH:** 705.6 m

**TIDE LEVEL:** + 1.4 to + 3.5

**DATE:** 5/15/90

**UPLANDS DESCRIPTION:**

- Grass
- Forest
- Rock

**SLOPE:**

- Long 60%
- Hang 27%
- Vert 7%

**WAVE EXPOSURE:**

- Low
- Med
- High

**OIL CATEGORY LENGTH:**

- W 0 m
- M 0 m
- N 0 m
- VL 0 m

**OIL DISTRIBUTION**

- N
- SUBSURFACE OIL

**OIL FILM COLOR**

- Subsurface Zone

**PIT ZONE**

- A
- B
- C

**SUBSURFACE SEDIMENTS**

- A
- B
- C

**COMMENTS**
OG Jann Sample

SEGMENT SP

SUBDIVISION N/A

DATE April 15/90

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Bndry
- Oil Dst.
- Width
- Length
- % Cover
- Substrate Character
- Est. HWL/ML
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1  △

Ph - No Subsurface Oil

2  △

Ph - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

Oil Character Length (m): AP FO CV OT ST 1950 MS PT TB FL NO 2594

REVISION: 03/24/90
Green Island, GR-302, April 5, 1990

Segment GR-302 is a 7 km long section of shoreline forming the south coast of a long barrier island located north of Green Island. Most of this segment is exposed to a short fetch, the width of the channel separating it from Green Island, except at its northeastern extremity where refraction of waves travelling from the northeast can impinge on the shoreline.

At its northeastern extremity, this segment consists of cliffs and talus with boulders in the lower intertidal zone. This section gives way to the south to a beach of angular boulders and cobbles. In these two sections, oil occurs within a 12 m wide band as patchy covers with an average thickness of 3 mm and a surface coverage of 30%.

Further to the southwest, bedrock cliffs and talus form most of the intertidal zone. Here the oil decreases in coverage and forms stains of splatters with a coverage of only 1% within a 1 m wide band of the upper intertidal zone. This unit is followed by another section of boulders on a bedrock ramp where the oil increases to form a 10 m wide band with 30% surface cover and 5 mm average thickness.

Further to the southwest, the intertidal zone increases in width and is composed of pebble/cobble. A film of oil surrounding sediments was detected in the storm berm of this area, down to depths of 35 cm, within a 4 m wide band with a 10% cover.

This type of beach continues to the southwest over a considerable distance including two large and complex embayments. Very little or no oil was found there; where present it consists mostly of very dispersed small splatters.

Two short sections of the northwestern shoreline of the two embayments include narrow bands of stains and coats on the upper intertidal sediments.

The southwestern end of this segment is made up of cliffs and talus and a
cove including a pocket beach of boulder/cobble and sand in its center. No oil was found in this area, except at the southern extremity of the segment where stains of splatter occur within a 5 m wide band on the bedrock cliffs and boulders of the upper intertidal zone.
SHORELINE ECOLOGICAL SUMMARY

Segment ST / GR-302 Subdivision / N/A Date (mo/day/yr) 04/05/90

Time (24 hr) 15:05 - Biologist / John Dixon

(A) Substrate type and % of segments:
1. Bedrock 13
2. Boulder 18
3. Cobble 30
4. Pebble 20
5. Sand 14
6. Silt

(B) Overall % cover of biota (% of segment): Dense 11 Moderate 25 Low 64

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L; juveniles/adults (X), new settlement (3))

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>L</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>L</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>L</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>L</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Photographs:
Roll No. ST-2-8
Frames 71, 13, 14, 23-24, 51-54

Wildlife Observations/General Comments: Most crabs were seen walking the intertidal. Most species were observed at low tide and seen in general area.

Ecological Considerations: The area is made up of 3 habitat types: bedrock, boulder, and cobble. The bedrock and boulder habitats were most suitable for Fig. 2. Most species were observed in groups with individuals of various species coexisting. The sand habitat is described in detail in Section 1.
This long segment is made up of three broad habitat types: 1) Redrock outcrops + talus, 2) boulder/cobble beaches of various profiles and slopes, and 3) lagoon + eutrophic areas with extensive sand flats. The northern boundary of the segment is a rocky headland. Within about 300 m this grades into a predominantly boulder beach with large patches of red rock outcrops with little relief. Muscles tend to occur on the outcrops in the higher areas (+3'-6'). Barnacles & urchins are not abundant on the larger, more still rocks + gravels tend to occur on boulders + cobbles on the beach + high shore. Many recently eaten Nereocystis + N. edentula. Tidal down the shore on the boulder + cobble beach one is aware of 3 levels of color. From +3' to +3' there is a red-brown band composed if filamentous algae + fucales. Below this from +3' to +7' there is a gray band of rock with large mussels + moderate density of mussels + limpets. From +7' to +12' there is a blue-gray band of sparse mussels + barnacles + moderate density of gastropods. In the central + southern portion of the segment there are large indentations...
the shoreline where beach gravel of sand flat occur. The substrate is mostly medium size pebbles and shell debris. Depth holes are in 120 ft. There are many deep sand shells (usual). There is a moderate cover of red and green filamentous algae in the lower areas. In the southwest arm of the southern lagoon, the shoreline steepens and sand and pebbles give way to boulders, breakers, and large cobble. The substrate continues to the outer part of the island and grades into vertical bedrock cliffs. The southern boundary of the segment is a boulder cove, head between two outcrops of bedrock and takes. The lower portion of the pocket head is sand.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-302 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK 6/15 to 7/1</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT
If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning | Closed to bioremediation prior to 6/15.
5S Shorebird/Waterfowl Concentration | No constraint to manual pickup and bioremediation after 5/15.
5T Bald Eagle Nest | NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.
711 Subsistence: Deer Harvesting | Closed to bioremediation after 8/15. No constraint to manual pickup.
722 Subsistence: Salmon Harvesting | Closed to bioremediation after 7/1. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS
Avoid any unnecessary disturbance or damage to unceded substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC:

