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

SEGMENT ST/EA-01 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 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: [Signature] DATE: June 12, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 521 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Recommend manual pick up of oiled debris and oiled trash.
Work should be conducted before 5/1 due to seabird constraint. If work
after 5/1 is anticipated, it should be scheduled with permission of
ADF&G and USFWS.

TAG COMMENTS:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: 4/30/90
ADEC Art Wein Art Wein
EXXON Andy Test
NOAA Burr Westoff
USCG

FOSC: [Signature] DATE: 6/17/90
Includes manual picking of mouse patties and debris
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.

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

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

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

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

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

1G
Remote release site

1H
Gill net area (6/7 to 6/31)

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

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

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

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

3M
Harbor seal and sea lion pupping (5/15 to 7/1)

3N
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.

5A
Seabird colony (6/1 to 8/1)
Restrict all activity to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

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

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
Fur harvesting

7I
Deer harvesting (6/15 to 2/28)

7J
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  EA-1  SUBDIVISION: A  DATE 9-9-90
NAME  John Naughton  SIGNATURE  John J. Naughton

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS

Only one piece of pitted, piece of oil soaked cloth and few stains observed. No clean up recommended since this island will become important eagle and nesting site later on and is reported to be an important breeding bird-watching site on a seasonal basis.

ADEC  NAME  Scott Shefton  SIGNATURE  Scott Shefton

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS  EA-1  EAST AMATUWI  540 METERS SQ. LENGTH
Staining observed on storm beach drift. Several less than 1cm tar balls observed. Impact found in Supratidal area. 10 pits to 30 cm no sub-surface oil observed.
High energy beach conditions. Access limited to weather conditions and surf.
High sea's glisten observed in storm beach. Drift debris, plastics etc from in great quantities.

LAND MANAGER  NAME  Linda Hagen  SIGNATURE  Linda M. Hagen USTFWS

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS

Even though the Beaver Island area is an important area for murres (nesting), this area had such little evidence of oil that no clean-up should be needed at this beach area. I so no activity should cause no concern at
**SHORELINE OILING SUMMARY**

**EXXON**  
**ADEC**  
**BIO**  
**PIERS**  
**TES**  
**LELAND**  
**AULI**  
**AULI**  
**AULI**  

**TEAM NO.:** 11  
**DATE:** 4/3/80  
**TIME:** 2:37 PM  
**LANDREP HAYES**  
**SEGMENT: A**  
**SUBDIVISION:**

- **DATE:** 4/3/80  
- **COASTAL LEVEL:** 0.0 to 0.0

**UPLANDS DESCRIPTION:**  
- Grass  
- Forest  
- Rock

**SURVEYED FROM:**  
- Foot  
- Boat  
- Helo

**WORKING DIRECTION:**  
- U to R

**SURFACE SEDIMENTS:**  
- R  
- B  
- S  
- P  
- G

**SLOPE:**  
- Long  
- Hang  
- Vert

**WAVE EXPOSURE:**  
- Low  
- Med  
- High

**OIL CATEGORY**  
- LENGTH:

**SURFACE OIL**

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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</tr>
<tr>
<td>Tarballs</td>
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<td></td>
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</table>

**PAVEMENT:**  
- H  
- F  
- S  
- 0 sq. m by 0 cm

**PATTIES/TARBALLS:**  
- 1 BAGS

**NEAR SHORE SHEEN?**  
- No

**OILED AMOUNT DEBRIS COLLECTED**

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<th># BAGS</th>
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**PHOTOGRAPHS:**

- Roll No. ST-19-7
- Frames 7

**SUBSURFACE OIL**

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<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>
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**COMMENTS**

- Stain, logs and scattered mousse in the only oil observed.
- Scattered tar balls.

**REVIEWED**  
**DATE:** 12/2/80

---

Page 1 of
SHORELINE ECOLOGICAL SUMMARY

Segment ST / EA-1  Subdivision A  Date (mo/day/yr) 4/9/90

Time (24 hr) 8:38  Biologist SPIGHT

(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)

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<tr>
<th>Substrates</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<td>GASTROPODS</td>
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Wildlife Observations/General Comments:

Ecological Considerations:
Gravel/sand beach; Boulder/outcrops at ends; with leafy red algae
lower, normal Fucus/Balanus higher
Fairly abundant small barnacles, apparently last year's B. carnosus?
MANUAL PICK UP
OF OILED TRASH/DEBRIS
BURN DUETO LOGS OR
PICKUP IF POSSIBLE

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

EA-1

Map Key: KCK-41
Name: [Redacted]
Date: 4-9-90
**ADDENDUM: SUBDIVISION CONSTRAINTS**

SEGMENT EA-1 SUBDIVISION A (1 of 1)

<table>
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<th>WORK WINDOW</th>
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<td>Manual Pickup</td>
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**ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.**

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

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

<table>
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<th>Code</th>
<th>Description</th>
<th>Constraints</th>
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<tr>
<td>5R</td>
<td>Seabird Colony</td>
<td>Closed to all activities; work site is less than 800m from seabird colony.</td>
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**OTHER ECOLOGICAL CONSIDERATIONS**

If seabird colony constraint is removed, other ecological considerations will apply.

---

FOSC: [Signature]
Date: 7/1 ( missing year, possibly 1980 or 1990)

Prepared by: [Signature]
Date: 7/12/90
SHORELINE EVALUATION

SEGMENT ST/EB-01 SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
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: 4/2/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 90 m: No Oil 344 m
Subsurface Oil Observed: Yes X No _ Maximum Depth 18 cm

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
____ Removal
____ Beach Cleaner
____ Other (see comments)

COMMENTS: Recommend bioremediation of subsurface oil at northern end of subdivision (see sketch map). Work should be conducted between 6/1 and 6/11 with permission of USFWS due to eagle nest constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC JOHN BAUER
EXXON JOHNNY TAYLOR
NOAA BRANDY A. GILES
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 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 (4/15 to 6/1)
Main Bay Hatchery release (4/10 to 6/10)
Sewmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)
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 (8/11 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 uncoiled 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.

Seabird/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 2/28)
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 / EB-1 SUBDIVISION: A (B IS SEPARATE) DATE 4/2/90

USCG NAME GARY OTT SIGNATURE

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

EB-1-A

ADEC NAME MICHAEL J. SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

EB-1-A

LAND MANAGER - USDA FOREST SERVICE NAME DON J. BREITINGER SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

EB-1 sub A

18 833
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<th>Substrate Type and % of Segment</th>
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### BARNACLES

- **Dense**: Not present
- **Moderate**: Not present
- **Sparse**: Not present
- **Rare**: Not present

### MYTILUS

- **Dense**: Not present
- **Moderate**: Not present
- **Sparse**: Not present
- **Rare**: Not present

### GASTROPODS (NAMICELA, LITTORINIA, LIMNET)

- **Dense**: Not present
- **Moderate**: Not present
- **Sparse**: Not present
- **Rare**: Not present

### FUCUS

- **Dense**: Not present
- **Moderate**: Not present
- **Sparse**: Not present
- **Rare**: Not present

**Wildlife Observations/General Comments**: 1 adult eagle, 2 crows, 1 crow. Intertidal community appears normal and healthy.

**Ecological Considerations**: According to the Priorities and Windows table, this segment has an Environmental Priority of 1. However, none of the identified sensitivities are particularly significant ecologically except for the salmon spawning stream (Code 1.0) which is not in this segment - rather, it is in Segment 59-2. For this reason, the priority for Segment 68-2, is lower for Segment 59-2, and note that the stream is misidentified in the Priorities and Windows table. However, since the stream is quite close to this (68-2-1) segment boundary, it probably belongs to this spawning stream sensitivity with 59-2.
SHORELINE OILING SUMMARY

OG: Randy McBride
BIO: Steve Shermun
LAND REPL: SEC: Ron Becker
EXXON: Leonard Horbat
ADEC: Mike Ekel

SEGMENT ST: E-B-1
TIME: 14:55 to 15:15
DATE: 4/1/90
TIDE LEVEL: 1.25' to 1.75'
TEAM NO.: 12
EST. SUBDIVISION LENGTH: 393' m

TEAM NO.: TIDELEVEL: DATE

UPLANDS DESCRIPTION: ☑ Grass ☑ Forest ☑ Rock
SURVEYED FROM: ☑ Foot ☑ Boat ☑ Helo
WORKING DIRECTION: North to South
SURFACE SEDIMENTS: R 15 % B 25 % C 35 % P 20 % G 5 % S 10 % M 10 % V
SLOPE: Lang 45 % Hang 40 % Vert 55 %
WAVE EXPOSURE: ☑ Low ☑ Med ☑ High

OIL CATEGORY LENGTH: W m M m N m VL m NO 2 0 8 m

SURFACE OIL

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<th>CHARACTER</th>
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<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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PAVEMENT: H F S __ sq. m by __
PATTIES / TARBALLS __ × BAGS
NEAR SHORE SHEEN? ☑ BR RW SL TL

OILED DEBRIS AMOUNT

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Photographs:
Roll No. ST-12-3
Frames 7-9

SUBSURFACE OIL

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COMMENTS
Very light to no oiling along this large curvilinear pocket beaches. No cleanup recommended.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EB-1 SUBDIVISION A (1 of 2)

WORK WINDOW

Bioremediation WORK 6/4 - 6/7

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1E  Main Bay Hatchery Release  Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation after 6/15.

1I  Gill Net Area  Closed to bioremediation after 6/7.

1L  Set Net Sites  Closed to bioremediation from 6/11 to 7/25.

5T  Bald Eagle Nest  NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates no active nests within 400m of the work area.

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

TAG APPROVAL DATE 6/14/90
ADEC
EXXON
NOAA
USCG
Prepared By: Andrew Meyer

Date 6/3/90
SHORELINE EVALUATION

SEGMENT ST/ EB-01 SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
6V Recreation: Anchorages (6/1 to 9/15)
6X Recreation: Special use destination
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 in subdivision B (see location on segment map).

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

OILING CATEGORIZATION:
Wide 0 m: Medium 159 m: Narrow 0 m: V.Light 372 m: No Oil 0 m
Subsurface Oil Observed: Yes __ No __ Maximum Depth __________

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

COMMENTS:
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TAG COMMENTS:
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_________________________________________________________________

TAG APPROVAL DATE: 4/19/90
ADEC [Signature] DATE: 4/25/90
EXXON [Signature] FOSC: [Signature]
NOAA [Signature]
USCG [Signature]
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)

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 8/30)

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

Set net sites (8/11 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 uncoiled 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 (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

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

Deer 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/ EB-1 __SUBDIVISION: B (A IS SEPARATE) DATE 4/2/90

JSCG
NAME GARY OTT SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Comments

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Comments

E B-1-B The wide band on this subdivision consisted of a VL (thin) surface coal that was discontinuous and patchy; volumetrically there was very little oil here and what contamination that did exist on this bedrock was low grade tar (not environmentally risky to other areas).

LAND MANAGER - USDA FOREST SERVICE
NAME DON J. BREITINGER SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Comments

EB-1 subdiv. B

23 of 33
SHORELINE OILING SUMMARY

SURFACE OIL

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PAVEMENT: H F S O sq. m by O cm
PATTIES / TARBALLS 0 BAGS
NEAR SHOREBALLS? NO BR RW SL TL

OILED DEBRIS AMOUNT SM MD LG
Logs
Vegetation
Trash
Debris

Photographs:
Roll No. ST-12-3
Frames 7 and 9

COMMENTS
A 24' foot wide bleeding coat of medium oiling lies along the middle intertidal to upper intertidal zone (see sketch). The oil is dried and appears to pose no further environmental damage. This is further reinforced by the amount of moderate wave exposure available along this subdivision.

Page 1 of 2
(continued on next page)
REVIEWED: 3/25

SUBSURFACE OIL - No pits

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A 24' foot wide bleeding coat of medium oiling lies along the middle intertidal to upper intertidal zone (see sketch). The oil is dried and appears to pose no further environmental damage. This is further reinforced by the amount of moderate wave exposure available along this subdivision.
Due to the amount of fetch across Knight Island Passage, wave activity in conjunction with tidal processes, will wash and flush the rocks and sediments efficiently throughout the year.

Randy McBride
OG

Page 2 of 2

4/25
SHORELINE ECOLOGICAL SUMMARY

Segment ST / **EB-2**, Subdivision **B**

Date (mo/day/yr) **4/2/70**

Time (24 hr) 1815-1945, **B**iologist **SHARMAN**

**SUBDIV.**

(A) Substrate type and % of segments:

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

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

Dense **X** Moderate **X** Low **X**

(C) Vertical zonation of major taxa:

1. Benthos (upper-U; mid-M; low tidal-L)
2. juveniles/adults (X), new settlement (3)

**BARNACLES**

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**GASTROPODS**

(A) **NASSA**

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(B) **LITURGIA**

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**Photographs:** Roll No. **ST-12-3**

**Frames:** 7, 8, 9

Wildlife Observations/General Comments:

1. Adult single perched near nest (see computer map; data not entered in box below). 1 pair standing ducks.
2. Seagull, shorebirds on sandbar.
3. Adult common eider (Eider). 4 rusty quail, 3 common eider, 1 white ibis, 1 black skimmer, 1 ring-billed gull.
4. Adult terns (4) in flight, 0 on nests at nest site.
5. Common eiders (3 adults) in flight, 0 on nests at nest site.
6. Common eiders (4 adults) on nests at nest site.

**Ecological Considerations:** Please see ecological considerations for **EB-1-A**. Note again that the adaxial growing stem (case 1) is not in this segment, but rather in the next dem (to **EB-1-A**) in segment **EB-2**. This is an adult nest with a proprietary adult to the N. and of the subdivision (see computer map or detailed map) which may possibly will become fully active in the next couple weeks.
SEGMENT ST/ EB-02   SUBDIVISION A (1 OF 1) DATE 4/2/90

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)
1E Main Bay Hatchery release (4/20 to 5/10)
1L Gill net area (6/7 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Special use destination
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: 4/8/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 337 m: No Oil 2242 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC Art Wenzel  Date Wenzel
EXXON Amy Tevlin  Date Tevlin
NOAA Paul Weir  Date Weir
USCG G.A. Keener  Date Keener

FOSC: DATE: 4/22/90
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 (5/7 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.

2M 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 (5/15 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. 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 (5/1 to 6/1)
Active Bald Eagle nests (5/1 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)
6V Floatplane parking (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)
7HH Finfish harvesting
7L Deer harvesting (5/15 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/EB-Z SUBDIVISION: A (ENTIRE SEG.) DATE 4/2/90

USCG
NAME GARY OTT SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADEC
NAME MICHAEL J. EBEL SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

EB-2-A

LAND MANAGER - USDA: FOREST SERVICE
NAME DON J. BREITINGER SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

EB-2/A entiresog

7/25

REVISION NO. 02/31/90
SHORELINE OILING SUMMARY

SEGMENT ST1 E B 2

Date: 12/07/94

TIME: 14:45

DATE: 12/07/94

TEAM NO.: 12

TIDE LEVEL: 2.9' to 16'


WORKING DIRECTION: North to South

Grazing: 100%

Forest: 10%

Rock:

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

SLOPE: Lang 60% Hang 30% Vert 10%

WAVE EXPOSURE: Low Med High

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

SURFACE OIL

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<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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</tbody>
</table>

OILED DEBRIS AMOUNT

Logs

Vegetation

Trash

Debris

Photographs:

Roll No. ST-12-2 and 3

Frames 29-37 and 1-6

NEAR SHORE SHEEN? No BR RW SL TL

PAVEMENT: H F S sq. m by cm

PATTERNS / TAR BALLS 0 BAGS

DEBRIS COLLECTED

NO OIL

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>OILED INTERVAL</th>
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COMMENTS

A few blotchy, patchy, and sporadic coats of very light oiling. No cleanup recommended.

Page 1 of 33

REVIEWED 4/9/94
### 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>
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<th>Oil / Film Color</th>
<th>Pit Zone</th>
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<td>PG S (photo)</td>
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#### Comments

![Comment Diagram]

**Profile A**

**NORTH**

**Reviewed Date**

11-2-22
SHORELINE ECOLOGICAL SUMMARY

Segment ST / EA-2 Subdivision A Date (mo / day / yr) 4/2/77

Time (24 hr) 1200-1445 Biologist SHARMA

(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 (0)

<table>
<thead>
<tr>
<th>Barnacles</th>
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<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<th>Roll No. ST-12-3</th>
<th>Frames: 1-64</th>
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</table>

Wildlife Observational Comments: 2 adult eagles, 2 Stellar's jays, 1 raven, 2 otters.

Environmental Considerations: According to the Priority and window table, the segment has an environmental priority of 17 and an open water window of 5/20-11/20. Identified species are black barnacles, Xanthid crabs, and blue crabs; Xanthid crabs have a Dredge Trawl Release Date (Code 2) with a treatment priority of 2. At the 5, 3, and 1 of the segment in a salmon spawning stream (see map), which I believe to be the stream reported to the segment EA-1 in the Priority and Window table. This stream is in EA-2, not EA-1. This is clearly a Priority 1.
SHORELINE EVALUATION

SEGMENT ST/EB-03 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1E Main Bay Hatchery release (4/29 to 5/10)
1L Set net sites (6/11 to 7/25)
6Y Recreation: Special use destination
Contact ADF&G for dates, locations, constraints for 1L. See attached
Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: ___ DATE: 4/18/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 1035 m
Subsurface Oil Observed: Yes ___ No ___ Maximum Depth ___

RECOMMENDATIONS:
_X__No Treatment Recommended
___Treatment Recommended
___Manual Pickup
___Bioremediation
___Tarmat: breakup
___Removal

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.
ADEC ___ EXXON ___ NOAA ___ USCG ___
A. Weimer A. Weimer Bulkhead ___ _______________
EXXON ___ NOAA ___ USCG ___
A. Weimer ___ ___ ___
FOSC: ___ DATE: 4/30/90
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
- FE Main Bay Hatchery release (4/29 to 5/10)
- 1L Set net sites (6/11 to 7/25)
- 6Y Recreation: Special use destination
- Contact ADF&G for dates, locations, constraints for 1L. See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: [Signature] DATE: 4/18/90

OILING CATEGORIZATION:
Wide 0_m: Medium 0_m: Narrow 0_m: V.Light 0_m: No Oil 1035_m
Subsurface Oil Observed: Yes_ No_X Maximum Depth________

RECOMMENDATIONS:
- ___ 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: 4/18/90
ADEC [Signature] DATE: 4/12/90
EXXON [Signature] FOSS: [Signature] DATE: 4/12/90
NOAA [Signature] USCG [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 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)

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

Main Bay Hatchery release (4/20 to 8/10)

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

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

Remote release site

 Gill net area (5/7 to 8/31)

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

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

Set net site (8/11 to 7/26)
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 (8/1 to 9/15)
Lodge (6/1 to 9/15)

Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (9/15 to 2/28)
Invertibrate harvesting

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

VENT ST / EB-3 SUBDIVISION: A (ENTIRE SEE) DATE 4/2/90

USCG
NAME GARY OTT SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADEC
NAME MICHAEL J. EBEL SIGNATURE Michael J. Ebel

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

EB-3-A

LAND MANAGER USDA: FOREST SERVICE
NAME DON J. BREITINGER SIGNATURE Don J. Breitinger

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

EB-3 - A entire see.