Prepared by:

Date: 6/13/90
Date: 6/12/90
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4LL  Kenai Fjords National Park
5T-1  All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6U  Recreation: Tent sites (6/1 to 9/15)
6V  Recreation: Anchorages (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: ______________________ DATE: 5/8/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 2898 m
Subsurface Oil Observed: Yes X No_ Maximum Depth_____

RECOMMENDATIONS:
X No Treatment Recommended
_____ Treatment Recommended
_____ Manual Pickup
_____ Bioremediation
_____ Tarmat Removal

COMMENTS: ________________________________________________________________

TAG COMMENTS: ____________________________________________________________

TAG APPROVAL DATE: 5/8/90
ADEC  -  Art Weiner
EXXON  -  Don Tom
NOAA  -  Gary Penne
USCG  -  C. A. Reeder
FOSC: ___ DATE: 6 June 90
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A. Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B. Salmon stream mouth - spawning (7/11 to 8/31)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

1C. Salmon fry nursery areas (4/31 to 7/31)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

AGENCY CONTACT PERSON: ADF&G Larry Pelz 424-3214

1D. Esther Hatchery release (4/15 to 6/15)

1E. Main Bay Hatchery release (4/20 to 6/15)

1F. Sawmill Bay Hatchery release (4/15 to 6/1)

1G. Cannery Creek Hatchery release (4/21 to 6/1)

1H. Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Pelz 424-3214

2M. Herring spawning (4/1 to 6/15)

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unool tidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

3P. Harbor seal and sea lion pupping (5/15 to 7/1)

Contact AOF&G prior to treatment for confirmation of dates. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G and/or PWS Aquaculture Association for consultation and authorization.

AGENCY CONTACT PERSON: AOF&G Evelyn Biggs 424-3235

5R. Seabird colony (5/1 to 9/1)

Restrict air and boat traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from hauled. No application of lnipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: USFWS Steve Zimmerman 586-7235

ADF&G Don Calkins 267-2403

5S. Shorebird/waterfowl concentration (4/1 to 5/15)

Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothly 267-2208

7E. All Bald Eagle nests (3/1 to 6/1)

Active Bald Eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6D. Recreation:

Tent sites (6/1 to 9/15)

6V. Anchorage (6/1 to 9/15)

6W. Forest Service cabins (6/1 to 9/15)

6X. Lodge (6/1 to 9/15)

6Y. Special use destination

7Z. Subsistence areas: Salmon harvesting (5/1 to 9/30)

7H. Flsh harvesting

7I. Deer harvesting (8/15 to 2/28)

7J. Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: AOF&G Jim Fell 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  HA-2 SUBDIVISION: A DATE 4/29/2

USCG
NAME: Jerry Schulte SIGNATURE: Jerry Schulte

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADEC
NAME: Mike Ebel SIGNATURE: Michael J. Ebel

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

HA-2-A: Very little oil found on the southern end of the segment, in the boulder sand pocket beach (western shore). Splash coats weathering off cliff faces need no attention and the few splashes of interstitial pool and asphalt found in rock crevices are not of enough substance to justify any further impact such as crunching underfoot the intertidal cattails.