9 of 33
# Shoreline Oiling Summary

---

**Shoreline Oil Category Length:** 1055 m

**Oil Category Length:** W: 0 m M: 0 m N: 0 m V: 0 m

---

## Surface Oil

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
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<td>Cover</td>
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<td>Stain</td>
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<tr>
<td>Tarballs</td>
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<tr>
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</tr>
</tbody>
</table>

---

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

**Patties / Tarballs:** 0 bags

**Near Shore Sheen?** No BR RW SL TL

---

**Surface Sediments:** R: 20% B: 25% C: 35% P: 25% G: 0% S: 0% M: 0% V: 0%

**Slope:** Long: 10% Hang: 75% Vert: 15%

**Wave Exposure:** Low Med High

---

## 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>
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<th>Subsurface Sediments</th>
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---

**Comments:** No oil observed anywhere along this segment; littoral community appears healthy and normal; no oiling. Sediments summary consistent for this segment so that data could move on to other segments.

**OS:** No oil found in the subsurface or along the surface of this segment.

---

**Reviewed:** DIL Date: 4/9/90

---
SHORELINE ECOLOGICAL SUMMARY

Segment ST  |  Subdivision  |  Date (mo/day/yr)  |
-------------|---------------|-------------------|
1E-3         |  A            |  4/8/98           |

Time (24 hr)  |  2:10-2:25

Biol.  |  SHARMAN

(A) Substrate type and % of segment:

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<tr>
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<td>Pebble</td>
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<tr>
<td>Sand</td>
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</table>

(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)

Photographs:

Roll No.  |  $7-12-2$
Frames   |  25-25

BARNACLES

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MYTILUS

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GASTROPODS (Nucella, littorina, Littorina)

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FUCUS

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Wildlife Observations/General Comments: 1 sea urchin, 2 pairs surf crabs. The beach is
relatively high energy, mostly cobble, and not a moderately unstable substrate support.

Ecological Considerations:

This segment has no oil, no particular ecological sensitivity.
SHORELINE EVALUATION

SEGMENT ST/ EB-04  SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
1Y Recreation: Special use destination
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 0 m: Narrow 0 m: V.Light 121 m: No Oil 780 m
Subsurface Oil Observed: Yes No X Maximum Depth_____

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

COMMENTS: Recommended treatment includes 1) manual pick up of pooled oil, 2) bioremediation of pooled oil in area shown on attached sketch map. Work should be conducted between 5/11 and 6/10 due to hatchery release and set net constraints.

TAG COMMENTS: ____________________________

TAG APPROVAL DATE: 4/23/90
ADEC  EXXON  NOAA  USCG
Act: Wayne Act: John Act: Joseph Act: Kenneth
Wright  McCall  Tehall  Vearing

TAG APP. ROVAL DATE: 9-17-90
MANUALLY REMOVE "POOLED" OIL BEFORE BIOREMEDIATION.
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. 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 6/1)
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 (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 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)
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 (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

6Z. Subsistence area:
Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (9/15 to 2/28)
Invertebrate harvesting
For Codes 6Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT: ST/ EB - 4 SUBDIVISION: A (ENTIRE SEG.) DATE 4/2/90

JSCG
NAME: GARY OTT SIGNATURE: 

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS:

ADEC
NAME: MICHAEL J. EBEL SIGNATURE: 

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS:

EB - 4 A

LAND MANAGER - USDA: FOREST SERVICE
NAME: DON J. BREITINGER SIGNATURE: 

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS: SEG EB - 4 A - ENTIRE SEG.
**SHORELINE OILING SUMMARY**

**SEGMENT:** EB-4  
**TEAM:** 12  
**TIDE LEVEL:** 6:75' to +3.75'  
**DATE:** 4/2/90  
**TIME:** 10:27 to 11:34

**EST. SUBDIVISION LENGTH:** 9.39 m  
**DATE:** 4/2/90  
**TIME:** 10:27 to 11:34

**SURFACE OIL**

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<th>OIL / FILM COLOR</th>
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**PAVEMENT:** H FS O sq. m by O cm  
**OILED AMOUNT:** DEBRIS SM MD LG

**NEAR SHORE SHEEN?** NO  
**BR RW SL TL**

**OILED DEBRIS**
- Logs
- Vegetation
- Trash
- Debris

**TYPE:** O  
**#BAGS:** O

**Photographs:**
- Roll No. ST-12-2  
- Frames 21-24

**SUBSURFACE OIL**

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**COMMENTS**

The northern segment of EB-4 consists of a rocky headland with sporadic pooled and sporadic coated very light oiling. Due to the high wave exposure, most of this area will be continuously washed by wave action. Also, this area poses no environmental threat from further contamination. No cleanup is recommended.

**REVIEWED**  
**DATE:** 4/16/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST/EB-4 Subdivision A Date (mo/day/yr) 4/2/90

Time (24 hr) 10:15-11:30 Biologist SHARMA

(A) Substrate type and % of segments:

1) Bedrock 25 (2) Boulder 30 (3) Cobble 25 (4) Pebble 20 (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)

Photographs: Roll No. ST-12-2 Frames 21-24

BARNACLES

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GASTROPODS (newell, futon, limata)

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Wildlife Observations/ General Comments: 2 harlan seals, 2 sea otters, 1 adult eagle, 2 deer in intertidal zone (seaweed quality), 10 pairs harlequin ducks, 1 stna coolwater shorebirds point at end of segment, abundant bear seal in subtidal at edge of smbk. Abundant seaweed line-shorebird. See next page for assessment of intertidal community.

Ecological Considerations: According to the Priority and Windows tables, this segment has an Environmental Priority of 2, with an open works window of 5/10-6/11. Ecological restrictions (identified) include, primarily the area's use as a Main Bay Fishing Reference site, with time restriction 4/10-5/10 (constraint 3, 4) and a treatment priority of 2. Sensitivity Code = 1F.

Page 1 of 2
General Comments: Intertidal Community - this is a normal and healthy assemblage of rocky intertidal biota in this segment, across a variety of habitats. The exposed bedrock point at the N. end is particularly rich and diverse. Small tidepools harbor coraline algae (Porolithonon craticum and articulated forms), Anthopleura, and tidepool snails. An area ~25m² of previously-ripped Fucus has been weathered free of oil, but the affected plants still look a bit "wicky." However, it appears the stand will recover. Moderate recruitment of what appears to be Rhodoferdin in Fucus zone and below, along with rare discontinuous patches of Egregia recruitment - both these species recruiting only on bedrock.
### ADDENDUM: SUBDIVISION CONSTRAINTS

#### SEGMENT EB-4 SUBDIVISION A (1 of 1)

<table>
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<tr>
<th>WORK WINDOW</th>
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<td>Manual Pickup</td>
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<td>Bioremediation</td>
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### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- **1E Main Bay Hatchery Release**: No constraint to manual pickup. Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peitz/ADF&G to Tom Monlhan/Exxon on 5/24/90. No constraint to bioremediation after 6/15.
- **1I Gill Net Area**: No constraint to manual pickup; closed to bioremediation after 6/7.
- **1L Set Net Sites**: No constraint to manual pickup; closed to bioremediation from 6/11 to 7/25.
- **5T Bald Eagle Nest**: Closed to manual pickup and bioremediation. USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates an active nest within 400m of the work area.

### OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological constraints will apply.

---

**TAG ADDENDUM DATE**: 6/04/90

**Prepared by**: [Signature]

**Date**: 6/24/90
Incorporates information from USFWS Eagle Survey 5/28/90

FA-1

Active Nest

TREATMENT AREA

EB-4

EB-3

ECOLOGY MAP 5/28
SEGMENT EB-4
SUBDIVISION A (1-01-1)

W METERS

0 372 745
1 inch = 1222 feet

Seabird Colony

Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ EB-05 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (ST) - 3/1 to 6/1: Main Bay hatchery release area (1E) - 4/20 to 5/10; Set net sites (1I) - 6/1 to 7/25 (contact ADF&G for dates and locations); Anchorages (6V) - 6/1 to 9/15. Special use designation (6Y) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict air and boat traffic to minimum essential. Air approach and takeoff from and to seaward only. Contact USFWS re: eagle nests. Avoid unnecessary disturbance/damage to unoiled substrate and biota.

SHPO SIGNATURE: Charles D. Hoemes DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 793 m
Subsurface Oil Observed: Yes ___ No ___ X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended ___ Snare/Absorbent Booms
___ Treatment Recommended ___ Oil Snakes (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: 4/15/90
ADEC John Bauer ___ John Bauer ___ FOSC: ___ DATE: 4-20-90
EXXON Andy Tor ___ ___ ___
NOAA ___ ___ ___ ___
USCG ___ ___ ___ ___
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1  EB - 5  SUBDIVISION: A(ENTIRE SEGMENT) DATE 4/2/90

NAME  GARY OTT  SIGNATURE

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

ADEQ

NAME  MICHAEL J. EBEL  SIGNATURE

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

EB - 5 - A

LAND MANAGER - USDA FOREST SERVICE

NAME  DON J. BREITINGER  SIGNATURE

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

EB - 5  SUBDIVISION A

27 of 33
SHORELINE OILING SUMMARY

OG Randy McBride 8800 NOAA- Gary Oett Segment St/ ER-S
BIO Lewis S. Hattman LAND USE ES OoLA/Portage SUBDIVISION A
TXXON Leonard Herbst ADEC Mike Ebel TIME 16: 34/10 17: 10
TEAM NO.: 12 TIDE LEVEL: 3.9' to 4.8' DATE 04/02/90
EST. SUBDIVISION LENGTH: 1309 m   ☐ Sun ☑ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☑ Forest ☐ Rock
SURVEYED FROM: ☑ Foot ☐ Boat ☐ Helo WORKING DIRECTION: North to South
SURFACE SEDIMENTS: R 30 % B ☑ 20 % C 30 % P 15 % G 2 % S 3 % M % V %
SLOPE: Lang 15 % Hang 45 % Vert 40 % WAVE EXPOSURE: ☑ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W 9.55 m M NO 9.55 m V 6.55 m NO 6.54 m

SURFACE OIL

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PAVEMENT: H F S sq. m by cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? ☐ BR RW SL TL

OILED DEBRIS AMOUNT

Log Vegetation Trash Debris
SM MD LG

DEBRIS COLLECTED ☐ YES ☐ NO TYPE

# BAGS

Photographs:

Roll No. ST-12
Frames 10-11

SUBSURFACE OIL

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<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
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COMMENTS

only a few sporadic coats of very light oiling found.

24 of 33

REVIEWS ** DATE 4-5-90
SHORELINE ECOLOGICAL SUMMARY

Segment ST  EA-5  Subdivision A  Date (mo/day/yr)  4/2/90

Time (24 hr) 11:30-17:00  Biologist  SNARMAN

(A) Substrate type and % of segment:

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

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</table>

Wildlife Observations/General Comments: Did not observe LTE. Otherwise, intertidal
Community is typical of the segment to the N. with similar combinations of beach types.
Intertidal zones normal. And that 1 pair goldeneye, I pair
Seagulls, 1 adult eagle.

Ecological Considerations: According to the Director and Watershed tables, this segment is
environmentally ranked Division 1, with an open sand/swim area 6/1-6/11 (possibly
affected by dikes- USDA). Identified ecological communities include me as a Minnow
Habitat Reference Site (code 18) and presence of active shell bank with
mats (code 57). The former carries a constraint of 1-2 with treatment priority 2; the latter carries a constraint
of 5 with treatment priority 2. We observed no single mats on our survey.

26 of 33
SEGMENT ST/EB-06 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
6Y Recreation: Special use destination (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 210 m
Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended
X Treatment Recommended
x Manual Pickup
Bioremediation
X Tarmat: Breaking
X Removal

COMMENTS:
Remove tarballs and asphalt indicated on sketch.
Bioremediation to be applied to the top of island as indicated on the sketch.

TAG COMMENTS:
High human use + set net fisheries area.

TAG APPROVAL DATE: 4/18/90
ADEC Art Weiner Art Weiner
EXXON Andy Lea Frank
NOAA Bullwissett Bullwissett
USCG Streeter Streeter
FOSC: [Signature] DATE: 4/27/90
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: EB-6 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/2/90

USCG NAME GARY OTT SIGNATURE

☑️ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

ADEC NAME MICHAEL J. EBEL SIGNATURE

☑️ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

EB-6-A The scattered tar splashes and drips found on the cobbles at intermittent locations posed no threat to the salmon stream in the nearby segment. No practical treatment could remove them (for aesthetics) without far more harm than gain. Very little total tar here.

LAND MANAGER - USDA FOREST SERVICE NAME DON J. BRETTINGER SIGNATURE

☑️ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

EB-6 subdivision A

31 of 33
**SHORELINE OILING SUMMARY**

**OG Road**
**MC Bride**
**USGS NoAA**
**Crew Off**
**SEGMENT ST/EB-6**

**BIO Lewis Sarina**
**LAND REP USES**
**DNR Biot**
**SUBDIVISION A**

**EXXON Leonard Kelt**
**ADEC Mike Ebel**
**TIME 17:15 to 19:30**

**TEAM NO.: 12**
**TIDE LEVEL: 4.5 to 7.5**
**DATE 04/1 09/90**

**EST. SUBDIVISION LENGTH: 829 m**
**□ Sun □ Clouds □ Fog □ Rain □ Snow**

**UPLANDS DESCRIPTION: □ Grass □ Forest □ Rock**

**SURVEYED FROM: □ Foot □ Boat □ Helo**
**WORKING DIRECTION: North to South**

**SURFACE SEDIMENTS: R 20 % B 30 % C 30 % P 10 % G 6 % S 4 % M V**

**SLOPE: Lang 15 % Hang 60 % Vert 25 %**

**WAVE EXPOSURE: □ Low □ Med □ High**

**OIL CATEGORY LENGTH: W m M m N m V L 120 m NO 709 m**

---

### SURFACE OIL

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<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>PATTIES</td>
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<td>TARBALLS</td>
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<td>X ☑ ☑ ☑ X O</td>
<td></td>
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</table>

**PAVEMENT:** H ☐ S 9 sq. m by 4 cm

**PATTIES / TARBALLS:** 3 BAGS

**NEAR SHORE SHEEN?** ☑ BR RW SL TL

**OILED**

<table>
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<tr>
<th>DEBRIS COLLECTED</th>
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<tr>
<td>Trash</td>
<td>LG</td>
</tr>
<tr>
<td>Debris</td>
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</table>

**DEBRIS TYPE:** ☑ YES ☑ NO

**Photographs:**

**Roll No.: ST-12-3**
**Frames: 12-14**

---

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
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<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
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<td>C P (phot 14)</td>
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</table>

**COMMENT:**

By Broken

*Overall, EB-6 is characterized by delicate and sporadic coats, sporadic tarballs, and sporadic film. The oiling is categorized as very light (<10% covering). No environmental threat from further oiling. Cleanup recommended.*

---

**REVIEWED DATE 4/1990**
SHORELINE ECOLOGICAL SUMMARY

Segment ST   EB-6 Subdivision       A       Date (mo/day/yr)   4/3/90

Time (24 hr) 12/15-16  Biologist      SHAARMAN  

(A) Substrate type and % of segments:
(1) Bedrock 20% (2) Boulder 30% (3) Cobble 30% (4) Pebble 10% (5) Sand 10% (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

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MYTILUS

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GASTROPODS (NASSULA, LITTORINA, LIMPET)

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Wildlife Observations/General Comments: Did not observe LTE. 30 cm wide tan band on set rock Mull in LTE area on top of barnacle zone with some littering (from last marine season) present 1-2 in. 1 dark spot 1. Site site, lots tracks of recent origin (wind or bird) on top gravel bands. Subtidal community appears normal and healthy. No bryozoans observed on LTE tan band (in above).

Ecological Considerations: According to the Priority and Winema table, this segment is environmentally ranked Priority 1, with an open sand/winter sit. The identified ecological sensitivity is in a Main Bay Reference site (Code 22). Constraints 1 & 2 and treatment priority 2. This is a generally critically geomorphologically rich and diverse shoreline region, probably remarkably sensitive (relative to other areas) to oil recovery-type forms of human disturbance.

304/23
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EB-6 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
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<th>Manual Pickup</th>
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<td>Tamat Removal</td>
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| Bioremediation | WORK 6/4 TO 6/8 OR AFTER 7/25 |

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1E Main Bay Hatchery Release

Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation after 6/15.

1L Set Net Site

No constraint to manual pickup and tamat removal. Subdivision closed to bioremediation 6/11 to 7/25.

OTHER ECOLOGICAL CONSIDERATIONS

From 6/11 to 7/25 restrict boat and air traffic and beach operation to essential minimum when set net sites are present. Avoid any unnecessary disturbance or damage to unollied biota and substrate.