LAND MANAGER NPS
NAME: Michael Tetreau SIGNATURE: Michael Tetreau

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Good survey. Sparse oil was found, but treatment does not appear to be necessary.
SHORELINE OILING SUMMARY

OG: Randy Siegel  USCG  Jerry Schulte  (SENGMENT ST: HA-2)
BIO: Lewis Sherman  LAND REP  Audi Selzer  COASTAL SUBDIVISION A
EXXON: Leonard Farhat  ADEC  RISE  EDEC
TEAM NO: 1  
TIDE LEVEL: -2.5 ft  DATE: 4/29/90
EST. SUBDIVISION LENGTH: 3.5 km
UPLANDS DESCRIPTION: ☑ Grass  ☑ Forest  ☑ Rock
SURVEYED FROM: ☑ Foot  ☐ Boat  ☐ Helo
WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 15%  B 75%  C 5%  P 3%  G 5%  M 0%  V 0%
SLOPE: Lang 5%  Hang 45%  Veh 0%
WAVE EXPOSURE: ☐ Low  ☑ Med  ☐ High
OIL CATEGORY LENGTH: W 0 m  M 0 m  N 0 m  M 240 m  NO 3370 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>POOLED</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td>X X</td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT H F % sq. m by 2 cm
PATTIES / TARBALLS % BAGS
NEAR SHORE SHEEN? ☐ BR RW SL TL

OILED DEBRIS
SM MD LG

DID YOU COLLECT DEBRIS?
☐ YES  ☑ NO

PHOTOGRAPHER:
None

Roll No: None
Frames: __________

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANE PRER (CM)</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25</td>
<td>X</td>
<td>0-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>CPG</td>
</tr>
<tr>
<td>2</td>
<td>37</td>
<td>X</td>
<td>0-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>SGC</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td>0-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>S</td>
</tr>
<tr>
<td>4</td>
<td>35</td>
<td>X</td>
<td>0-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>S</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>X</td>
<td>0-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>S</td>
</tr>
</tbody>
</table>

COMMENTS

Segment consisted of triangled cliffs with occasional pocket beaches. Light oiling in the southerly beach - coastal on cliff walls, and some asphalt pools in boulder crevices. All pits were sampled. Surveyed by boat with spot checks along shoreline.

REVIEWED: BRT  DATE: 5/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST / HA - 2  Subdivision A  Date (mo/day/yr)  4/29/90

Time (24 hr)  0900-1100  Biologist  SHARMAN

(A) Substrate type and % of segment: Subdiv.
   (1) Bedrock  15%  (2) Boulder  35%  (3) Cobble  5%  (4) Pebble  3%  (5) Sand  2%  (6) Silt

(B) Overall % cover of biota ( % of segment): Dense  Moderate  X  Low

(B) Density, substrate preference ( by number from A, above ), &
vertical zonation of major taxa: ( upper-U; mid-M; low tidal-L );
juveniles / adults (X) , new settlement (3)

Photographs:
   Roll No.
   Frames

BARNACLES

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>3 3 3</td>
<td>5 5 5</td>
<td>6 6 6</td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 4 4 4</td>
<td>5 5 5 5</td>
<td>6 6 6 6</td>
<td></td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>3 3 3</td>
<td>5 5 5</td>
<td>6 6 6</td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 4 4 4</td>
<td>5 5 5 5</td>
<td>6 6 6 6</td>
<td></td>
</tr>
</tbody>
</table>

GASTROPODS (AEGELA, LITTORINA, LIMAETI)

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>3 3 3</td>
<td>5 5 5</td>
<td>6 6 6</td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 4 4 4</td>
<td>5 5 5 5</td>
<td>6 6 6 6</td>
<td></td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 2 2</td>
<td>3 3 3</td>
<td>5 5 5</td>
<td>6 6 6</td>
</tr>
<tr>
<td>2 3 4 5 6</td>
<td>3 4 4 4</td>
<td>5 5 5 5</td>
<td>6 6 6 6</td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations/ General Comments: 25 lothirigence, 2 pigeon guillemots, 2 Barrows goldengate, 1 harbor seal, 1 fulmar, many unidentified birds. Untouched, being left to foment. Apparently unloved and unlovable. MTS has
locally developed college forrest. MTS & LTLB support's community species. By

Ecological Considerations:

We received no information regarding resources and activities previously identified
for this segment. The old particular ecological priority seems to me in the
importance of the Bedrock points at the 11 end of the segment as heavily for

principles.
General Comments (cont.):

Bicore, etc. Moderate MTZ & LTZ algal diversity. A generally normal & healthy intertidal community with normal ongoing recruitment.
HA-2

Map Key: KEN-440
Name: [Signature]
Date: 4/29/90

Legend:

- XXXX Wide
- ///// Medium
- ---- Narrow
- TTTT Very Light
- 0000 No Oil

ADEC Segment Length: 3167m

Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ HR-003 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
4QQ National Wildlife Refuge
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 175 m: No Oil 1501 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:

X Treatment Recommended
X Bioremediation
--- No Treatment Recommended
--- Manual Pickup
--- Snare/Absorbent Booms
--- Oil Snares (pom poms)
--- Absorbents (pads, rolls, etc)
--- Spot Washing: Wands
--- Beach Cleaner
--- Removal
--- Other (see comments)

COMMENTS: Recommend bioremediation of subsurface oil as indicated on sketch map. Treatment should be conducted before 5/1 or with permission of USFWS after 5/1 due to presence of seabird colony.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC ART WEINER DATE: 4/26/90
EXXON ART WEINER DATE: 4/26/90
NOAA DATE: 4/26/90
USCG DATE: 4/26/90

Due to the reason for not treating offered by USFWS, proceed with treatment as per TAG comments - undesirable condition should be enhanced.
PWS ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C Salmon fry nursery area (4/31 to 7/31)
1D Estuary hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/20 to 5/10)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/21 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6Y Special use destination

Recreation:
6V Anchorages (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Z Recreation

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / HR-3 SUBDIVISION: A DATE 4/8/90

USCG NAME JACQUI MICKER SIGNATURE 

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

The only oil remaining was found on the southernmost boulder beach -- only a few drips were observed. No further treatment is warranted.

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Very light oiling consisting of a few splatters. No treatment is required. I have read and agree with all data on S.S.A.T. Forms.

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Oil remains as coat and stain between and beneath boulders in the boulder beach at the southern end of this segment. The amount and location of the oil remaining make it difficult to recover.

LAND MANAGER / OSFWS
NAME Mary Porter SIGNATURE Mary Porter

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

REVISED NO: 02/21/90
SHORELINE OILING SUMMARY

OG: MANILA USCG/NAV SEGMENT: MICHEL SUBDIVISION: A
BIO: CARP LAND REP: BOYER USCG: 18 SEGMENT: ST/ 8
PEAM NO.: 18 TIME 08: 18 09: 12
EST. SUBDIVISION LENGTH: 1916 m TIDE LEVEL: -1.0 to +2.2 DATE 4/18/90
UPLANDS DESCRIPTION: ☑ Grass ☑ Forest ☑ Rock ☑ Other
SURVEYED FROM: ☑ Foot ☑ Boat ☑ Helo WORKING DIRECTION: WNW to SSW
SURFACE SEDIMENTS: R 90% B 0% C 0% P 0% G 0% S 0% M 0% V 0% O 0%
SLOPE: Lang 10% Hang 50% Vert 40% WAVE EXPOSURE: ☑ Low ☑ Med ☑ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 100 m NO 1516 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

PAVEMENT: H F 5/16 sq. m by 0 cm

PATTIES / TARBALLS 1/4” 0 BAGS

NEAR SHORE SHEEN? ☑ BR RW SL TL

OILED DEBRIS NO AMOUNT
Logs
Vegetation
Trash
Debris

Photographs:
Roll No. 5T 18-5
Frames (11-12)

DEBRIS COLLECTED
☑ YES ☐ NO

#BAGS 0

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>☑</td>
<td>0 - 25</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>BC throughout</td>
</tr>
</tbody>
</table>

COMMENTS
This is a monotonous, stage shoreline backed by a high angle spurce fault. We landed on a boulder beach (very light oil category on map) where surface oil was sparse and showed signs of wave and boulder breaking. The CT and ST persist in boulders at depth, but I doubt there is any significant volume of Subsurface oil — i.e. I don't expect to see sheen or hot spots here.

Page 1 of _ sea sheen or hot spots here. REVIEWED 7/5/90 DATE 4/18/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST 

HR-3 Subdivision A (of A) Date (mo/day/yr) 4/8/90

Page 24 hr 0840 Biologist M. CARR

(A) Substrate type and % of Subdivision:
   (1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 80 Moderate 20 Low

(C) Density, substrate preference (by number from A, above), &
vertical zonation of major taxa: (upper-U; mid-M; low tidal-L)

juvenile / adult (X), new settlement (O)

Photographs:
Roll No. 5

Frames 11-12

BARNACLES:

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

MYTILUS:

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

GASTROPODS:

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

FUCUS:

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations/ General Comments:

NONE

Ecological Considerations:

Sensitivity codes: 4-OA (National Wildlife Refuge), 5-R (Seabird colony)
SKETCH MAP

No sketch

LEGEND

1. △
   Pit - No Subsurface Oil

2. △
   Pit - Subsurface Oil

| CT/C | Contiguous Distribution |
| CT/B | Brokken Distribution |

| CT/P | Patchy Distribution |
| CT/S | Splashed Distribution |

Oil Vegetation

Oil Character Length (m): AP D PO D CV O CT 10 ST 10 MS O PT O TB O FL O NO 1906
OILING

N • Heavy
M • Moderate
O • Light
V • Very Light
N • None
L • NOT Surveyed

Surveyed Area

MOVE DEBRIS

CT/5 ST/5

Scattered to 25 cm

Distance In Meters

ADEC Sep/Oct 1989 Survey
G15: I don't have Exxon map
- please fill it out yourself.
SEGMENT ST/ HR-005 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird Colony (5/1 to 9/1)
4QQ National Wildlife Refuge (no time constraint given)

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to unoiled substrate and biota.