TAG APPROVAL DATE

ADEC

EXXON

NOAA

USCG

Prepared By: __________

DATE: 7 June 1990

FOSC __________ Date: 6/11/00
SHORELINE EVALUATION

SEGMENT ST/ EB-07 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 225-30-15070
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
6Y Recreation: Special use destination
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 Effler DATE: 4/4/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 224 m: No Oil 2964 m
Subsurface Oil Observed: Yes___ No X___ Maximum Depth

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 APPROVAL DATE: 4/20/90
ADEC ART WEISS
EXXON JIMMY (G4)
NOAA BILLY WESCOTT
USCG KENNETH LEANE

FOSC: ___ ___ ___ DATE: 4-26-90
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 9/31)
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 8/1)

1H
Remote release sites

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)

For Codes 1C through 1L contact AOF&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)

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)

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

7H
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/EB-7 SUBDIVISION: A (ENTIRE) DATE 4/4/90

USCG NAME GARY OTT SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMETS

ADEC NAME MICHAEL J. EBEL SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMETS

EB-7-A a VL intermittent wet was found with no subsurface oil. The segment was mostly un-oiled. As with many of the areas we have done thus far, any treatment would be far more impacting than effective (salmon streams nearby, and shorebird habitat)

LAND MANAGER - U.S.D.A. FOREST SERVICE
NAME DON J. BREITINGER SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMETS
**SHORELINE OILING SUMMARY**

OIl Team: Randy McBride (NOAA) / Gary Ditt (AEC)  
**SEGMENT ST/ ER-7**  

**BIO-LENTs:** Sherman  
**LAND USE: RePUSE: Doh Bunting**  
**SUBDIVISION:** A 1061  
**TEAM NO.: 12**  
**TIME:** 12:09 to 14:30  
**DATE:** 4/4/90  
**EST. SUBDIVISION LENGTH:** 34.17 m  
**TIDE LEVEL:** 7 8" to 3 8"  
**UPLANDS DESCRIPTION:**   
- Grass  
- Forest  
- Rock  

**SURFACE OIL**

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<th>IMPACTED ZONES</th>
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**SURFACE OIL DISTRIBUTION**

- OIL / FILM COLOR:  
  - Pool  
  - Cover  
  - Coat  
  - Stain  
  - Mousse  
  - Tarballs  
  - Film  
  - No Oil  

**OIL CATEGORY LENGTH:**  
- W 0 m  
- M 0 m  
- N 0 m  
- VL 0 m  

**OIL SURFACE DETERMINATIONS:**

- OIL DISTRIBUTION:  
  - OIL / FILM COLOR:  
    - Pool  
    - Cover  
    - Coat  
    - Stain  
    - Mousse  
    - Tarballs  
    - Film  
    - No Oil  

**OIL SUBSURFACE DETERMINATIONS:**

- OIL SURFACE DETERMINATIONS:  
  - OIL CHARACTER:  
    - Oiled Interval:  
      - Below:  
        - Oil / Film Color:  
          - Pool  
          - Cover  
          - Coat  
          - Stain  
          - Mousse  
          - Tarballs  
          - Film  
          - No Oil  

**COMMENTS:**

EB-7-A is dominated by no oiling with very small amount of very light oiling. No subsurface oil was found. Due to a combination of no oiling / very light oiling and environmental sensitivities (salmon streams / spawning and shorebird habitat), no cleanup is recommended.

**REVIEWED:**  
**DATE:** 4/15/90

[Signature]
**SHORELINE OILING SUMMARY (PAGE 2 of 2)**

**SEGMENT ST/ ER-7 SUBDIVISION A**

**SUBSURFACE OIL (CONTINUED)**

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<td>C, P, G, S</td>
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**COMMENTS**

![Diagram](image-url)

 Reviewed by: [Signature]
 Date: 4/13/90
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<th>Date (mo/day/yr)</th>
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<tr>
<td>Time (24 hr)</td>
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<tr>
<td>Biologist</td>
<td>SHARMA</td>
<td>SHARMA</td>
</tr>
<tr>
<td><strong>A.</strong> Substrate type and % of segment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Bedrock</td>
<td>50</td>
<td>(2) Boulder</td>
</tr>
<tr>
<td><strong>B.</strong> Overall % cover of biota (% of segment):</td>
<td></td>
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</tr>
<tr>
<td>Dense</td>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>C.</strong> Density, substrate preference (by number from A, above), &amp; vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (X), new settlement (3)</td>
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### BARNACLES

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### MYTILUS

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### GASTROPODS (NUCHELLA, LITURUS, LIMPETS)

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Wildlife Observations/General Comments: 12 pairs such as these. 12 pairs goldsone, milk trendy in shore. See other shore. Sea gull, black oyster catcher, at normal breakwater. Of note: able to see two long-tailed birds above. Very common in the area. A pelagic zone, fishing, etc. See list of notes. No further observations.

Ecological Considerations: No major impact on biota observed.
MAINLAND

EB-7-A

Map Key: PWS-116b
Name: Randy McBride
Date: 4/4/90

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

ADEC Segment Length: 3188m
SHORELINE EVALUATION

SEGMENT ST/ EB-08 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream no. 225-30-15130 (Ps CHs, 2/90)
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1E Main Bay Hatchery release (4/20 to 6/15)
1L Set net sites (6/11 to 7/25)
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: [Signature] DATE: 5/9/90

OILING CATEGORIZATION:
Wide 0 m: Medium 44 m: Narrow 10 m: V.Light 569 m: No Oil 1561 m
Subsurface Oil Observed: Yes___ No ___

RECOMMENDATIONS:
_____No Treatment Recommended  _____Snare/Absorbent Booms
   X Treatment Recommended  _____Oil Snares (pom poms)
   X Manual Pickup  _____Absorbents (pads, rolls, etc)
_____Bioremediation  _____Spot Washing: _____Wands
   X Tarmat Removal  _____Beach Cleaner
                     _____Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse patties in 2 areas indicated on sketch maps, and 2) manual removal of tarmats in 2 areas indicated on sketch maps. Work should be conducted between 6/15 and 7/10 with approval of ADF&G due to set net site constraint.

TAG COMMENTS: ________________________________

TAG APPROVAL DATE: 5/9/90

ADEC [Signature] DATE: 5/12/90
EXXON [Signature] FOSC: [Signature] DATE: 5/12/90
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 without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inlpo1 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 Morgan | 267-2234

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 inlpo1 application, prior to at least July 1 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 Petz | 424-3214

1D Fingerling release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/16 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 inlpo1 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:** AOF&G | Larry Petz | 424-3214

1I Gill net area (5/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 8/30)
1L Set net sites (8/11 to 7/28)

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 inlpo1 application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

**AGENCY CONTACT PERSON:** AOF&G | James Brady | 424-3312

2M Herring spawning (4/1 to 8/15)

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to untended intertidal and subtidal algal and seaweed. If plans for treatment include methods such as hot water wash or inlpo1 application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

**AGENCY CONTACT PERSON:** AOF&G | Evelyn Biggs | 424-3235

4N, 3P Harbor seal and sea lion pupping (6/15 to 7/1)
4O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 200m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of inlpo1 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:** US National Marine Fisheries Service | Steve Zimmerman | 586-7235

**AGENCY CONTACT PERSON:** ADF&G | Don Calkins | 267-2403

5R Seabird colony (5/1 to 6/1)

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 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

**AGENCY CONTACT PERSON:** ADF&G | Tom Rothby | 267-2208

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

Contact USFWS prior to treatment for confirmation of dates.

**AGENCY CONTACT PERSON:** USFWS | Jill Parker | 786-3377

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

Sublease area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/26)
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 inlpo1 application 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 Fell | 267-2369
SEGMENT ST / ES 008  SUBDIVISION: _________________________  DATE 25-APR-90

NAME: Robert Jensen  SIGNATURE: Robert J. Jensen

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

Special considerations would be the salmon streams located near the hand pavement (AP/P) shown on the sketch map.

AME: Rowan T. Hudewell  SIGNATURE: Rowan T. Hudewell

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

Oil tends to form patties in UITZ w/ pine needles. Manual removal of pavement, patties, tarballs would effectively clear most of this segment. There is a higher concentration of patties around the salmon streams; these could be removed w/ shovels w/o disturbing the stream structure.

AND MANAGER

AME: Larry Evans  SIGNATURE: ______________

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:


NO BIOREMEDIATION RECOMMENDED.
**SHORELINE OILING SUMMARY**

**OG:** JAGGER  
**BIO:** J. DIXON  
**USCG:** R. VON BORN  
**EXXON:** ELLISON  
**ADEC:** R. HYNIAL  
**SEGMENT ST:** EB-008  
**TIME:** 10:07  
**DATE:** 4/26/90

**TEAM NO.:** 2  
**TIDE LEVEL:** -1.03 to -3.2  
**DATE:** 4/26/90

**EST. SUBDIVISION LENGTH:** 2,099 m  
**LAND DESCRIPTION:**  
- Sun  
- Clouds  
- Fog  
- Rain  
- Snow

**TEAM DESCRIPTION:**  
- Grass  
- Forest  
- Rock

**SURVEYED FROM:**  
- Foot  
- Boat  
- Helicopter

**WORKING DIRECTION:**  
- N to E

**OIL CATEGORY:**  
- Lang  
- Hang  
- Ven

**OIL LENGTH:**  
- W  
- M  
- N  
- VL

**OIL DISTRIBUTION:**  
- X

**IMPACTED ZONES:**  
- W  
- M  
- N

---

### SURFACE OIL

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
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<td>Patties</td>
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<td>No Oil</td>
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**Pavement:**  
- $s \ 45$ sq. m by $s$ cm

**Patties / Tarballs:**  
- 10 bags

**NEAR SHORE SHEEN:**  
- No  
- BR  
- RW  
- SL  
- TL

**OILED DEBRIS:**  
- Logs  
- Vegetation  
- Trash  
- Debris

**AMOUNT:**  
- $\text{SM}$  
- $\text{MD}$  
- $\text{LG}$  
- $\text{NO}$

**DID YOU COLLECT DEBRIS?**  
- Yes  
- No

**TYPE:**  
- $\text{Pour}$  
- $\text{Puzz}$  
- $\text{Drip}$

**BAGS:**  
- 15

**Photographs:**
- Roll No. 57-2-202
- Frames: 35, 36

---

### SUBSURFACE OIL

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**COMMENTS**

See separate sheets

**REVIELED:** M H  
**DATE:** 4/26/90
VL = 42
10 = 120

CV/5
40x1 <1%

TB/5
10x1m <1%

EB-9

XXX Wide
///// Medium
---- Narrow
TTTT Very Light

Map Key: PWS-117b
Name: MIA102
Date: 25 April 90

AGEC Segment Length: 2183m

0 100 200 300
This segment is located within Eshamy Bay and immediately to the east of the mouth of Eshamy Lagoon.

A wide variety of shoreline types occur within the segment, including: rock cliffs, rock ramps, boulder/cobble pocket beaches and pebble pocket beaches with well-rounded pebbles. Wave exposure increases from low in the protected southwestern portion of the segment to moderate at the eastern end. Most of the sediment appears to be isolated within the pocket beaches by rock headlands, but some material may be transported to the southwest. Several small streams discharge into the embayment at the southwestern part of the segment.

The oil appeared to have been well weathered by the time it reached this segment. Predominant oiling was tar splats mixed with spruce needles near the high water line (this form of oiling occurred within about 30% of the segment). Mousse patties accumulated at two locations at the head of the bay in the southwest - these accumulations have formed patchy, hard pavements (total estimated area of about 45 sq. m) in the upper 5cm of pebble/granule material in the UITZ. Other than the oiling associated with the pavement, no subsurface oiling was noted.
SHORELINE ECOLOGICAL SUMMARY

Date (mo/day/yr) 04/25/90

Subdivision A

Time (24 hr) 09:45

Biologist John Dixon

(A) Substrate type and % of segments:
   1) Bedrock 30%
   2) Boulder 20%
   3) Cobble 30%
   4) Pebble 20%
   5) Sand 20%
   6) Silt 0%

(B) Overall % cover of biota (% of segment):
   Dense 12%
   Moderate 28%
   Low 59%

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

BARNACLES

Dense

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Wildlife Observations/General Comments: Waterline during survey: -0.8' - 3.2'
other shells. Mud in intertidal. Delmarre joke.

Ecological Considerations: Listed Sensitive Taxa: 1R8 (274.30-15120); 1E; 1L; 6A; 6T.
Vertical Rock faces & hummocky platforms interspersed with cobble breakers. Sparse biofilm on cobble breakers.
Outcrops of large blocks with >100% algal cover. 6. Fucus spiralis, Eulalia, und. other taxa main species higher.
This 2,099-m long segment includes several different habitats. A series of bedrock cliffs or ramps form small headlands which bound pocket beaches containing various mixes of boulders, cobbles, and pebbles. Most of the pocket beaches contain angular material, but the pebbles and cobbles on the eastern beaches of the embayment at the southern end of the segment are well-rounded. As one proceeds from the head of the embayment to the point defining the northeast boundary of the segment, the substrate becomes coarser and wave exposure appears higher.

Neither the cover of sessile organisms nor the number of species present was remarkably high on any given section of beach. However, overall the segment was quite diverse as a result of the variety of habitats. As one would expect, the bedrock cliffs and platforms supported the greatest cover of sessile organisms. The lower shore was nearly 100% covered with macro-algae: Fucus, Ulva, Rhodomenia, Palmaria, Laminaria saccharina, and red and green filamentous algae were abundant. Higher on the shore, Fucus, Halocroclon, Enteromorpha, Rhodomela larix, Scytosiphon, and Ulva were the principal algal species. Sea stars were notably abundant in the lower and middle intertidal. Pychopodia, Pisaster ochraceus, Evasterias, and Leptasterias hexactis were abundant. Drosasterias was common. About 40% of the Leptasterias were brooding eggs. Nucella lamellosa and Bursila dira were the most common predaceous snails. Among the most common crevice fauna were Leptasterias hexactis, Notoceras scutum, amphipode, pricklebeaks, Littorina sitkana (and eggmasses), Katherine tunicata, and the sea cucumbers, Eupentacta. Green sea urchins, Strongylocentrotus droebachiensis, were present at a density of about 3/sq m in the lower intertidal among boulders and cobbles. Both L. sitkana and L. scutulata were common on middle and upper intertidal rocks. The density of littorines increased toward the northeast end of the segment.
SHORELINE EVALUATION

SEGMENT ST/ EB-09  SUBDIVISION A (I OF 1)  DATE  4/10/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 225-30-15070, 15130, 15140, 15165, 15163, 15150, and 15160.
1A  Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B  Salmon stream mouth - spawning (7/10 to 8/31)
1E  Main Bay Hatchery release (4/20 to 5/10)
1L  Set net sites (6/11 to 7/25)
5T-3  All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y  Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE:  DATE:  4/28/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 87 m: No Oil 1031 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  Beach Cleaner
___ Removal  Other (see comments)

COMMENTS:

______________________________

TAG COMMENTS:

______________________________

TAG APPROVAL DATE:  4/26/90
ADEC  EXXON  FOSC:  DATE:  5-8-90
NOAA  USCG

TAG SIGNATURES:  DATE:  4/28/90
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 Hatcher release (4/15 to 6/1)

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

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

1G
Cannery Creek Hatcher 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)

1J
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 unrolled 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)

3N, 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 AOF&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 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.

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

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

7H
Eelgrass harvesting

7N
Deer harvesting (8/15 to 2/23)

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

MENT ST  | BB-009  | SUBDIVISION:  | A  | DATE  | 4-10-90

USCG
NAME   | Kerwin L. Dreh | SIGNATURE | 2002 | H. L. Dreh

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

ADEC
NAME   | Patrick Endres | SIGNATURE | Patrick J. Endres

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Because of very little oil, no treatment is suggested.

LAND MANAGER
NAME   | Larry M. Evanoff | SIGNATURE | G.. S.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

RECOMMEND PICK UP TAR BALLS.
**SHORELINE OILING SUMMARY**

**OG**  N. BIGGAR  **USCG**  K. DREHER  **SEGMENT ST/ID**  E8-001

**BIO**  K. COATES  **LAND REP**  L. EVANOFF  **SUBDIVISION**  A

**EXXON**  G. STILES  **ADEC**  R. ENDRES  **TIME**  7:50 to 9:00

**TEAM NO.:**  14  **TIDE LEVEL:**  -1 to -0.5  **DATE**  4/10/90

**EST. SUBDIVISION LENGTH:**  1825 m  **SUN:**  Clouds  **Clouds:**  Fog  **Fog:**  Rain  **Rain:**  Snow

**UPLANDS DESCRIPTION:**  □ Grass  □ Forest  □ Rock

**SURVEYED FROM:**  □ Foot  □ Boat  □ Halo  **WORKING DIRECTION:**  W to E

**SURFACE SEDIMENTS:**  R 85% B 0% C 15% P 0% G 0% S 0% M 0% □ V □ O □ %

**SLOPE:**  Lang 15% Hang 65% Vert 20%  **WAVE EXPOSURE:**  □ Low  □ Med  □ High

**OIL CATEGORY LENGTH:**  W 0 m  M 0 m  N 0 m  VL 7 m  NO 13/18 m

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### SURFACE OIL

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**PAVEMENT:**  H F S O sq. m by 0 cm

**PATTIES / TARBALLS:**  0 BAGS

**NEAR SHORE SHEEN?**  NO BR RW SL TL

**OILED DEBRIS**

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**DEBRIS COLLECTED:**  □ YES  □ NO

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OIL / FILM COLOR

Photographs:
Roll No. --
Frames --
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### SUBSURFACE OIL

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<th>OILED INTERVAL</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>OILED DEBRIS</th>
<th>AMOUNT</th>
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**COMMENTS**

Virtually no oil was observed in this subdivision of the segment. Fewer than a dozen tarbags were seen, as well as thin, discontinuous sheen (about 5cm wide) over about a 7-m distance. These occurred in the U172 frame also grown up to the U172. Areas were protected from wave action with some fresh water streams.

Page 1 of 1

**REVIEWED**  W  **DATE**  4/13/90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST1 EB09  Subdivision A  Date (mo/day/yr) 04/10/90

From (24 hr) 07:56-08:53  Biologist KA Coates  Lower int. water

(A) Substrate type and % of segments:
- Bedrock 30%
- Boulder 0%
- Cobble 15%
- Pebble 5%
- Sand 5%

(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:
- Photos: Roll No. ST-19-2
- Frames

### Barnacles

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Wildlife Observational/General Comments:
- Known sensitivities: eagle nests, not active.
- Main bay hatchery: recreation-special destination.
- Over 3000 divers in bay and obviously feeding frequently on low intertidal clam beds.
- 20-30 ducks nearshore. Eagle nest not seen on 10 April 1990.