SHPO SIGNATURE: __________ DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 415 m: No Oil 1744 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth ___ 40 cm

RECOMMENDATIONS:
X No Treatment Recommended ___ Snare/Absorbent Booms
Treatment Recommended ___ Oil Snare (pom poms)
Manual Pickup ___ Absorbents (pads, rolls, etc)
Bioremediation ___ Spot Washing: ___ Wands
Tar mat: ___ Breakup ___ Beach Cleaner
___ Removal ___ Other (see comments)

COMMENTS:

TAG COMMENTS:
TAG APPROVAL DATE: 4/14/90
ADEC __________ DATE: 5-1-90
EXXON __________
NOAA __________
USCG __________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1 HR 05 SUBDIVISION: A DATE 4/8/90

NAME JACOBI MICHEL SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Based on previous site descriptions, this area has improved significantly by natural removal. The remaining oil was either:
1. Very widely scattered splatters or
2. Po/AP/CV/CCT in the cove that was originally heavily oiled. Natural removal is the most effective approach, even for this cove.

ADEC NAME John R. Reed SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

I am not recommending treatment due to the drastic change since last year. Natural removal has done a good job on this segment. I have read and agree with all data on S.S.M.T. Forms.

LAND MANAGER - USFWS NAME Mary Porter SIGNATURE Mary Porter

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Some natural weathering and removal of oil has taken place in this segment. Oil remaining at Site 1 consists primarily of scattered coats, crumb and stains most of which is between boulders on the N and S end of the beach. Several small areas of pooled oil and asphalt are present. The remainder of the segment consists of widely scattered CTS and STS.

REVISION NO. 05/21/90
**SHORELINE OILING SUMMARY**

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pooling</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cover</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Coat</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Stain</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Surface Oil**

*Pavement: H*  
*Patties / Tarballs: 0 Bags*  
*Near Shore Sheen? No*  
*Royal* SL TL  
*Oiled Debris No*  
*Amount: SM MD LG*  
*Debris Collected: Yes*  
*Type: 0*  
*Photographs:*  
*Roll No. 5T 18-5*  
*Frames 13*

**Subsurface Oil**

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm)</th>
<th>Below Oil / Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>✓</td>
<td>0-40</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>No BC Fractured</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>✓</td>
<td>0-40</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>75</td>
<td>✓</td>
<td>0-30</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:** This is one of the more protected of the Chequamegon Island shoreline. The coastline is steep but not precipitous. Help and drift logs were observed offshore of the southern cove (sketch site). Oiling outside the cove consists of widely-scattered 0.75 to 5.75 m. In the cove, surf oiling is sparse and shows signs of being eroded by wave and rolling breakers. Much of the remnant oil is in the subsurface but most of that is CT and ST. Pronounced natural self-cleaning has occurred here since 1989.
No sketch map

Oil Character Length (ft): AP _ PO _ CV _ 3 _ CV _ 50 _ CT _ 150 _ ST _ 200 _ MS _ 0 _ PT _ 0 _ TB _ 0 _ FL _ 0 _ NO _ 2623
SHORELINE ECOLOGICAL SUMMARY

Segment ST/ HR 5  Subdivision A (of A) Date (mo/day/yr) 4/8/90

Time (24 hr) 0920  Biologist M. CARR

Substrate type and % of segments:
(1) Bedrock 20  (2) Boulder 20  (3) Cobble 40  (4) Pebble 20  (5) Sand 5  (6) Silt

Overall % cover of biota (% of segment): Dense 70  Moderate 20  Low 10

Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
juveniles/adults (x), new settlement (3)

Photographs: Roll No. 5
Frames 13

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:

Bald eagle (2), mature
Black-legged kittiwake (50) on rock
Glaucous-winged gull (200)
Surf scoter (4)
Mergie (1)

Ecological Considerations:

Sensitivity codes: 4-09 (National Wildlife Refuge), 5-R (Seabird colony)
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R  Seabird colony (5/1 to 9/1)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
4QQ National Wildlife Refuge
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: ______________________ DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 58 m: Narrow 0 m: V.Light 0 m: No Oil 4562 m
Subsurface Oil Observed: Yes X No Maximum Depth 100+ cm

RECOMMENDATIONS:
X No Treatment Recommended
_____Treatment Recommended
_____Manual Pickup
_____Bioremediation
_____Tarmat: Breakup
_____Removal
_____Snare/Absorbent Booms
_____Oil Snares (pom poms)
_____Absorbents (pads, rolls, etc)
_____Spot Washing: Wands
_____Beach Cleaner
_____Other (see comments)

COMMENTS: __________________________________________

TAG COMMENTS: ______________________________________

TAG APPROVAL DATE: 4/21/90
ADEC ART WELLMER
EXXON ANN TARD
NOAA BRIAN WESCHER
USCG KENNETH KELLY

FOSC: ______________________ DATE: 4/17/90
Pay particular note to DoJ’s request concerning sealing.
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioirrigation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)

Ester Hatchery release (4/15 to 6/1)

Main Bay Hatchery release (4/20 to 5/10)

Sawmill Bay Hatchery release (4/15 to 6/1)

Cannery Creek Hatchery release (4/21 to 6/1)

Remote release site

Gill net area (6/7 to 8/31)

Purse seine area (7/20 to 9/30)

Purse seine hook-off (7/20 to 9/30)

Set net sites (6/11 to 7/25)

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 8/15)
Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only, maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

Recreation:

Tent sites (5/1 to 9/15)

Anchorage (6/1 to 9/15)

Forest Service cabins (6/1 to 9/15)

Lodge (6/1 to 9/15)

Special use destination

Subsistence area:

Salmon harvesting (5/1 to 9/30)

Finfish harvesting

Deer harvesting (6/15 to 2/28)

Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT STI ~HR 07~ SUBDIVISION: A ~ DATE 4/2/90~

NAME JACQUI MICHELL SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

This segment was the most rugged/exposed shoreline seen to date, with large numbers of seabirds and marine mammals. Most of the shoreline consisted of vertical cliffs that were face of oil. One area, a "notch" boulder beach, contained oiled boulders below a clean surface. I was surprised to see oil persist on this very high-energy shoreline - yet the large size of the boulders has slowed erosion of oil from below the surface. The residual oil is still very light and does not warrant treatment.

ADEC
NAME JOHN R. REED SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

One small pocket beach of large boulders has a very small area of cover, coat, and stain that does not warrant treatment. The majority of the segment is vertical cliffs. I have read and agree with all data on S.S.A.T. forms.

LAND MANAGER - USFW
NAME Mary Farnell SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Since the 1939 SPAR of this segment some weathering of the oil coating the surface of cobbles and boulders (see site sketch) has occurred. However, beneath the surface layer of cobbles and boulders, oil coverage in the sand approaches 100%. Primarily boulders oil coverage in the sand approaches 100%, primarily.

Oil persisting along the rock face and as coating and stain. Oil persists along the rock face and as coating and stain. Driftwood currently in the upper sand.

Treatment technology does not include spreadthme1t and recovery of the subsurface oil at this site. Due to the rich wildlife and presence of pineapples, this site should be reevaluated in 2-3 years. Revision No. 02/1990.
### SHORELINE OILING SUMMARY

**NOAA**

**EXXON**

**ADEC**

**TEAM NO.**

**DATE**

**EST. SUBDIVISION LENGTH:** 6399 m

**TIDE LEVEL:** +1 to -0.8

**SURVEYED FROM:**

**WORKING DIRECTION:**

**SURFACE SEDIMENTS:**

**SLOPE:** Lang 3 % Hang 10 % Vert 87 %

**WAVE EXPOSURE:**

**OIL CATEGORY LENGTH:**

<table>
<thead>
<tr>
<th>OIL CATE</th>
<th>LENGTH</th>
<th>M</th>
<th>M</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>0 m</td>
<td>M</td>
<td>75 m</td>
<td>N</td>
</tr>
</tbody>
</table>

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>COAT</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAVEMENT: H</th>
<th>F</th>
<th>S</th>
<th>O sq.m by O cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATTIES/TARBALLS: 0</td>
<td>BAGS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NEAR SHORE SHEEN?**

**PAVED: H F S O sq.m by O cm**

**OILED DEBRIS NO**: SM MD LG

**DEBRIS COLLECTED**

**TYPE: NO**

**BAGS: NO**

**Photographs:**

**Roll No.** 18-5

**Frames:** (32-37) (1-2)

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(CAL-CAL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>30</td>
<td>✓</td>
<td>0-30</td>
<td>✓</td>
<td>✓</td>
<td>NO CB Throughout</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td>✓</td>
<td>50-100</td>
<td>✓</td>
<td>✓</td>
<td>NO BC Throughout</td>
</tr>
<tr>
<td>3</td>
<td>75</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

This segment consists of a spectacular high cliff. Oil persists in one small pocket pocket (beach). This cliff is composed of rounded to subrounded, granitic boulders (Small to large). Oil is now at the surface, but persists in the subsurface as abundant CT and ST—apparently at depth below which the boulders have not moved. Since the oil arrived, oil CT and ST on fringing rock walls has been wave-abraded.

**Reviewed:**

**Date:** 4/19/90
SEGMENT ST/HE07

SUBDIVISION A

DATE 04/07/90

CHECKLIST

N Arar

Approx. Scale

Seg/Sublinary

Oil Dist.