Ecological Considerations:
- Stream in northeast bay on EB09 with 3 or 4 channels running 10-15 cm deep at low tide — not a logged estuarine stream. Clam and mussel beds throughout lower intertidal of embayed area with overgrowing surf grass are apparently heavily used for feeding by sea otters.
Notes: (cont'd)
7. Barnacle settlement in area of 1-2 mm size but at a later stage than attached cyprids.
8. Additional lower intertidal animals: *Pycnopodia* and (10-15cm grey - 5arms.).
SHORELINE EVALUATION

SEGMENT ST/ EB-10 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
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 30 m: V.Light 638 m: No Oil 1830 m
Subsurface Oil Observed: Yes  No  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 oil cover and coat areas. Work should be conducted after 6/1 with USFWS permission due to eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC Artwenger Artwenger  FOSC:  DATE: 5/15/90
EXXON Austen Austen
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
Sawmili 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 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.

3O, 3Q
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
Active Bald Eagle nests (8/1 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)

6V
Anchorage (5/1 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

7H
Deer harvesting (8/15 to 2/26)

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

SEGMENT ST1 EB-010 SUBDIVISION: A DATE 4/9/90

USCG NAME Kerwin L. Dreher SIGNATURE CWO2 K. L. Dreher

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

On eastern edge of segment is a quantity of oiled surface material that should be removed manually. The remainder of the subsection would not necessitate any organized clean up effort. There are a minimum of tar like splatters perhaps 1-4 mm thick and 7-10 cm diameter that should not pose a problem to the ecology.

DEC NAME Patrick J. Endres SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED NO PERHAPS

COMMENTS

Overall, oiling is very light with tar bands and splatters in discontinuous fashion along headlands. On the easternmost portion of the segment on a pocket beach, there is oiling on the form of soft asphalt and fine sediment saturation of the initial 1-4 cm. It exists in the upper mite to bit pebbles (see map for details). If this is removed concern should be given to the mussel beds and other biota in the Littoral that they are not damaged by human traffic. A crew of a few people could effectively remove this oil with shovels or small shovels. I have some hesitations about recommending treatment primarily centered around the more harm than good issue.

LAND MANAGER NAME Larry M. Evans SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Recommend manual removal, no biodegradation.
### SHORELINE OILING SUMMARY

**CG:** N. Eldegard  
**USCG:** K. Deysher  
**SEGMENT ST/END:** ER-10  

**BIO:** K. Coates  
**LAND REP:** J. Branden (CUC)  
**SUBDIVISION:** A (10.4)  

**EXXON:** C. Strickler  
**ADEC:** D. Greens  
**TIME:** 10-14 to 10-00  
**DATE:** 1-1-90  
**1990:**  
**EST. SUBDIVISION LENGTH:** 8624 m  
**TIDE LEVEL:** +5 to +5  
**DATE:** 1-1-90  
**WORKING DIRECTION:** E to W  
**SURVEYED FROM:** Foot  
**SLOPE:**  97 % B 15 % C 15 % P 0 % G 0 % S 0 % M 0 % V 0 %  
**DISTRIBUTION:**  
**OIL / FILM COLOR:**  
**OIL / FILM DESCRIPTION:**  
**OIL / FILM CHARACTER INTERVAL:**  
**OIL / FILM LENGTH:**  
**OIL / FILM PROBABILITY:**  
**OIL / FILM TYPE:**  
**OIL / FILM ZONE:**  
**OIL / FILM ZONE:**  

### SURFACE OIL

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<tr>
<th>CHARACTER</th>
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<th>OIL / FILM COLOR</th>
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</tr>
<tr>
<td>FILM</td>
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**PAVEMENT:** H F S O sq m by 0 cm

**PATTIES/TARBALLS:** 1 / 1

**NEAR SHORE SHEEN?** NO

**BR RW SL TL**

### OILED DEBRIS AMOUNT

- Logs
- Vegetation
- Trash
- Debris

**OILED DEBRIS AMOUNT**

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<thead>
<tr>
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<tbody>
<tr>
<td>Debris collected</td>
<td>YES</td>
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**TYPE:** poh.pom

**#BAGS:** 1

**Photographs:**
- Roll No. 2
- Frames 24, 25, 26

### SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
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**COMMENTS:**
Oiling was concentrated on Node 7 of pit 5, the 9 only evidence of oil observed along 5 % of segment over a two-mile reach of the upstream shore. Location is protected and consists of large amount of gravel, rocks, and coniferous forest with year-cattle and tannin effects. Insect growth up to 41% for 41%.
SHORELINE ECOLOGICAL SUMMARY

Segment ST E80/10 Subdivision A Date (mo/day/yr) 04.09.90
09/06/10 15-10 05
Time (24 hr) 1640-1800 Biologist K A Coates
10/105-1685

(A) Substrate type and % of segments:

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 20 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

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<tr>
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<tr>
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GASTROPODS

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<tr>
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FUCUS

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<tr>
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<tr>
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<td>6 6</td>
<td>6 6</td>
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</tbody>
</table>

Wildlife Observations/General Comments: Known sensitivities: recreation - special
destination; Main Bay hatchery; set net site; oil spill
mature
eagles roosting at northeast point; juvenile seal just offshore;
3 pairs harlequins; sea otter in area.

Ecological Considerations: Sea otter "clamming" area in south bay;
productive surf grass pools with mussels in northeast.
Complex, productive subharnets and lower intertidal
zone should not be disturbed.
Voles:
1. Northeast beach and outcrop: Littorina, limpets, and oligochaetes moderate to abundant on lower surface and under upper intertidal boulders over oiled sediments. In adjacent, lower mid intertidal shallow pools with Phyllospadix, mussels, moderately abundant as well as around cobbles in gravel and sand adjacent to pool.

2. Other moderate to dense organisms in pool: hermit crabs and sculpins, Littorina, shells of Saxidomus, small Macoma, rare Modiolus; branching stage of Lithothamnion, Endocladia, wash; Laminaria saccharina, Ulva and higher over saturated sediments. Littorina scutulata laying communal egg masses at lower intertidal, on underside of cobbles.

3. Notacmea and hermit crabs moderate under cobbles into mid intertidal. On low energy beach with small cobbles, barnacles sparse to moderate into upper intertidal.

Bedrock community more or less "usual" with relatively denser Fucus and fewer barnacles barnacle although with moderate to dense new settlement metamorphosed but only 1-2 mm. Nucella lamellosa moderate up to upper mid intertidal.

Muscle-sand tombolo in southeast with Hiastella Clinocardium; Protothaca shells; live Nucella lamellosa unid'd. Pycnopodia and (5-armed grey seastar) just subtidal.
## ADDENDUM: SUBDIVISION CONSTRAINTS
### SEGMENT EB-10 SUBDIVISION A (1 of 1)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
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<tbody>
<tr>
<td>Manual Pickup Less Than 400m From Nest</td>
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<tr>
<td>Manual Pickup More Than 400m From Nest</td>
</tr>
<tr>
<td>Bioremediation Less Than 400m From Nest</td>
</tr>
<tr>
<td>Bioremediation More Than 400m from Nest</td>
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</tbody>
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### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Details</th>
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<tbody>
<tr>
<td>1E Main Bay Hatchery Release</td>
<td>No constraint to manual pickup. Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&amp;G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation after 6/15.</td>
</tr>
<tr>
<td>1L Set Net Sites</td>
<td>No constraint to manual pickup. Closed to bioremediation from 6/11 to 7/25.</td>
</tr>
<tr>
<td>5T Bald Eagle Nest</td>
<td>USFWS bald eagle impact assessment completed on 5/15/90 by Mike Lockhart indicates an active bald eagle nest in Subdivision A. Subdivision is closed to manual pickup and bioremediation within 400m of active nest.</td>
</tr>
<tr>
<td>1L Gill Net Area</td>
<td>No constraint to manual pickup. Closed to bioremediation after 6/7.</td>
</tr>
</tbody>
</table>

### OTHER ECOLOGICAL CONSIDERATIONS

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 880m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Avoid dense mussel beds.

---

Signature: Andrea Meyer (PP) Date: 6/3/90

Tag Approval Date: 6/24/90

ADEC: [Signature]

EXXON: [Signature]

NOAA: [Signature]

USCG: [Signature]
SHORELINE EVALUATION

SEGMENT ST/ EB-11 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
6V Recreation: Anchorages (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: ______________________ DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 395 m: V.Light 64 m: No Oil 125 m
Subsurface Oil Observed: Yes X No___ Maximum Depth 10 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
 X Tarmat: __Breakup____ Beach Cleaner
_________Removal____ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat,
2) manual pick up of oiled debris (pom poms), 3) bioremediation of surface
and sub-surface oil in areas shown on attached sketch map. Work
should be conducted between 5/10 and 6/1 based on hatchery release and
set net constraints.

TAG COMMENTS: __________________________________________________________

TAG APPROVAL DATE: 9/23/90
ADEC ________ EXXON ________ NOAA ________ FOSC: ________ DATE: 5/14/90

AAT WEINER ATTILA ________ JOSEPH CHASE
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 Remote release site
1I Gill net area (5/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)

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.

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)
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)
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: EB-11
SUBDIVISION: A
DATE 9-9-90

USCG NAME: Kerwin L. Drenhe
SIGNATURE: Crow K. E. Drenhe

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Due to minuteness of any appreciable oil I suggest no clean up necessary.
Natural weathering will remove and clean the area without man clean up.

DEC NAME: Patrick J. Endres
SIGNATURE: Patrick J. Enderes

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED pending biological considerations

COMMENTS (Note: Location of seg. is near mouth of Eshamy Bay)
The degree of oiling varied on EB-11. The dominant characteristic was a tar coat/cover on headlands, widening on gradual sloping pocket beaches. One pocket beach had areas of soft asphalt of primarily finer sediments that surrounded boulders and cobbles. This was sporadic and mostly in the Hitz where little intertidal life existed. A few pooled areas of pooled black oil existed in the first 5 cm of pebble substrate. Other areas had shiny black oil retained in the first 2 cm of fine textured substrate. Manual removal is possible and could be accomplished at an 8 or 9 ft tidal height. Natural remediation seems to be cleaning the other areas of this segment, but this particular pocket beach is protected by offshore islands. If cleaning occurs, I suggest a small crew. If bioremediation is proven effective, I think this site would be a candidate.

LAND MANAGER NAME: Larry M. Evanoff
SIGNATURE: Larry M. Evanoff

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Recommend manual accup. travel/scrape oil surfaces and wash.:
1. Foam needs to be picked up. Till and wash in some areas.
No bioremediation recommended.
**SHORELINE OILING SUMMARY**

**AXIS**

**USCG**

**LAND REP**

**EXXON**

**ADEC**

**TEAM NO.**

**TIDE LEVEL:**

**DATE:**

**EST. SUBDIVISION LENGTH:**

**SURFACE DESCRIPTION:**

**SURVEYED FROM:**

**WORKING DIRECTION:**

**SURFACE SEDIMENTS:**

**SLOPE:**

**OIL CATEGORY LENGTH:**

---

### SURFACE OIL

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<thead>
<tr>
<th>CHARACTER</th>
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<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
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**PAVEMENT:** H F

**PATTIES/TARBALLS:**

**NEAR SHORE SHEEN?**

**OILED DEBRIS AMOUNT**

**DEBRIS COLLECTED**

**ROLL NO.:**

**FRAMES:**

---

### SUBSURFACE OIL

**PIT:**

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**COMMENTS:**

Due to very shallow banks, oil spread was expected to remain above water line and not constitute subsurface oil.
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST1350**  
**Subdivision**  
**Date** (mo/day/yr) 04.09.90

**Time (24 hr)** 04:55-11:40  
**Biologist** KACoates

(A) **Substrate type and % of segments:**
- Bedrock 25%
- Boulder 40%
- Cobble 25%
- Pebble 5%
- Sand 0%

(B) **Overall % cover of biota (% of segment):**
- Dense 15%
- Moderate 65%
- Low 20%

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

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- **Mytilus**

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- **Gastropods**

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- **Fucus**

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**Wildlife Observations/General Comments:**
- Most of lower intertidal not observed - superficial observations through water. 3 seagulls just offshore; oyster catchers on small clams; "white-winged sealer" pair; seagull on offshore; small brown wing in upper Fucus; green eggs; nest not seen.
- Shown shellfishes; recreation special; eagle's nest; Main Bay hatchery; set net rules.

**Biological Considerations:**
- Remaining oil coat in upper intertidal with sparse, live adult barnacles; some patches already overgrown with filamentous green algae; with live celpams in this area. Bedrock areas continuous with remaining mud sections are densely and diversely populated. Mussel beds are moderate.
Notes:

1. Upper intertidal pools in bedrock with Endocladius, dense mussels around and dense Littorina scutulata and L. sittana on algae. Palastra carinata moderately abundant at mid to lower intertidal on bedrock. Palmaea also sparse but common at mid-intertidal in pools.

2. On cobble-pebble-boulder beaches, serpulids abundant at lower-mud to lower intertidal on undersides of cobbles. Mussels moderately abundant in pebbles between cobbles; at southeast end of beach mussel bed dense in pebble-sand-silt at mid-tide. Amphipods moderate under rocks at waterline. Hermit crabs, Littorina spp and Nucella spp, including personal and scutum moderately abundant from mud to lower upper intertidal. From upshore or longshore at a distance, major cobble beach appeared very sparsely populated, however invertebrate community inhabiting interstices among boulders and pebbles and undersides of cobbles is dense to moderately abundant as well as diverse.

# Addendum: Subdivision Constraints

## Segment EB-11 Subdivision A (1 of 1)

### Work Window

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<tr>
<td>Manual Pickup and Tarmat Removal More Than 400m From Nest</td>
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<tr>
<td>Bioremediation Less Than 400m From Nest</td>
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<tr>
<td>Bioremediation More Than 400m From Nest</td>
<td>WORK 6/4 - 6/7</td>
</tr>
</tbody>
</table>

### Archaeological Standard Constraint

If cultural resources are uncovered, PHONE 564-3274.

### Applicable Ecological Time Constraints

1E Main Bay Hatchery Release

No constraint to manual pickup and tarmat removal. Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Lary Peltz/ADF&G to Tom Morihana/Exxon on 5/24/90. No constraint to bioremediation after 6/15.

1I Gill Net Area

No constraint to manual pickup and tarmat removal. Closed to bioremediation after 6/7.

1L Set Net Sites

No constraint to manual pickup and tarmat removal. Closed to bioremediation from 6/11 to 7/25.

5T Bald Eagle Nest

Closed to manual pickup, tarmat removal, and bioremediation less than 400m from active nest. No constraint more than 400m from nest.

### Other Ecological Considerations

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 800m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncultivated biota and substrate.

---

Prepared by [Signature] Date 5/3/90
Incorporates information from USFWS Bald Eagle survey 7/28/90

ECOLOGY MAP
SEGMENT EB-11
SUBDIVISION A (L of L)

- Seabird Colony
- Eagle Nest

EXxon Company, USA
Map Keys: PME-EB-11
May 11, 1990

METERS
0 300 715
1 inch = 1206 feet
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT EB-11    SUBDIVISION A(11)     DATED 8-3-90

MODIFICATION

1. REASON FOR MODIFICATION:
Area on EB-11 will require further treatment in 1990. Moving N-S on second prominent footprint encountered in an area approx. 2.5 x 4.5m. Weathered intestinal moisture, AP, and OP/CR subsurface oil (3-temperature). Area 2 is north facing cove in middle of segment. From M172-M177, the evidence indicates that biremedial removed clean surface layer of 20th/140m. Boulders exist to oppose targets. These targets/CR require more than bioremediated. AP and subsurface OP and CR oil still exist here and will require re-treatment in 1990.

2. SUGGESTED ADJUSTMENT TO WORK PLAN:
The area segment to determine potential effectiveness of mechanical treatment. A large number of clean boulders and small boulders will need to be relocated to access AP and subsurface oil. A manual crew could accomplish this task, but would require a substantially longer period of time. The next step is to remove AP and subsurface oil prior to bioremediation (both spray and Actizyme).

3. TIMING ISSUES:
Treatment required in 1990

4. ADDITIONAL COMMENTS:

ADEC [Signature]

EXXON [Signature] (If field rep is on scene)
SEGMENT AS/ JSCG  SUBDIVISION: A SITE: 1 DATE 8/3/90

JSCG

NAME: Don Smith (JSCG)  SIGNATURE: David C. O'Neal

YES ☐ NO ☒ PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Oiling is widespread in these caves. 1990 treatment is recommended, as much oil is found between boulders & cobbles - will not be fully effected by winter waves. Definite 1991 reassessment recommended.

ADEC

NAME: Bob McCray  SIGNATURE: Robert A. McCray

YES ☐ NO ☒ PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Work Order Med. Recommendation has been submitted, recommending cleaning be resumed in 1990. North facing cave has fairly extensive tar mat/ AP and OS/ OR submerged oil. Mechanical treatment is recommended to remove layers of clean, settled/emulsified oils. AP and submerged oil. Manual removal then remove oiled sediments which would be followed by the application of Quipex or Custard Oil.

Priority reassessment for 91 following treatment in 90

LAND MANAGER

NAME: Steve Lassend CVC  SIGNATURE: Lassend

YES ☐ NO ☒ PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: needs more 90 work. check for sub surface again needs Re-Bio.

EXXON

NAME: Randall L. Ayers  SIGNATURE: Randall L. Ayers

YES ☐ NO ☒ PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: This area appeared to have been biod before
manual treatment was initiated or completed. A new modification has been filed for Pickup and Re-Bio. The APP and MS/SP would justify another look in 1991.
### SURFACE OIL

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<thead>
<tr>
<th>SITE 1</th>
<th>SITE 2</th>
<th>SITE 3</th>
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**EST. SITE LENGTH** | 583

### BSURFACE OIL

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**REVIEWED**

8/4/90

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**NOTES:**
- L.L was located in the flanks of an embayment composed of boulders and bedrock.
- Small areas of SU/CR/S/T/H/S were located in the upper intertidal zone.
- Field clean-up was initiated at three areas.
## ASAP DATA ENTRY FORM

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SHORELINE EVALUATION

SEGMENT ST/ EB-12 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1E Main Bay Hatchery release (4/20 to 6/15)
5T-2 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
Note eagle nest in adjacent segment EB-13.
6V Recreation: Special use destination
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: [Signature] DATE: 5/1/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 64 m: No Oil 1391 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 Removal _____ Beach Cleaner
_____ Other (see comments)

COMMENTS:


TAG COMMENTS: Monitors to assess significance and accessibility of oil + need for removal.