Well

Length

% Cover

Substrate Character

Est. HWL/LWL

SSL

Profile Location(s)

Pit(s)

Pit Location(s)

Photo Location(s)

LEGEND

1 A

Pit - No Subsurface Oil

2 A

Pit - Subsurface Oil

CT/C

Contributed Distribution

CT/D

Broken Distribution

CT/E

Patchy Distribution

CT/F

Splashed Distribution

Oil Vegetation

Photo location, direction, and number

Oil Character Length [in]: AP 0 PO 0 CV 75 CT 45 ST 75 MS 0 PT 0 TB 0 FL 0 NO 6234
Site Sketch Map Subdiv A

Mann 4/7
HR-71.

stock 1915 -
and 1900

on the vertical walls...
CV's, CT's, ST/P
(tot. cov. ~ 20%)
7.5m x 2m wide

klippe

drift logs (not oiled)

steep bank of unconsolidated
colluvium
SHORELINE ECOLOGICAL SUMMARY

Segment ST / HR-7 Subdivision A (col. A) Date (mo/day/yr) 4/7/80

Subdivision A (\(14^1\))

Date (mo/day/yr) /?/te

Biologist M. CARR

A) Substrate type and % of segments:
   (1) Bedrock 97 (2) Boulder 3 (3) Cobble (4) Pebble (5) Sand (6) Silt

B) Overall % cover of biota (% of segment): Dense 90 Moderate 10 Low

C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);
   juveniles / adults (X), new settlement (\(\ddagger\)) Photographs:
   Roll No. 4/5 Frames 32-37 1-2

BARNACLES:

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1L</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:

Glaciers - winched gulls (\(\ddagger\) 1000)
Bald eagles (\(\ddagger\) 100) Black oyster catch (5)

Ecological Considerations:

Sensitivity codes: 4-00 (National Wildlife Refuge) S-R (Seabird colony),
3-P (Seal lion pupping), 3-Q (Seal lion molting)
5-T (Bald eagle nest)

Sea otter (1)
Red-finned Porpoise
Sea lions (\(\ddagger\) 115), Steller's
Harlequin ducks (5)
Whales (4), und.
* ENTIRE SHORELINE IS INHABITED BY SEABIRD COLONIES!

<table>
<thead>
<tr>
<th>Width</th>
<th>HR-7</th>
<th>Map Key: KCH-52</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXX Wide</td>
<td></td>
<td>Name: Mann</td>
</tr>
<tr>
<td>/// Medium</td>
<td></td>
<td>Date: 4/7/90</td>
</tr>
<tr>
<td>---- Narrow</td>
<td></td>
<td>Data Entered:</td>
</tr>
<tr>
<td>TTTT Very Light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0000 No Oil</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SHORELINE EVALUATION

SEGMENT ST/HR-009 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
5T Active eagle nest (3/1 to 9/1)
4QQ National Wildlife Refuge (no time constraint given)

SUBDIVISION ECological CONSTRAINTS:
Avoid disturbance/damage to unoiled biota and substrate. See attached Ecological Constraints Sheet.

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 150 m: No Oil 5606 m
Subsurface Oil Observed: Yes X No Maximum Depth 100 cm

RECOMMENDATIONS:
____X No Treatment Recommended ______ Snare/Absorbent Booms
______ Treatment Recommended ______ Oil Snares (pom poms)
______ Manual Pickup ______ Absorbents (pads, rolls, etc)
______ Bioremediation ______ Spot Washing: ______ Wands
______ Tarmat: ______ Breakup _______ Beach Cleaner
______ Removal _______ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90
ADEC ____________________________ FOSC: ____________________________ DATE: 4/20/90
EXXON ____________ _________________
NOAA ____________________________
USCG ____________________________
PWS ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C Salmon fry nursery area (4/31 to 7/31)
1D Easter Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/20 to 5/10)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/21 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

6U Recreation:
6V Tent sites (6/1 to 9/15)
6W Anchorages (6/1 to 9/15)
6X Forest Service cabins (6/1 to 9/15)
6Y Lodge (6/1 to 9/15)
6Z Special use destination

7Z Subsistence area:
7A Salmon harvesting (5/1 to 9/30)
7B Finfish harvesting
7C Deer harvesting (8/15 to 2/28)
7D Invertebrate harvesting
For Codes 7Z through 7J contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

MENT ST: HR-9 SUBDIVISION: A DATE: 4/8/90

USCG NAME: Jacob Michael SIGNATURE: J Michael

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

This segment was free of oil except for site 1. A boulder beach that was originally heavily oiled. Although the surface sediments were nearly clean, the subsurface boulders were still coated (20-40%) with a thin oil layer along the upper 1 ft in a discontinuous band—evident on this very exposed shoreline. However, no further cleanup is warranted — natural removal will be most effective.

ADEC NAME: John R. Reed SIGNATURE: John R. Reed

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

This segment is mostly vertical cliffs that show no signs of oil. There was some oil at site #1 (see sketch) that consists mainly of coated in the form of splatters on the large bouldered beach. I have read and agree with all data on S.S.A.T. forms.