TAG APPROVAL DATE: 5/4/90
ADEC Art Weiner Art Weiner
EXXON Art Weinert Art Weinert FOSC [Signature] DATE: 5-14-90
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 bio remediation 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 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 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  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  (5/11 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  James Brady  424-3212

1M  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 unoiled 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)

3O, 3Q  Harbor seal and sea lion molting  (5/15 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 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: US National Marine Fisheries Service  Steve Zimmerman  586-7235

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

AGENCY CONTACT PERSON: USFWS  Jill Parker  766-3377

ADFG  Tom Poth  267-2256

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  766-3377

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

6W  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)

71H  Finfish harvesting

71  Deer harvesting  (8/15 to 2/26)

71J  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.
FIELD SHORELINE COMMENT SHEET

USCG
NAME: James C. [Redacted] SIGNATURE: [Redacted]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS:

This area is pretty much invaded except for one small area at The northern corner of mousie mix with the moose located in the cove. The size is 1-2 cm. The density of mousie is very 5 to 10 m. See Effon sketch map.

ADEC
NAME: Brian K. FitzSimons SIGNATURE: [Redacted]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS:

Only very light oiling of widely separated mousie spashes at H122.

NO Treatment.

LAND MANAGER
NAME: [Redacted] SIGNATURE: [Redacted]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS:

manual clean up Recommended
### Shoreline Oiling Summary

**Revision No. 03/16/98**

**OIL** B. Burgund

**USCG** T. Gambill

**LAND REP.** G. Warl (C.V.)

**SEGMENT** EB-12

**TIME** 3:35 10-2-90

**DATE** 10-1-90

** tide level**

**UPLANDS DESCRIPTION**

- Grass
- Forest
- Rock

**SURVEYED FROM**

- Foot
- Boat
- Helo

**WORKING DIRECTION**

- S
- N

**SURFACE SEDIMENTS**

- R: 80% B: 20% C: 0% P: 0% G: 0% M: 0% V: 0%

**SLOPE**

- Lang 30% Hang 70% Vent 10%

**WAVE EXPOSURE**

- Low
- Med
- High

**OIL CATEGORY LENGTH**

- W: m
- M: m
- N: m

**SUBSURFACE OIL**

**PIT NO.**

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<td>TARBALLS</td>
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<tr>
<td>FILM</td>
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**IMPACTED ZONES**

- X
- X

**OILED DEBRIS**

- Log
- Vegetation
- Trash
- Debris

**AMOUNT**

- SM
- MD
- LG

**DID YOU COLLECT DEBRIS?**

- YES
- NO

**TYPe**

- #BAGS

**PHOTOGRAPHS**

- Roll No. ST-1-5
- Frames 1-2

**COMMENTS**

The segment consists of a bedrock shoreline (high angle slope) with a few scattered pocket beaches. The segment is unoiled except for a small area at the North end. The oiling consists of very scattered "blobs" of Mousse mixed with pine needles, located along the HWL. The density of "blobs" is very low and sparse.
**Profile**

**Entشي 1990**

**VISION A**

**Bedrock Shale** line with a few scattered pocket beaches of boulder & cobble.

- **Profile**

- **End of Segment**

- **Bedrock Pt.**

- **Balls** of moss (sticky blobs)

  - 1-3 cm², mixed with pine needles.

  - Located along HUL, packed in cracks of bedrock.

  - Very scattered. "Blob" every 5-18 m.

  - See profile.

**Example of MS Balls**

- **Pine Needle**

  - 0.1 mm x 2 mm

- 3 cm

**Length (m): AP PO CV CT ST MS GS PT TB FL NO 1630**
SHORELINE ECOLOGICAL SUMMARY

Segment ST/EB-12 Subdivision A Date (mo/day/yr) 4/24/90

Time (24 hr) 0635-0830 Biologist S. Schroeter Tid: START 1.5

(A) Substrate type and % of segments:
1. Bedrock 85
2. Boulder 15
3. Cobble 10
4. Pebble 10
5. Sand 8
6. Silt 5

(B) Overall % cover of biota (% of segment): Dense 80 Moderate 23 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

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Photographs: Roll No. ST-1-5 Frames 1-4

Wildlife Observations/ General Comments: ST-2C No bald eagle seen in segment; 1E 10J61

Ecological Considerations:
1. Dense algal populations L17E including Alaria, Laminaria saccharina, Cystaria, Palmaria
2. Estuary along much of segment in subtidal
3. Colored feather mats cover much of habitat with biota mix: Porichthys dentatus & Demaster: [Older text continues]
EB-12

Bald Eagle Nests

XX Wide

/// Medium

---- Narrow

TTTT Very Light

Map Key: PWS-107
Name: B. Berglund
The segment consisted of 3 kinds of shorelines: predominantly steep bedrock cliffs (29%), (2) boulder, cobble, and pebble pocket beaches (29%) and (3) pocket beaches with boulder, cobble, and pebble in the LITZ and MITZ and bedrock in the UITZ (42%). Shorelines on the segment are sheltered from wave energy.

Salient ecological observations include: (1) no bald eagles observed, despite previous observations of a nesting site; (2) 2 sea otters observed offshore and numerous sites with otter scat. A river otter was also observed. (3) Dense Zostera beds lie offshore along the entire segment. (4) Alaria marginata and Laminaria saccharina are dense in the LITZ along the bedrock shorelines and extend into the subtidal; (5) Barnacles, mussels, gastropods, and Eucos are abundant along most of the segment. (6) Gastropods are comprised primarily of littorines, N. persona, and N. scutum. Littorina scutulata and N. persona dominate in the upper MITZ and UITZ, whereas L. scutulata, N. scutum and N. pulchra dominate in the middle and lower MITZ and upper LITZ. (7) Barnacle spat (probably B. glandula) were abundant in the
throughout the segment. (8) Two species of sea stars, *Dermasterias imbricata* and *Pycnopodia helianthoides*, were remarkably abundant in the low MITZ and LITZ both under and on top of boulders. *Pycnopodia*-excavated pits were abundant in the LITZ in several of the boulder/cobble/pebble pocket beaches. The large numbers of small individuals of both species suggests high recruitment over the past several years. *Leptasterias hexactis* and *Easteria trocheellii* were present, but rare in the MITZ and LITZ. (8) Clams and an echinoid (*Urechis* spp. as a guess) was abundant in the LITZ in many of the boulder/cobble/pebble pocket beaches. (9) Filamentous greens (*Ulva* and *Enteromorpha*) were abundant in tidepools in the UITZ and MITZ, and on boulders and cobbles in the lower MITZ and LITZ. (10) Small green urchins (*Strongylocentrotus droebachiensis*) were common under boulders and cobbles in the LITZ.
SHORELINE EVALUATION

SEGMENT ST/ EB-13 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 225-30-15080 (2/90, P)
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1E Main Bay Hatchery release (4/20 to 6/15)
5T-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
Also two eagle nests in adjacent segment (1 within 400M)
6V Recreation: Special use destination
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: 5/5/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 41 m: V.Light 1749 m: No Oil 2902 m
Subsurface Oil Observed: Yes No

Maximum Depth

RECOMMENDATIONS:

X Treatment Recommended  

Snare/Absorbent Booms  

Oil Snare (pom poms)  

Absorbents (pads, rolls, etc)  

Spot Washing: Wands  

Beach Cleaner  

Other (see comments)

COMMENTS: Recommend manual pickup of mousse tarballs. Work should be conducted after 6/1 with USFWS approval based on eagle nest constraints.

TAG COMMENTS: MONITOR TO ASSESS WESTERN END OF SUEG - ICW PRESENT

DATE: 5/4/90

ADEC  
EXXON  
NOAA  
USCG

TAG APPROVAL DATE: 5/4/90

NOTIFY CPC 24 HRS IN ADVANCE OF WORK
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 9/31)

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 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 prior to treatment and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

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 Pelitz 424-3214

Esther Hatchery release (4/15 to 6/15)
Main Bay Hatchery release (4/20 to 6/15)
Sawmill Bay Hatchery release (4/15 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 Pelitz 424-3214

PWS Aquaculture Association John McMillan or Bruce Suzomoto 424-7511

Gill net area. (6/7 to 8/31)
Purse seine area. (7/20 to 9/30)
Purse seine hook-up (7/20 to 9/30)
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 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

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 uncultured 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 James Brady 424-3212

Harbor seal and sea lion pupping (5/15 to 7/1)

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 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: US National Marine Fisheries Service Steve Zimmerman 566-7235

ADF&G Don Calkins 267-2403

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

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 Persy 267-2206

All Bald Eagle nests (3/1 to 8/1)
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

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)

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 Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/13A, E-B-13A SUBDIVISION: NO DATE 2/4/65

JOG

NAME: James C. Connell SIGNATURE: James Connell

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS:

A band of mousse on east side of segment towards western end of segment. Manually: Due to ice, the bay is a salmon factory. Port of the segment was unobserved because there was ice which made it difficult to see. Thought and snow on shore. Mousse was in N.W. area. See Exxon sketch map.

APDEC

NAME: Brian K. Costa Signature: Brian Costa

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS: I concur with OG sketch maps and comments. Concentrated narrow band of mousse on east side of peninsula toward western end on fishery. Hand removal of oiled sediments—necessary due to ice and snow on shore.

AND MANAGER

NAME: Steve Doug. SIGNATURE: Steve Doug.

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS:

Manual clean-up.

p. 9 of 15
SHORELINE OILING SUMMARY

OG: B. Barlow USCG: J. Gambill SEGMENT: E. B. 13
BIO: S. K. Kes UnderLAND REP: S. Weiss (C.V.) SUBDIVISION: A
EXXON: C. Levine ADEC: B. Frizzell DATE: 11-20-90
TEAM NO.: TIDE LEVEL: 2.0 ft + 6. DATE: 4-11-90

EST. SUBDIVISION LENGTH: 480 m

UPLANDS DESCRIPTION: ( ) Grass ( ) Forest ( ) Rock
SURVEYED FROM: ( ) Foot ( ) Boat ( ) Helo
WORKING DIRECTION: ( ) Up ( ) Down
SLOPE: ( ) Lang ( ) Hang ( ) Vert
WAVE EXPOSURE: ( ) Low ( ) Med ( ) High
OIL CATEGORY LENGTH: ( ) V ( ) M ( ) N

SURFACE OIL

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PAVEMENT H F S No. sq. m by cm

PATTIES / TARBALLS No. BAGS

NEAR SHORE SHEEN? ( ) BR RW SL TL

OILED DEBRIS AMOUNT

Did you collect DEBRIS?

Photographs:

Roll No. ST-1-5
Frames 5

SUBSURFACE OIL

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COMMENTS: Moss of this segment consists of a high angle boulder and cobble beach face with shallow or exposed bedrock. There are a scattered pocket beaches. The segment has over 30 length of concentrated oiling (C.V./broken) as indicated on the sketch map. The other lightly oiled sectors of the segment have a widespread occurrence of sticky mousse balls located along the HWL (Approx. 1 ball every 50 to 100 m). Over half the segment is uniled. A short section at the west end was not surveyed due to ice blocking the bay.

Reviewed
DATE: 4-25-90
**SKETCH MAP**

- **Cobble &
  - Boulder or
  - Shallow Bedrock**
- **MS balls**
- **3 cm²**
- **20 m**

**Balls of Mousse & stickies**

- **1-3 cm² in diameter. Aggregates with pine needles. Located along HWL. Caught in cracks of bedrock and between boulders.**

**Note:** These balls are distributed throughout the segment along the HWL in zones marked on the GIS map. Very Scale

- **CVB**
  - Mix of oil and pine needles (x optional)

- **Similar to mousse balls**

- **Oil Character Length (m):**
  - AP
  - PO
  - CV 30
  - CT
  - ST
  - MS 35
  - PT
  - TB
  - FL
  - NO
  - 240
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST / EB-13  Subdivision A  Date (mo/day/yr) 4/24/90

- **Time (24 hr):** 0800-1000  
- **Biologist:** S. Schroeder  
- **Tide:** 
  - Chart: 0
  - Low: 2

### A) Substrate type and % of segments:
1. Bedrock 80%  
2. Boulder 5%  
3. Cobble 10%  
4. Pebble 5%  
5. Sand 5%  
6. Silt 5%

### B) Overall % cover of biota (% of segment):
- Dense: 22%  
- Moderate: 18%  
- Low: 60%

### C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
- **Juveniles / Adults (X), New Settlement (3):**

#### BARNACLES

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#### MYTILUS

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### Wildlife Observations / General Comments:

- 1A, 8, 15, ST-1, 2600 eagles on dune  
- 1E, 4Y, 6, 3 sea otters + 1 seal on the sand; othe 5 cat abundant  
- in bedrock areas.

### Ecological Considerations:
- Dense algae population LITZ including Alaria &  
  laminaria species;  
- Zoobenthos substantial along much of segment;  
- Colonel butter end covers much of substrate + birds wade;  
- High density of Derexana in sand + Pycnopodia low - LITZ + LITZ;  
  Helicostomum present but rare.  
- Biological spot noted on  
  BPARL/16 in low - LITZ + MIZ along most of segment, dense in October  
- Dense, clean + sediments. 0.1 m circle and sediments.
Segment: EB-13  Subdivision: A  Date: April 24, 1990

Time  Tide  Biologist: B. Schroeter  Segment Length: 4420 m
Start  0600  -2.0
End  1050  +6.0
Low  0600  -2.0

The segment is very similar with regard to substrate and biota to EB-12A. It consisted of 4 kinds of shorelines: predominantly steep bedrock cliffs (27%), (2) boulder, cobble, and pebble pocket beaches without freshwater (28%); beaches similar to type (2), but with freshwater running through them (31%), and (4) pocket beaches with boulder, cobble, and pebble in the LITZ and MITZ and bedrock in the UITZ (15%).

Shorelines on the segment are sheltered from wave energy.

Salient ecological observations include: (1) 2 bald eagles observed; (2) 1 sea otter observed offshore and numerous sites with otter scat. A river otter was also observed. (3) Dense Zostera beds lie offshore along the entire segment. (4) Alaria-marginita and Laminaria-acuminata are dense in the LITZ along the bedrock shorelines and extend into the subtidal; (5) Barnacles, mussels, gastropods, and Eucus are abundant along most of the segment, but particularly so on the pocket beaches with freshwater running over them. (6) Gastropods are comprised primarily of littorines, N. peregra, and N. acutum. Littorina-aculata and N. peregra dominate in the upper MITZ and UITZ, whereas L. aculata, N. acutum and N. peltata dominate in the middle and lower MITZ and upper LITZ. (7) Barnacle spat (probably B. glandula) were abundant in the MITZ and lower UITZ on bedrock, boulders and cobbles throughout the segment. This segment and segment EB-12A had the highest density of barnacle spat seen by me during both phases. (8) Two species of sea stars, Dendraster-labracintus and Byssopodia-baliathroides, were remarkably abundant in the low MITZ and LITZ both
under and on top of boulders. Bycnopodia-excavated pits were abundant in the LITZ in several of the boulder/cobble/pebble pocket beaches. The large numbers of small individuals of both species suggest high recruitment over the past several years. No other species of sea stars were seen on the segment. (8) Clams and an echinoid (Uromia sp. as a guess) were abundant in the LITZ in many of the boulder/cobble/pebble pocket beaches. (9) Filamentous greens (Ulva and Enteromorpha) were abundant in tidepools in the UITZ and MITZ, and on boulders and cobbles in the lower MITZ and LITZ. (10) Napalia lignosa and N. ciliata were common beneath boulders and cobbles in the low MITZ and upper LITZ.
Note
Areas of very light oiling.

These areas have extremely light oiling consisting
of Mousse balls (see sketch map for description)
which are sporadically distributed, approximately
1 every 30 to 150 meters. All the balls are
located along the HWS in the cracks of
bedrock or in between boulders.
Note
Areas of very light oiling.

These areas have extremely light oiling consisting of Mousse balls - (see sketch map for description) which are sporadically distributed, approximately 1 every 50 to 150 meters. All the balls are located along the HHW in the cracks of bedrock or in between boulders.

Map Ref: PWS-1086
Name: B. Dengland
Date: 4/24/90

Legend:

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

ADEC Segment Length: 4965m

--- Metropolitan ---

--- Fossil ---

--- Industrial ---
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B  Salmon Stream  NO CONSTRAINT. ADF&G catalogued stream (225-30-15080) is more than 100m from work area.

1E  Main Bay Hatchery Release  No constraint to manual pickup.

5T  Bald Eagle Nest  NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates no active nests within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to uncased biota and substrate.
Incorporates information from USFWS Bald Eagle 5/23/90.
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream  
NO CONSTRAINT. The stream is this subdivision is not an ADF&G catalogued anadromous stream.

1E Main Bay Hatchery Release  
No constraint to manual pickup.

5T Bald Eagle Nest  
NO CONSTRAINT. USFWS Bald Eagle Survey was completed on 5/22/90 by Mike Lockhart. The work areas are outside the buffer zone established by USFWS.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unoined biota and substrate.
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream  ADF&G catalogued anadromous stream (242-10-10210) is in Subdivision A. 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.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unolied biota and substrate.
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ EI-001 STREAM NO: 242-10-10270 DATE 4/29/90

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)
ST-1 All bald eagle nests (3/1 to 6/1)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Stream is located within subdivision A (1 of 1). No additional ecological constraints.

SHPO SIGNATURE: Rachel O. Date: 5/21/90

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 Removal ______ Beach Cleaner
____ Other (see comments)

COMMENTS: Recommend manual removal of tarballs and oiled vegetation. Work from 6/2 to 7/10 with approval of USFWS regarding eagle nest.