LAND MANAGER/USFWS
NAME: Mary Parker SIGNATURE: Mary Parker

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Oil patches in this segment at site 1 (see sketch). Surface oil appears in this segment at site 1 (see sketch). Surface oil appears in this segment. Oil appears in this segm...
NAME: John R. Reed
SIGNATURE: John K. Reed

☐ No Treatment Recommended
☐ Treatment Suggested

Comments:

This segment is mostly vertical cliffs that show no signs of oil. There was some oil at site #1 (see sketch) that consisted mainly of coat in the form of splatters on the large boulder beach. I have read and agree with all data on S.S.A.T. Forms.

NAME: Mary Postner
SIGNATURE: Mary Postner

☐ No Treatment Recommended
☐ Treatment Suggested

Comments:

Oil persists in this segment at site #1 (see sketch). Surface oil at this segment at site #1 (see sketch). Surface oil persists at site #1. Oil remains between and beneath boulders and cobble as cover, coat and stain with occasional spots. Most oil is soft with some巴士 consistency. Subsurface oil is soft with some巴士 consistency. Subsurface oil has a rich intertidal and current treatment. Technology to subsurface oil will be difficult to recover. This area has a rich intertidal and a kelp bed colony on site. As the summer progresses and the oil warms and becomes more volatile, the area should be reevaluated for clean up.
**SHORELINE OILING SUMMARY**

**SEGMENT #:** HR-9  
**TIME:** 07:12 to 08:15  
**DATE:** 4/8/90

**TEAM NO.:** 12  
**TIDE LEVEL:** +0.2 to +1.0

**EST. SUBDIVISION LENGTH:** 620 m  
**DATE:** 4/8/90

**SURFACE SEDIMENTS:**  
- R: 70%
- B: 10%
- I: 10%
- G: 0%
- O: 0%
- P: 0%
- C: 0%
- S: 0%
- L: 0%
- V: 0%

**SLOPE:**  
- Long: 5%
- Hang: 15%
- Vert: 80%

**OIL CATEGORY LENGTH:**  
- W: 0 m
- M: 0 m
- N: 0 m
- VL: 120 m
- NO: 600 m

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>COVER</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>COAT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>STAIN</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT:**  
- H: sq.m
- F: sq.m
- S: sq.m
- T: sq.m

**NEAR SHORE SHEEN?**  
- No

**OILED DEBRIS AMOUNT**

<table>
<thead>
<tr>
<th>DEBRIS</th>
<th>SM</th>
<th>MD</th>
<th>LG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trash</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debris</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Photographs:**  
- Roll No. S-18-S  
- Frames (3-10)

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED ZONE</th>
<th>OIL / FILM COLOR</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>15</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td></td>
<td>0.35</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td></td>
<td>0.30</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>100</td>
<td></td>
<td>0.100</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS:**  
Much of the segment is vertical, granite wall. Oil persists only at site 1. In pits 1 and 2, oil amounts to a 10-40% coverage over subsurface sediments. Surface cover by oil is low (~5%) and shows significant natural clearing since 1989. Oil persists in the subsurface as CT, CV, and ST but is not abundant and probably will not be a source for continued recontamination of this cove.

**REVIEWED:** [Signature]  
**DATE:** 4/8/90
No sketch map
SHORELINE ECOLOGICAL SUMMARY

Segment ST  HR-9       Subdivision  A (of A)  Date (mo/day/yr)  4/8/90

Subdivision  07/11  Biologist  M. CARR

(A) Substrate type and % of segments:
(1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 40 Moderate 10 Low

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (✓), new settlement (✓)

Photographs:
Roll No.  5
Frames  3-10

<table>
<thead>
<tr>
<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>U</td>
<td>1M</td>
<td>1L</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MYTILUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>U</td>
<td>1M</td>
<td>1L</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GASTROPODS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>U</td>
<td>1M</td>
<td>1L</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FUCUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:
Harlequin ducks (6)
Pigeon guillemot (1)
Lamb (1)
Red-breasted merganser (8)
Gaylord eagle (3) mature w/next

Ecological Considerations:
Sensitivity codes: 4-6 (National Wildlife Refuge), 5-T (Bird eagle nest), 5-R (Seabird colony)
Note: Subsurface oil occurs intermittently throughout the band of remnant surface oil. Its coverage is < 40% of subsurface boulders and it is most abundant in areas on either side of the BC portion of this beach.
Sensitivity sites

HR-9 (HARBOR ISLAND, NORTH)
- BALD EAGLE NEST (1)
- ENTIRE SHORELINE (INCLUDING IMPACTED BEACH) INHABITED BY SEABIRD COLONIES

HR-3 (HARBOR ISLAND, SOUTH) ENTIRE SHORELINE INHABITED BY SEABIRD COLONIES

HR-5 (NATOA ISLAND)
- BALD EAGLE NEST (1)
- ENTIRE SHORELINE INHABITED BY SEABIRD COLONIES