TAG COMMENTS: NO WORK TO BE CONDUCTED WITHIN THE STREAM CHANNEL PRIOR TO SUMMER

TAG APPROVAL DATE: 5/18/90
ADEC Art Weeks Art Weeks
EXXON Amy E. Previte
NOAA Gary Peterson
USCG L. A. Heiter G. A. Heiter

DATE: MAY 25 1990
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 which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. 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 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 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 Esther Hatchery release (4/15 to 8/15)
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 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

1I Gill net area (6/7 to 8/31)
1J Puma saline area (7/20 to 9/30)
1K Puma saline 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 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 unoined intertidal and subtidal algal 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

3P Harbor seal and sea lion pupping (6/15 to 7/1)
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. No application of Inipol 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

ADFG Don Calkins 267-2403

5R Seabird colony (6/1 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 796-3377

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 796-3377

ADFG Tom Poth 267-2206

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 796-3377

6U Recreation: Tent sites (8/1 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 (6/1 to 9/30)
7HH Firefish harvesting
7JJ 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 Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1  EX-001  SUBDIVISION: 242-10-10270  DATE 29 Apr 90

ASC #

SCG

NAME Kerwin L. Drehor  SIGNATURE  Approve K. L. Drehor

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

Type A manual removal.

NAME Lee Glenn  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

Type A manual removal.

1. Clean oil from sandy shoreline on both sides of stream.
2. Manually remove mousse from the bottom of the stream.
3. Clean oil from rocky/cobble shoreline on both sides of stream and lake including beneath vegetation overhang.
4. Prior to work contact lee Glenn so A.D. can place

LAND MANAGER  NOV 4-29-90 Anal/Sci Survey

NAME  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
## SHORELINE OILING SUMMARY

**OO CAL LARSON**
USCG DREHER, CWE 
**BIO KEN CLITCH LOW**
LAND REP 
**EXXON DARLYL YOES**
ADFG LEE GLEN 

**TEAM NO.** 14 
**TIDE LEVEL** -2.2 FT 
**DATE** 9/12/90 

**EAST. SUBDIVISION LENGTH:** 220 m
- Sun
- Clouds
- Fog
- Rain
- Snow

**SURFACE DESCRIPTION:**
- Grass
- Forest
- Rock

**SURVEYED FROM:**
- Foot
- Boat
- Helo

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

**SLOPE:**
- Lang 100 % Hang % Ver

**WAVE EXPOSURE:**
- Low
- Med
- High

**OIL CATEGORY**
- LENGTH: W m, M m, N m, Y m

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<th>IMPACTED ZONES</th>
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### SUBSURFACE OIL

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**COMMENTS:**

**Small flecks of sheen were noted in lush mud next to a stream bed in unmarked area on sketch #1.**

**Dead grass hiding oil underneath.**

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**REVIEWED** 7/0
**DATE** 5/13/90
**GROUP A**

**ADFG MULTI-ASSESSMENT DATA FORM**

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### EXTENT OF OIL

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<th>N&lt;br&gt;h</th>
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<th>Oil on Stream Banks</th>
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<th>Oil within 1 mile of Stratum (N)</th>
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<table>
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<th>Gravel 10%</th>
<th>Sand 90%</th>
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<thead>
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<th>Y</th>
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<tr>
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<th>Ground</th>
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**COMMENTS:**

Observed less oil on this trip than was observed on 4/14/90. Bullets silt source and sand cemented by oil found throughout outlet stream. Oil coverings still exist on banks of stream above beach. A few tar patches in take. Morphology of outlet stream changed significantly over winter—cut bank is now on the south shore. Design of a subaqueous band of oil visible where stream cuts the bank. No oil.
ELIZABETH IS.
EI-01
Ann. Cat. #:
242-10-10270

- 29 tar balls
- 5" x 7" some tar balls

- Numerous balls of sand cemented by oil/coal tar
- Pond 8x100' channels
- Stream
- Tar balls
- Grass meadow
- Straight (narrow patty)
- Tar balls
- Grass meadow
- Intertidal Pond
- Driftwood bank
- Valley
- Old cabin
- Driftwood
- Stream
- Grass meadow
- Tar balls
- Exposed sand bar at low tide had
- 30-40 "diameter tar balls

Sample taken
- Photo Frame 5 and
- shot direction.
Seg ID: EI-001  Subdiv: 242-10-10270  
Survey Date: 4/29/90  
Comments by: Ken Critchlow

The portion of the stream that was surveyed was upstream of the storm berm of the beach. Oil was observed mainly at the edge of the U17Z and overhanging dead grass in the STZ along the left or west side of the stream. This oil was in the form of stain and patties; a few tarballs were also seen in this area. On the opposite side of the stream numerous very small tarballs were observed partially buried in fine sediments on the bank and on bars in the channel.

I recommend that oil on the left bank be removed by shovel. This may necessitate trimming dead overhanging grass to clearly observe and remove oil. Tarballs in the sediments could be removed by shovel; the upper surface of the sediment can be raked to uncover tarballs for removal.

K.R. Critchlow
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 242-10-10270

SEGMENT EI-1 SUBDIVISION A

WORK WINDOW

Manual Pickup OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (224-10-10270) is in Subdivision A. No constraint to manual pickup.

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

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unoiiled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM EI-1A FOR ADDITIONAL CONSTRAINT INFORMATION.
SHORELINE EVALUATION

SEGMENT ST/ EL-10  SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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 114 m: Medium 120 m: Narrow 0 m: V.Light 95 m: No Oil 114 m
Subsurface oil Observed: Yes X No Maximum Depth 45+ 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
X Tarmat: Breakup --- Beach Cleaner
X Removal --- Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat,
2) manual pick up of pooled oil, 3) bioremediation of surface and subsurface oil in areas shown on attached sketch map. Work should be conducted before 8/15 due to deer harvesting constraints.

TAG COMMENTS:

---

TAG APPROVAL DATE: 4/20/90
ADEC [Signature] DATE: 4-26-70
EXXON [Signature] FOSC:
NOAA [Signature] DATE: 4-26-70
USCG [Signature]

[Handwritten notes on the page]
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
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 unoiied 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
end 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 (6/1 to 9/15)

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

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

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 ST 1 EL-10 SUBDIVISION: A DATE 1/8/90

USCG
NAME (Use large, clear signature) G. Weeks

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

1. Areas near pit 8 and west (near fuel site) are recommend for manual removal and bioremediation.

2. Other area in segment 1B not warrant treatment at this time, not efficient for clean-up, low human use.

3. Some pooling of oil at end of segment, needs to be manually removed.

ADEC
NAME (Use large, clear signature) Gene Wetherell

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

West Side of Ecloi has broken bank of pooled oil and saturated surface sediment that should be removed and rocks wired. The beach near the fuel depot has a layer of oil that occurs just beneath the surface and another layer @ 15-25 cm. The oil occurs above and within a well mixed hardpan. While I recommend treatment of oil I will leave the technique open and let a STAG TEAM decide. Low lying, rocky area East of Ecloi contains surface massed beached barrels. This area needs to be removed. The beach East of fuel depot bank contains a layer of subsurface oil at a depth of 12 cm. Tilling to expose the oil followed by bioremediation may be an option.

LAND MANAGER
NAME (Use large, clear signature) Mike Bennett

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Elco treatment suggested on pocket beach adjacent to fuel site on entire pocket. Recommend manual probing followed by bioremediation. Also suggest some treatment for area between pocket beach near fuel site to the boulder/cobble area lying up to 50 meters east of pit no. 9. The oil in the remaining of the segment was minimal & weathered and could cause minor harm than good to treat. Area was consist of low impact human use, seaweed, deer/hauling a marine mammal/salmon presence. Recommend manual removal of pooled oil on 10X12 mtr. area on western end of segment.

REVISION NO. 02/21/90
**SHORELINE OILING SUMMARY**

**SEGMENT ST:** EL-10

**TECHNICAL CONTACT:** S. Neuman, ADEC, 6th Floor, Anchorage

**DATE:** 16 April 1990

**TIDE LEVEL:** 70 to 60

**SURVEYED FROM:** Helo

**WORKING DIRECTION:** East to West

**SURFACE SEDIMENTS:**
- R: 10%
- B: 45%
- C: 25%
- P: 10%
- G: 5%
- S: 0%
- O: 0%
- V: 0%

**OIL CATEGORY LENGTH:**
- W: 140 m
- M: 110 m
- N: 45 m
- V: 37 m

**OIL FILM COLOR DISTRIBUTION:**
- Asphalt: X
- Pooling: X
- Cover: X
- Coat: X
- Stain: X
- Mousse: X
- Patties/Tarballs: X
- Film: X

**OILED DEBRIS:**
- Logs
- Vegetation
- Trash
- Debris

**DEBRIS COLLECTED:**
- Yes
- No

**PIT DEPTH (cm):**
- 1: 40
- 2: 40
- 3: 30
- 4: 40
- 5: 45
- 6: 40

**OILED INTERVAL (cm):**
- 12.5

**OIL CHARACTER:**
- Sand
- Gravel
- Cobble

**SUBSURFACE SEDIMENTS:**
- Sand/Gravel/Cobble
- Rock/Gravel/Sand/Cobble
- Sand/Cobble

**COMMENTS:**
- Priority 1
- This segment still contains appreciable oil which occurs along most of the shoreline, but is concentrated along the northwestern shoreline or pools between building and cobbles, as soft pavement, and as subsurface oil.
- The beach at the northwestern end of the segment has been highly modified by a bulldozer in the construction of a berm around the fuel container. This much oil is seen in this area a thin sand and pebble layer covers the surface oil.
### Subsurface Oil (Continued)

<table>
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<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>
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**Comments**

- Pit 10: Organic material (peat) and oil are mixed together at a depth of 15 cm.
- Pit 11: Oil is concentrated between 6-15 cm.
810 Sketch
EL-10; 7 April 1990
TEAM 15
8:10
[Photo 6 from 4-16]

Cobble [Boulder]
Cobble area with
moderate foci of
Lower Mid-Summit B
Deep Tarrailet (room
laid in US.T2)
Doorless alcoves on order
side of rocks on upper I C

Sandy/pebbly area used by construction equipment as ramp to
load ships
SHORELINE ECOLOGICAL SUMMARY

Segment ST/EL-10  Subdivision A  Date (mo/day/yr) 4/4/90

Time (24 hr)  16:40  Biologist DANIEL RAINE

(a) Substrate type and % of segments:
   (1) Bedrock/2 (2) Boulder/45 (3) Cobble/20 (4) Pebble/5 (5) Sand/10 (6) Silt

(b) Overall % cover of biota (% of segment): Dense 30  Moderate 25  Low 45

(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)

BARBACLES

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Wildlife Observations/ General Comments:
- Bald Eagle seen

Ecological Considerations: Noting of roosting area

Priority 3
6Y = Special Use Designation
7II = Deer Harvesting
A) Red tide w/ dense Lithorina Scutulata
- Sagittaria giganteus m MTA (cm)
- dense green filamentous algae & focus m MTA
- dense barnacle spot on Rottwek m MTA zone at Southern end of segment
- dense Ulva & red algae m mid-MTA
- Pycnoperda helicostomoides (3 found) on Rottwek at Southern end m Upper MTA-Intertidal Zone
- Dense barnacle, red (spaghetti-like algae) from fresh stream m U.I.T.Z.
- Signs of profuse dead Barnacles m UTA

B) Fresh water course feeding into Upper & Upper MTA
- dense Ulva algae
- Dense barnacles (adult)
- moderately dense focus m mid & upper MTA-intertidal zone; sparse focus m UTA
- Lithorina Scutulata moderate m Mid-MTA 
- Barnacles (adult/juvenile) dense m UTA on boulders

C) Many dead barnacles m UTA on boulders which are coated in oil
- much less red algae as in "A"
- moderate barnacles m UTA
- Evidence of dead adult barnacles m UTA
- dense colonies dead, not necessary where oil coat is heaviest
Cont.
- Tree covered in oil; profuse dead barnacles + some still alive covered in oil; mostly dead where oil is located
- Dense Mytilus edulis colony (adult/juv. + spat) on underside of oil-covered log.
- Moderate recruitment of barnacles on VITZ
- Dense adult/juv. barnacles on upper VITZ

3 Sand + pebble beach
- dry 30 cm; no clams found, but no sign of clam shells on beach
- Dead sparse barnacles on upper VITZ; bedrock
- Dense barnacles/Mytilus edulis (adult/juv.) in VITZ on bedrock

4 Cobble boulder beach
- Moderate focus + red algae on m. VITZ
- Moderate focus + red algae on k. VITZ

5 Red rock with moderate focus (adult/juv. + spat)
- Profuse red algae
- Many dead "volcano" barnacles on bed in VITZ; oiled
- Dense barnacles on bedrock
  - 1/2 dead + covered w/ oil
- Crab; Chionea's barnacles in VITZ

6 - Katharina tunicata + Blenny
- Many starfish (genre? - 5 legged + Quasar-like) in m. VITZ and VITZ
SHORELINE EVALUATION

SEGMENT ST/EL-11 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6) Recreation: Special use destination
7) 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: Charles F. Harmon DATE: 4/28/90

OILING CATEGORIZATION:
Wide 0 m: Medium 232 m: Narrow 126 m: V.Light 44 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 80+ cm

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

COMMENTS: Recommended treatment includes 1) manual tarmat removal, 2) manual pick up of pooled oil, oiled debris, 3) manual relocation of storm perm to MITZ using hand tools and snare boom to control sheen in area shown on attached sketch map, 4) bioremediation of surface and subsurface oil in areas shown on attached sketch map. Work should be conducted before 8/15 due to deer harvesting constraints.

TAG COMMENTS: SPOT WORK AS REQUIRED IN AREA OF POLED OIL

TAG APPROVAL DATE: 6/26
ADEC: John Brown
EXXON: Amy G.
NOAA: Gay Peterson
USCG: [Signature]

FOSC: [Signature] DATE: 5-9-90
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 release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/15 to 8/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release sites

1I Gill net area (5/7 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 unroofed intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3M, 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 from haulouts. 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)
6V Anchorage (6/1 to 9/15)
6W Forest Service cabins (6/1 to 8/15)
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 2/23)
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: EL-11  SUBDIVISION:  __________  DATE: 4/8/90

USCG NAME: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

1. There are three areas for treatment:
   a) pooled oil at northern end of segment.
   b) pooled oil at jet pier area.
   c) pooled oil at southern end of segment.
   d) oiled debris is moderate (see notes).

2. Recommend ref 9.6-3 be conducted and debris be manually removed.

3. All other areas do not warrant clean up, washed oil in most areas.

ADEC NAME: Greg Winter  Signature: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Gravel removal/wash and replace is recommended for the two northeast beaches. The pooled oil, cover, and asphalt should be manually removed w/ boulders then turned over and wiped. There is a lot of oiled debris visible on the two northeast beaches this should be removed. Work crews should be especially careful noting of the tidal flat that is in front of the southern beach.

LAND MANAGER NAME: Mike Bennett  Signature: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Concur with USCG treatment recommendation as above for manual removal and bioremediation. Note that there is a priority signed with presence of marine mammals, westerly eagles. Human use appear to be minimal w/ no composites noted, although beavers and generally mixture of cobble, pebbles boulders. No active nest site, for eagles referenced but noted a pair presence in the area.
**SHORELINE OILING SUMMARY**

OG D. Fireczek  
USCG J. Mathewson  
SEGMENT B/T  
El-11

BID  
D. Reader  
LAND REP  M. Breaway  
SUBDIVISION  A

EXXON  
S. Newman  
ADEC  
E. Winter

TEAM NO.  465  
TIDE LEVEL  0 to 20 cm  
DATE  Apr 17 90

EST. SUBDIVISION LENGTH  533 m

SURVEYED DESCRIPTION  
- Grass  
- Forest  
- Rock

SURFACED DESCRIPTION  
- Sun  
- Clouds  
- Fog  
- Rain  
- Snow

UPLANDS DESCRIPTION  
- Foot  
- Boat  
- Heli  
WORKING DIRECTION  S to N

SURFACE SEDIMENTS  
- R  
- P  
- G  
- S  
- M  
- V  
- O

SLOPE  
- Long  
- Hang  
- Vert  
- 30 %

WAVE EXPOSURE  
- Low  
- Med  
- High

OIL CATEGORY LENGTH  W 29 m  
M 155 m  
N 75 m  
V 145 m  
NO 94 m

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / F.IM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>NO OIL</td>
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| PAVEMENT  | H \( \el 6 \frac{15}{2} \text{ sq. m} \text{ by } 3 \text{ on} \)  |
| PATTIES/TARBALLS  | 0  |
| BAGS  | |

**NEAR SHORE SHEEN?**  
- NO  
- BR  
- RH  
- SL  
- TL

**OILED DEBRIS**  
- Legs  
- Vegetation  
- Trash  
- Debris  
- #BAGS  0

**PHOTOGRAPHS**  
- Roll No.  7  
- Frames  1 - 7

**SUBSURFACE OIL**

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER | OILED INTERVAL | OILED BENEATH | OIL / F.IM COLOR | PIT ZONE | A & N | SUBSURFACE SEDIMENTS  
<table>
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<td>Cab / Pab / Boulder</td>
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<td>X</td>
<td>Cab / Pab / Boulder</td>
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<td>X</td>
<td>Cab / Pab / Green</td>
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<td>Cab / Green / Cab</td>
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<td></td>
<td>Cab / Pab / 6 cm</td>
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**COMMENTS**

- This segment is oiled along most of its length and subsurface oil was found at the foot pocket beach at the southwest end.
- Most of the cobble, boulder and bedrock are stained or coated with oil (noff coverage) along the upper high tide zone with greater concentrations occurring as pools in boulders and in crevices of bedrock or as scale pools in boulders.
- Pit no 1 had oil residue on upper surfaces, at 5 cm concentration at 0.5 cm.
- Much of the worksite was under snow.

---

ADEC 12

JRH 16 Apr 90
## 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>
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<th>Subsurface Sediments</th>
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<tr>
<td>7</td>
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### Comments

REVIEWS [JRH]     DATE 16 Apr 90
SHORELINE ECOLOGICAL SUMMARY

Segment ST/EL Subdivision Date (mo/day/yr) 4/3/9
Time (24 hr) 15:15 Biologist Daniel Ranen

(A) Substrate type and % of segments:
   1) Bedrock 10 2) Boulder 30 3) Cobble 40 4) Pebble 15 5) Sand 5 6) Silk

(B) Overall % cover of biota (% of segment): Dense 15 Moderate 10 Low 75

(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)

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Wildlife Observations/General Comments:
- Eau (survey by helicopter, X)

Ecological Considerations: Priority 3
- 6Y  6/1 - 7/5 Special Use Designation
- 7II  8/15 - 3/1 Deer Harvesting
A) Dense red algae on deadrock
- Dense green filamentous algae in U.I.T.E.
  and U.I.T.E. on corals/pelvies & boulders
- Much green filamentous algae in oiled area
- Sparse corallites U.I.T.E. on boulders, although
  covered with oil
- Petronas

B) Dense red & green algae on deadrock in lower U.I.T.E.
- Dense mytilus bivalve in U.I.T.E. on deadrock, alive then
  covered with oil
- Evidence of much dead corallites in U.I.T.E., although
  not covered with oil
- Moss (dense) on deadrock above U.I.T.E.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-11 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
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<tbody>
<tr>
<td>Tarmac Removal</td>
<td></td>
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</tbody>
</table>

| Bioremediation        | WORK PRIOR TO 8/15 |
| Spot Washing          |              |
| Manual Relocation     |              |
| Other Approved treatment |            |

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

7ll Subsistence: Deer Harvesting

Closed to bioremediation, spot washing, manual relocation and other approved treatment after 8/15. No constraint to manual pickup and tarmac removal.

5T Bald Eagle Nests

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC

Date 6-10-90

Prepared by

Date 6-9-90
SEGMENT ST/EL-13 SUBDIVISION A (1 OF 2) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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)
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. 2 eagle nests on small islands just offshore of Subdivision (see map). Do not damage mussel bed. Small stream shown on sketch is not identified as an anadromous fish stream.

SHPO SIGNATURE: [Signature] DATE: 5/25/90

OILING CATEGORIZATION:
Wide _m: Medium _m: Narrow _m: V.Light _m: No Oil _m
Subsurface Oil Observed: Yes _ No _ Maximum Depth _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
__X__ Tarmat: ___ Breakup ___ Other (see comments)
___ Removal ___ Beach Cleaner

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pooled oil, 2) bioremediation of area shown on attached sketch map. Treatment should be conducted in such a way as to avoid treatment or damage to mussel bed. Work should be conducted after 6/1 and with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: Avoid MUSSEL EROS

TAG APPROVAL DATE: 5/25/90.
ADEC [Signature] EXXON [Signature] FOSC [Signature] DATE: 1/17/90
NOAA [Signature] USCG [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 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 sites

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 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 600m. 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 (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 / EL-13   SUBDIVISION: A   DATE 4/8/90

USCG NAME  CWO2 (McMAHON)   SIGNATURE  

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
1. There is a growing contaminate with the mussel bed on to-treat or not.
2. Area of concern is west of pit 5 and between pit 6.
3. Treatment of this sensitive area can be done area
   a. protecting mussel bed and treat pointed area
   b. or
   c. let the treatment lapse - area looks strong + healthy.

ADEC NAME  GREG WINTER   SIGNATURE  

☐ NO TREATMENT RECOMMENDED   ☑ TREATMENT SUGGESTED

COMMENTS
- Remove small area of broken oil cover (Map A).
- On Map B shows a tombolo wetland visible @ low tide
  that has a rich mussel bed esp. on west side, there is
  considerable surfact and subsurface oil in the form. A friable
  asphalt - this occurs just below the surface
  due to the sensitivity and degree of oiling - I recommend
  stag an team visit.

LAND MANAGER NAME  MIKE BENTON   SIGNATURE  MIKE BENTON

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
- Treatment suggested on that portion of the saddle back located on
  sketch map B that does not include the mussel bed. The existing
  bed should be protected - appears to be highly productive and any treatment
  too close to the bed could cause more harm than good. If bio-remediation
  can be used, its application should be selective ensuring a buffer between
  the bed. If bio would destroy the adjoining bed, then would recommend
  to perform no treatment as: harm US, good. Saw marine mammal,
  yachts folk + eagles in immediate area.
SHORELINE OILING SUMMARY

OG  O. F. George  USCG  T. Mathey  SEGMENT 8T/ EL-13
BIO  O. Reis  LAND REP  H. Baker  SUBDIVISION A
EXXON  S. Nauman  ADEC  G. Winter  TIME 9:00 TO 10:30
TEAM NO.: 85  TIDE LEVEL: 66  DATE  Apr. 1980
EST. SUBDIVISION LENGTH: 750 m  Sun  Clouds  Fog  Rain  Snow
UPLANDS DESCRIPTION:  Gras  Forest  Rock
SURVEYED FROM:  Foot  Boat  Halo  WORKING DIRECTION:  South to north
SURFACE SEDIMENTS:  R  10%  B  30%  C  20%  P  20%  G  5%  S  5%  M  5%  V  10%
SLOPE:  Land  20%  Hang  40%  Ver  20%  WAVE EXPOSURE:  Low  Med  High
OIL CATEGORY LENGTH:  W  48 m  M  48 m  N  48 m  VL  60 m

SURFACE OIL

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PAVEMENT:  H  S  820 sq. m by 3 cm
PATTIES/TARBALLS:  Fly bags  BAGS
NEAR SHORE SHEEN?  NO  BR  RW  SL  TL

 Photographs:
 Roll No. 7
 Frames 14-33

SUBSURFACE OIL

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<td>Peb/Grav/Cob/Sand</td>
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COMMENTS

Priority 6.
- Most of the oiling of this beach occurs along the upper subtidal zone and consists of splatter coats and tar balls on boulders and bedrock.
- An exception to this trend is the asphalt pavement that occurs on the eastern portion of the beach area consisting of friable asphalt 2 cm thick. Beneath the asphalt is a subsurface oil residue from 7-10 cm.
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST / EL:13  Subdivision:  

Date (mo/day/yr): 11/8/90

Time (24 hr) 8:45  Biologist: DANIEL B. DREA

(A)  Substrate type and % of segments:

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<th>#</th>
<th>Bedrock</th>
<th>Boulder</th>
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<th>Pebble</th>
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<tr>
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<td>30%</td>
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<td>25%</td>
<td>5%</td>
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(B)  Overall % cover of biota (% of segment):

- Dense: 46%
- Moderate: 20%
- Low: 40%
- NOT PRESENT

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

- Juveniles / adults (X), new settlement (3)

### BARNACLES

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<th>Rare</th>
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### Wildlife Observations/ General Comments:

- Dense coverage of vegetation around the lagoon but it is to be noted severely that there are sections with a great amount of oil, especially near the Mytilus area only in those sections of the lagoon it is used should be areas selected with great care. Every effort must be given to prevent such areas from being used as a lagoon for new settlement areas.

### Ecological Considerations:

- **Priority:**
  - 6U Tent Site 6/1 - 9/15
  - 7II Deer Hunting 8/15 - 3/1
  - 1B Stream moose spawning (salmon) 7/10 - 9/1
ADDITION: SUBDIVISION CONSTRAINTS
SEGMENT EL-13 SUBDIVISION A (1 of 2)

WORK WINDOW

Manual Pickup
Tarmac Removal

OPEN

Bioremediation
WORK PRIOR TO 8/15

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

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 and tarmac removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to uniled biota and substrate.

FOSC keys
Date 7/11/90

Prepared by
Date 7/10/90
SHORELINE EVALUATION

SEGMENT ST/ EL-13 SUBDIVISION B (2 OF 2) DATE _4/8/90_

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
Eagle nest on or near border with EL-14. 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 24 m: Medium 709 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Recommend manual pickup of tarballs, oiled logs, and mousse in areas indicated on sketch map. Bioremediation of surface oil in area shown on attached sketch map. Work should be conducted after 6/1 and with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: MONITORS TO EVALUATE LOCS.

TAG APPROVAL DATE: 4/25/90
ADEC
EXXON
NOAA
USCG

FOSC: [Signature] DATE: 6-17-90
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
Esther 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 unvegetated intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (6/15 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 from haulouts.

5S
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.

6U
Recreation:

Tent sites (8/1 to 9/15)

Anchorage (8/1 to 9/15)

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

Lodge (5/1 to 9/15)

Special use destination

7Z
Subsistence area:

Salmon harvesting (5/1 to 9/30)

Finfish harvesting

7TH
Deer harvesting (8/15 to 2/26)

7JJ
Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
I suggest manual pick up of mousse patties and asphalt patches along sub B. I observed enough patties + patches along entire sub. that they should be removed.

Most of Sub – Segment – B is B beaches with a B.C.P. beach at the Southend. Manually remove the TB's, AP patches, and MS patties, in areas behind BS that have over a CV on the pebbles or in underneath BS, spray fertilizer. To remove the CT's off the BS use hot water wash, also remove the odd logs. The pits revealed NO and the area is low energy.

I recommend manually removing the TB's and asphalt patches indicated on sketch map. Fertilizer should be applied to the Proces/COBBLES underlying the rocks and boulders on the SM band.
# SHORELINE OILING SUMMARY

**OG J. Springer**  | **USCG R. Vandepels**  | **SEGMENT ST:** EL-13  
**BIO:** P. Clark  | **LAND REP:** D. Logan  | **SUBDIVISION:** B (2 of 2)  
**EXXON T. Tumblin**  | **ADEC M. Baggi**  | **TIME:** 17:30 18:45  
**TEAM NO.:** 7  | **TIDE LEVEL:** +3 to -1  | **DATE:** 04/08/90  
**EST. SUBDIVISION LENGTH:** 742 m  |  |  
**UPLANDS DESCRIPTION:**  
- ☐ Grass  
- ☐ Rock  
- ☐ Pillow lava  
- ☐ aa lava  
**SURVEYED FROM:**  
- ☐ Foot  
- ☐ Boat  
- ☐ Helo  
**WORKING DIRECTION:** SE to NW  
**SURFACE SEDIMENTS:**  
- R 5% B 70% C 15% P 10% G 5%  
**SLOPE:**  
- L 60% Hang 40% Vert  
**WAVE EXPOSURE:**  
- ☐ Low  
- ☐ Med  
- ☐ High  
**OIL CATEGORY LENGTH:**  
- W 40 m  
- M 700 m  
- N 7 m  
- V 8 m  
- F 0 m  
- P 0 m  

## SURFACE OIL

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
<th>PAVEMENT: H F S (sq. ft. by cm)</th>
<th>PATTIES / TAR BALLS: 15 BAGS</th>
<th>NEAR SHORE SHEEN? NO</th>
<th>BR RW SL TL</th>
<th>OILED DEBRIS AMOUNT</th>
<th>DEBRIS COLLECTED: ☐ YES ☐ NO</th>
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## SUBSURFACE OIL

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**SUBSURFACE SEDIMENTS:**

- CPG
- P
- PG
- CP
- P

**COMMENTS:** EL-13/A was done by the Helo team on 4/7/90.
## Subsurface Oil (continued)

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<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm)</th>
<th>Below Oil/Film Color</th>
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**Comments**

**Reviewed**

**Date**
SHORELINE ECOLOGICAL SUMMARY

Segment ST/EL 13 Subdivision B

Date (mo/day/yr) 4/8/70

Length 740 m

Tide Height +3.5 ft

Time (24 hr) 1730-1945 Biologist Crank

(A) Substrate type and % of segments:

1. Bedrock 5
2. Boulder 10
3. Cobble 15
4. Pebble 10
5. Sand 10
6. Silt

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

(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

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Wildlife Observations/General Comments:

Observations at EL 13:
3 Tufted Puffins
1 Song Sparrow
1 Bald Eagle - Adult
1 Harbor Seal

Observations from EL 13 to Lewis Bay:
3 Glaciers, Winged Gulls
3 Mergansers
1 Common Eider
2 Bald Eagles - Adults over inlet
1 Harbor Seal

Ecological Considerations:

7 1/1 - Deer Harvesting
16-30, Tent sites; 16, Salmon drifts as in EL 13A
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| FILAMENTOUS GREENS | 123 | 123 | Dominant algae or sed.
| FILAMENTOUS REDS | | | |
| GLOIOPELTA FURCATA | | | |
| GALOSSACION GLANDIFORME | | 21 | |
| LAMINARIA SPP | | | |
| LITHOTHAMNION | | 1 | Tidest!
| NEREOCYSTIS SPP | | | |
| PORPHYRA SPP | | | |
| RHODOMELA LARIX | | 1 | Tidest!
| RHODOMENIA PALMATA | | | |
| SCYTOPHON SPP | | 12 | |
| ULVA SPP | | | |
| ZOSTERA MARINA | | | |
| Cryptophycae | | | |

<table>
<thead>
<tr>
<th>FAUNA</th>
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<tbody>
<tr>
<td>ANTHOPLEURA SPP</td>
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<tr>
<td>(SEM) BALUNUS CARIOSUS</td>
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<tr>
<td>B. GLANDULA</td>
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<tr>
<td>BRYOZANS</td>
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<tr>
<td>CHITONS (OTHER THAN K. Tunicata)</td>
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<td>CLAMS</td>
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<tr>
<td>CRABS</td>
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<tr>
<td>DERMASTERIAS IMBRICATA</td>
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<tr>
<td>KATHARINA Tunicata</td>
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<tr>
<td>LEPTASTERIAS HEXACTIS</td>
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</tbody>
</table>
| LIMPETS | 123 | 123 | Species var. Thal.
| LITTORINA SPP | 123 | 123 | Species var. Thal.
| NUCella SPP | | 1 | Egg cases only visible
| PAGURUS SPP | | | |
| PISASTER OCHRACEUS | | | |
| POLYCHAETES | | | |
| PYXOPODIA HELIANTMHOIDES | | | |
| SEALESIA DIRA | | | |
| SERPULIDAE | | | |
| SIFONARIA THEERSITES | | | |
| TEOALL | | | |
Low energy Shoreline

5mx50m CT/B/LBR with tarballs and asphalt in behind boulders ~2m² total TBA/PAP

5mx650m CT/B/LBR between boulders to 60cm

fatal on flow boulders in area.

100m Approx.

Remote Tarballs
Remove Mousse Here

Remote Tarballs
Remove Mousse Here

Oiled log under boulder

Pillow lava

aa lava
Comments:
- MITZ cobbles on the southern end of subdivision. Filamentous green algae and crustose cover the substrata. Indig. the cobbles were dense concentrations of some species. Fucus, Botryllus and Laurencia were present. Seaweeds and Mytilus were sparse. There were no sizable barnacles.
- In MITZ southern end cobbles. filamentous green algae still dense, gastropods rare, moderate sand barnacles. An Orsidae. Mytilus and Fucus were sparse, gastropods absent. Barnacle barnacles are rare. Spindle barnacles are present. Water baracles are also present in rare concentrations on MITZ rock, however, spats is dense.

- LITZ remained unwrapped, through H2O UWA. Anodonta paludosa, filamentous green algae sparse. Barnacle baracles are present.
- Throughout the rest of the subdivision, filamentous green algae sparse at moderate concentrations. Gastropods moderate with sparse amphipods. Barnacle concentrations increase with baracle growth, the most abundant fauna present species.
- There is a small, dense Fucus bed on the boulders north of main waterfall. (≈ 15m x 3m)
- Mussels are sparse throughout the segment. There are two large patches on separate boulders, the remaining mussels are found primarily on the underbelly of boulders and rarely smaller objects.
- Recruitment for subdivision is low, except for barnacles which is high.
Map Key: PWS-132
Name: James Spring
Date: 4/8/91

EL-13

Wide
Medium
Narrow
Very Light
No Oil

ADEC Segment Length: 1359m
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EL-13 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
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</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.
>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site.

711 Subsistence: Deer Harvesting

Closed to bioremediation after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. Restrict boat and air traffic and beach disturbance to essential minimum.

FOSC __________________________ Date 7-11-90
Prepared by ______________________ Date 7/10/90
SHORELINE EVALUATION

SEGMENT ST/ EL-15 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16906.

1A Salmon stream mouth - fry outmigration (3/1 to 5/15).
1B Salmon stream mouth - spawning (7/10 to 8/31).
5T-1 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)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. NOTE: very fragile area - use extreme caution during treatment (see biologist report).

SHPO SIGNATURE: ________________ DATE: ________________

OILING CATEGORIZATION:

Wide 144 m: Medium 0 m: Narrow 244 m: V.Light 530 m: No Oil 169 m
Subsurface Oil Observed: Yes No X 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: Recommend manual removal of asphalt, tarmats and patties. Work should be conducted after 6/1 and with permission of USFWS due to eagle nest constraint.

TAG COMMENTS: ____________________________________________________________

TAG APPROVAL DATE: 4/26/90

ADEC [Signature] DATE: 5-8-90
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigrations (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 permit.
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 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 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 (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 unveil 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 9/1)
   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 Recreational: Tent sites (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (9/1 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
7HI 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  EL-15  SUBDIVISION:  A  DATE 1/8/10

USCG
NAME  CW 2 J. McMAHON  SIGNATURE  

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
1. There are three (3) areas on map B that warrant treatment:
   a) 100-150 feet from mussel bed (tombolo)
   b) plus 100’ from ref a)
   c) plus 50‘ from ref b)
2. All three sites requires manual removal and biodegradation.
3. All other sections of EL-15 do not warrant treatment.

ADEC
NAME  GREG WINTER  SIGNATURE  

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Pavement and cover in northeastern lagoon should be removed (map A). Map B shows extensive asphalt areas that should be removed from site. The area on the tombolo with soft asphalt just below the surface needs special attention and should be looked at by StG team when the look at the tombolo w/ similar conditions on EL-15 they are getting close to each other n/ easy access by helicopter. Also there was some bulldozer activity @ south end of lagoon - it appears to me that unnecessary and future use of such equipment should be limited to the beach at EL10.

LAND MANAGER
NAME  Mike Bennett  SIGNATURE  

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Recommended bioremediation with Interplon pooled oil in pocket beaches when pooled oily was noted on form. Recommend re-treatment on accumulated silt on a hardstand with stain. As referenced, conserve treated to pocket beaches when human use is plausible. Resource area for the area consist of recreation, camping, marine manual/seafood use. Noticed numerous eagles, seagulls, otters in immediate area. Any treatment beyond the pocket beaches would cause minor harm than good due to weatherly a wave exposure on hardstand & large seabirds.
SHORELINE OILING SUMMARY

OG: O. Fitzgerald USCg J. McMahon
BIO: O. Reagan LAND REP: D. Bennett (ADVR) SUBDIVISION: 1
EXXON: S. Neuman ADEC: C. Winter
TEAM NO.: #1
EST. SUBDIVISION LENGTH: 140.7 m
TIDE LEVEL: High to Low
DATE: 8/1 Aug 90

SLOPE: Long % Hang 35 % Vert 20 %
WAVE EXPOSURE: Low Med High

SURFACE OIL

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

PAVEMENT: ○ 431 sq.m by 3 cm
PATTIES / TARBALLS: ○ BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

<table>
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<tr>
<th>Logs</th>
<th>Vegetation</th>
<th>Trash</th>
<th>Debris</th>
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DEBRIS COLLECTED: YES NO

TYPE: ○

# BAGS: ○

Photographs:
Roll No. 7
Frames 8 - 11

SUBSURFACE OIL

<table>
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<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED / FILM COLOR</th>
<th>PIT ZONE</th>
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SUBSURFACE SEDIMENTS

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<tbody>
<tr>
<td>All / Sand / Clay</td>
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COMMENTS

- Much of this shoreline is oiled, particularly the northwest sector where extensive pavement is found at the high and high tide zones.
- The wooded area is composed of rubble and is steep with oil coats and stains.
- The leeward portion of the segment has occasional mousse patties and more extensive coverings on the seaward sectors.

ADEC

Tu 01.90.
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/EL-15 Subdivision A Date (mo/day/yr) 4/2/90

-me (24 hr) 8:20 Biologist Daniel E. Ray

(A) Substrate type and % of segments:
   1. Bedrock 10%
   2. Boulder 45%
   3. Cobble 20%
   4. Pebble 10%
   5. Sand 5%
   6. Silt

(B) Overall % cover of biota (% of segment): Dense 3D Moderate 2D 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 (O)

### Barnacles

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<tr>
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### Mytilus

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### Oyster

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### Fucos

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Wildlife Observations/General Comments:
- Eagle
- This entire area is extremely ecologically sensitive and an effective oil cleanup would include removing all oil and not simply washing it from an ecologically sound point.

Ecological Considerations: Priority 3

- GV Anchorage 6/1 - 9/15
- III Deer Harvesting 9/5 - 1/1
This entire area is an extremely biologically sensitive area. Clean-up of the excessive amounts of oil found in this area should be done on a very site specific basis with actual pick up and evaluation of the material. To limit what the material has done the area would simply mobilize the oil and have it re-enter the numerous myriads of sea present in the area.

The lagoon is filled with an abundant amount of decomposing organic material. Essential for the plant and animal life surrounding the lagoon. In addition, the material provides nutrients for the dense Zostera and Fucoid beds on the western edge of the site. This area may support much fish and sea life, both commercial and non-commercial.

I propose that a much more extensive biological study be taken place. Knowing water specialists and wetland specialists in order to... take a much more detailed analysis of the area.

In addition the effects of wells and a large amount of workflow (knowing foot traffic) will be devastating for the ecology and should be avoided at all costs. The benefit will not outweigh the cost... If a large group of people with high powered pressure machinery are located here.

This demands further biological analysis than that very cursory biological review that was prepared for the spring shoreline assessment.
EL-15 (Continuation from previous)

BIO-SKETCH

8 APRIL 1999

16:30

DANIEL RANER

Dense adult barnacles on U.S.T.B. on beach

Dense adult barnacles on U.S.T.B. in U.S.T.B.

Mollusks and barnacles

Dense adult barnacles on U.S.T.B. in U.S.T.B.

Grit and pebbles on U.S.T.B. and bedrock

Cone and pebbles on U.S.T.B. and bedrock

Protein gel on bedrock

Oiled fish and gaess on bedrock

M. U.S.T.B. and bedrock

Protein gel on bedrock

M. U.S.T.B. and bedrock

Eagle

Mollusks gastropods on MITZ on

beach; sparse p. echinid on beach.

M. U.S.T.B. on beach; sparse barnacles
(adults) on beach; sparse MITZ

Some p. echinid on bedrock and MITZ
Location of Maps for EL-15-A

EL-15

ADEC Segment Length: 1085m
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-15 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup
Tannat Removal

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED
Phone: 564-3274 (Anchorage) 7/23

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream

ADFG catalogued anadromous stream (226-10-16906) is in this subdivision. No constraint to manual pickup and tannat removal.

711 Subsistence: Deer Harvesting

No constraint to manual pickup and tannat removal.

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

No disturbance to stream bed or banks. Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unveiled biota and substrate. Avoid damaging mussel beds in MITZ. Fragile area. Use extreme caution during treatment.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16906) FOR ADDITIONAL CONSTRAINT INFORMATION

Prepared By: Wnek
Date 6/9/90

FOSC 6-10-90
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ EL-15 STREAM NO: 226-10-16906 DATE 4/23/90

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)
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. Subject stream exists at boundary of EL-13 and EL-15. [EL-13; Subdivision A (1 of 2)].

SHPO SIGNATURE: ___________________ DATE: 5/9/90

Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

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

COMMENTS: Recommended treatment includes 1) manual pickup of oiled vegetation and cleanup debris, and 2) manual removal of tar mats in areas indicated on sketch maps. Work should be conducted between 6/1 and 7/10 with USFWS approval regarding eagle nest constraints.

TAG COMMENTS: ________________________________________________________

TAG APPROVAL DATE: 5/9/90

ADEC  ___________  DATE: 5/14/90
EXXON  ___________  FOSC: ______
NOAA  ___________  DATE: 5/14/90
USCG  ___________  Access need for unmetalled following

[Signature]  ___________  Access needed. Notify ADEQ 24 hrs prior to work.
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 without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in-pool 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 Morlson 267-2324

Salmon fry nursery area (4/21 to 7/21)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in-pool 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

Esther Hatchery release (4/15 to 6/15)
Main Bay Hatchery release (4/20 to 6/15)
Sawmill Bay Hatchery release (4/15 to 6/1)
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 in-pool 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

Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net site (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 (11) restrict beach operations to essential minimum as authorized by ADF&G. It plans for treatment include methods such as hot water wash or in-pool 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

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 in-pool 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: US FWS Jill Parker 798-3377

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: US FWS Jill Parker 798-3377

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: US FWS Jill Parker 798-3377

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: US FWS Jill Parker 798-3377

Recreation: Tent sites (5/1 to 9/15)
Anchorage (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
Deer harvesting (9/15 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 in-pool 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 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1

USCG
NAME Karwin L. Dreher
SIGNATURE CWO 2 K. L. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

Comments
Agree.

NAME Aimee Weseman
SIGNATURE Aimee Weseman

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

Comments
North side of stream - manual removal of intermittent tar patties in the UTZ
South side of stream - manual removal of intermittent tar patties
removal of oiled organic debris - including spruce needles, grass and log in supra UTZ.

Removal of oiled sausage boom on north side in supra UTZ.

NAME Land Manager
SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Comments
SHORELINE OILING SUMMARY (ANAD) 3

OG CAL LARSON USCG BREMER CWP SEGMENT ST/EL 13
BIO REN CRITCHLOW LAND REP 873-AM 14-25 16-790 OF
EXXON DARRYL YOST ADFS A/L CFFIN-AITFE TIME 17:35 T/L 15:36 3
TEAM NO 14 TIDE LEVEL 1:35 PT DATE 4/26/90
EST SUBDIVISION LENGTH: 40 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
SURFACE SEDIMENTS: R % B % S % O % S % P % G % O % S % D % M % S % V %
SLOPE: Lang % Hang % Ven % % WAVE EXPOSURE: ☐ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W ___ m M ___ m N ___ m V ___ m NO __

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>ASPHALT PAVEMENT</td>
<td>☑ ☑ ☑ ☑</td>
<td>☑ ☑ ☑ ☑</td>
<td>☑ ☑ ☑ ☑</td>
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<tr>
<td>POOLED</td>
<td>☑ ☑ ☑ ☑</td>
<td>☑ ☑ ☑ ☑</td>
<td>☑ ☑ ☑ ☑</td>
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<tr>
<td>COVER</td>
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<td>☑ ☑ ☑ ☑</td>
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<tr>
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<tr>
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<tr>
<td>PATTIES</td>
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<tr>
<td>TARBALLS</td>
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<td>☑ ☑ ☑ ☑</td>
<td>☑ ☑ ☑ ☑</td>
<td>☑ ☑ ☑ ☑</td>
</tr>
</tbody>
</table>

PAVEMENT H F 3-20 sq. m by 1
PATTIES/TARBALLS ________ BAG
NEAR SHORE SHEEN? ☐ BR RW SL TL

OILED DEBRIS

<table>
<thead>
<tr>
<th>AMOUNT</th>
<th>SM</th>
<th>MD</th>
<th>LG</th>
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<tbody>
<tr>
<td>Logs</td>
<td>☑</td>
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<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>
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</tbody>
</table>

Did You COLOR DEBRIS ☐ YES ☐ NO

Photos:
Roll No._
Frames__

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED MATERIAL INTERNAL</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>SHEEN</th>
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<tbody>
<tr>
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</tbody>
</table>

COMMENTS NO PITS DUG DUE TO LACK OF OIL ADSORPTION

REVIEWED __ DATE 4/26/90
MANUALLY PICKUP & REMOVE OILED GRASS, OILED SAUSAGE BOOM, OILED VEGETATION, DEBRIS, AND TAR MATS.
The UITZ on each side of this stream was coated, covered or had asphalt pavement. Exploratory scraping of surface sediments failed to reveal penetration of oil into subsurface sediments.

This stream site can be cleaned by a small crew using shovels to remove asphalt pavement in the UITZ. Oiled debris in the UITZ can be picked-up and bagged. Oiled logs on east side may need to be removed or burned on-site. Oiled log across stream is best left in place and oiled surface scraped to remove coat/cover.

WP Crichtlow
ADFGP MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES 534 GS T2 AUV SOF PTA
   METHOD: Serial General Bank

2 DATE: 4-23-90
3 HIGH TIDE TIMES: 16
4 START TIME: 1800
5 LOW TIDE TIMES: 16
6 STOP TIME: 1830
7 SECTOR #: ELO13
8 STATION #: 19 TIDE HT AT SURVEY:
9 H-UNIT: 20 USCQ QUAD:
10 LAT: 21 LONG:
11 SOURCE: Location
12 LOCATION: Eleanor Island
13 DESCRIPTION: Side side near Black I

EXTENT OF OIL

<table>
<thead>
<tr>
<th>SHORELINE</th>
<th>STREAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>N</td>
</tr>
<tr>
<td>V</td>
<td>H</td>
</tr>
</tbody>
</table>

30 CATALOGED ANAG. FISH STREAM Y N
31 CATALOG #: 095-10-16906
32 STREAM NAME:
33 OIL IN STREAM BED: Y N
34 OIL ON STREAM BANKS: Y N
35 OIL ON BEACH ADJACENT TO NORTHEAST
   (within 30 meters): Y N
36 OIL TYPES: Pooled Nassau Type Asphalt
   Stainy Stain
37 OILED OBJECT: 
38 OILED SUBSTRATE: 
39 OILED SUBSTRATE TYPE: 
40 OILED SUBSTRATE: 
41 OILED SUBSTRATE LIST: 
42 OIL WITHIN 1 MILE OF STREAM: Y N
43 ANOMALOUS FISH PRESENT: Y N
44 ANOMALOUS FISH OBSERVATION:
   Species: Aerial Ground

Oil present includes:
   a. 100 m x 1 meter wide band of intermittent tar ooze running
      the length of the UT 72 on North side of stream
   b. 2 m wide lightly oiled band in area UT 72 on South side of stream
   c. Oiled organic debris on South side research zone oillog
treatment recommendations

Manual removal of intermittent tar patties in UITZ on north side of stream in RSFDOS and on south side of stream in McUITZ.

Removal of oiled organic debris including spruce needles, oiled log in swash zone on south bank and oiled grasses.

Removal of oiled sausage boom on north side of stream in swash zone.

Sample taken
Photo frame # and shot direction
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16906

SEGMENT EL-15 SUBDIVISION A

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16906) is in Subdivision A. 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.

7II Subsistence: Deer Harvesting

No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Restrict boat and air traffic and beach disturbance to essential minimum after 8/15.

SEE SUBDIVISION CONSTRAINT ADDENDUM EL-15A FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC 6/10/90

Prepared by 6/10/90
SEGMENT ST/EL-52 SUBDIVISION A (1 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue no. 226-10-16902 Rev. 12/89) - fry outmigration (1A) - 3/1 to 5/15 and spawning (1B) - 7/10 to 8/31; Recreation tent sites (6U) - anchorages (6V) and special use destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(1A)(1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

OILING CATEGORIZATION:
Wide 0 m; Medium 100 m; Narrow 37 m; V.Light 451 m; No Oil 9 m
Subsistence Oil Observed: Yes X No Maximum Depth 15 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
____ Tarmat: ______ Breakup ______ Beach Cleaner
____ Removal ______ Other (see comments)

COMMENTS: Recommend manual pick up of tar balls and oiled logs if oiled more than splash and 10% coverage, and bioremediate coat and stain and subsurface oil as shown on attached sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints.

PARK IN AREA OF TEST HITS AS SHOWN ON SKETCH.

TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90
ADEC Art Wein ACF
EXXON Ann Tolle
NOAA Bud Wescott
USCG
FIELD SHORELINE COMMENT SHEET

SEGMENT STI EL 53-B  SUBDIVISION:  B A  DATE 4/1/90

NAME  DAVID A. SCHNEIDER  SIGNATURE  David A. Schneider

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

MANUAL TREATMENT APPROPRIATE FOR THIS SUBDIVISION. TAR SPLATTERS, SPOTS AND OIL COATING ON EXPOSED BOULDERS & ROCK FACES AND IN BOULDER SHADOWS SHOULD BE WIRE BRUSHED AND SCREWED BY MANUAL WORK CREW. BEACH AT SOUTH END OF SUBDIV Warrants CONSIDERATION AS A POTENTIAL SITE FOR RECREATION. LARGE TIDE POOLS ALONG LITE TYPAL PLATE SHOULD NOT BE DISRUPTED. EFFORT SHOULD BE MADE BY WORKERS TO AVOID MUSSE Beds AND EELGRASS BEDS ALONG THESE PLATE DUE TO THEIR BEING POTENTIAL SPANNING AREAS FOR HERRING.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

ADEC  NAME  Peter Montesano  SIGNATURE  Peter Montesano

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS  The central area of "B" has an extended rich intertidal community which should be considered protected relative to treatment. This area showed stringy sheens at low tide. Brown oil droplets appeared in the penetration pits. The "Boulder Shadow Oiling" and penetration type makes bio remediation not practical, except on the S beach of "B." This beach has 5cm penetration, OR, under the clean sediments off the extreme surface. Hand scraping removal practical along "B" of trapped coating and random tar splatters. Additionally, the oiled, felled tree toward the S end and oiled debris (nets) should be removed.

LAND MANAGER  NAME  Janette Litchfield  SIGNATURE  Janette Litchfield

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS  Concord with USCG and ADEC. I'd like to reemphasize the need to protect the tidal flats during the clean up.
**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>Pooled</td>
<td>Cover</td>
<td>Coat</td>
</tr>
<tr>
<td>Snow on Short beach, S</td>
<td></td>
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</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>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>10</td>
<td>X</td>
<td>0.0</td>
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<td>X</td>
<td>P/G/S</td>
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<tr>
<td>1</td>
<td>10</td>
<td>X</td>
<td>5.10</td>
<td>X</td>
<td>X</td>
<td>S/M</td>
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<td></td>
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<tr>
<td>2</td>
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<td>10.15</td>
<td>X</td>
<td>X</td>
<td>P/G/S</td>
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</table>

Comments: The most portion begins with hang B/C/R slope grading into a lang, wide B/C/P beach and tidal pool in the center, then to a lang C/P/B beach at the south end of the subdivision. The N'mos 15m has a patchy stain and coat with sporadic tar spots along the Uitz widening to 5m wide in the Mitz and a sporadic film at the top of the Uitz. For 10cm, subsurface oiling varies here between 5 and 15cm. The R/S of the Uitz along the center 15cm of subdiv. has a vl sporadic and patchy coat and stain. S'most C/P/B beach has 6m wide x 10m lang brown and broken coat.

Photographs:
- Roll No. ST-6-2
- Frames 15-16

Date: 4-7-90
SHORELINE ECOLOGICAL SUMMARY

Segment ST  Subdivision  Date (mo/day/yr)  
STI  B  A  March 31, 1990

Time (24 hr)  Biologist  
1010  1330  Jim Barry

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 (9)

<table>
<thead>
<tr>
<th></th>
<th>Dense 61-100%</th>
<th>Moderate 10-50%</th>
<th>Sparse 5-25%</th>
<th>Rare 2-5%</th>
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<tr>
<td></td>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
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|                |               |                 |              |           |
| MYTILUS        | 1U 1M 1L      | 1U 1M 1L        | 1U 1M 1L     | 1U 1M     |
|                | 2 2 2         | 2 2 2           | 2 2 2        | 2 2       |
|                | 3 3 3         | 3 3 3           | 3 3 3        | 3 3       |
|                | 4 4 4         | 4 4 4           | 4 4 4        | 4 4       |
|                | 5 5 5         | 5 5 5           | 5 5 5        | 5 5       |
|                | 6 6 6         | 6 6 6           | 6 6 6        | 6 6       |

|                |               |                 |              |           |
| ASTROPODS      | 1U 1M 1L      | 1U 1M 1L        | 1U 1M 1L     | 1U 1M     |
|                | 2 2 2         | 2 2 2           | 2 2 2        | 2 2       |
|                | 3 3 3         | 3 3 3           | 3 3 3        | 3 3       |
|                | 4 4 4         | 4 4 4           | 4 4 4        | 4 4       |
|                | 5 5 5         | 5 5 5           | 5 5 5        | 5 5       |
|                | 6 6 6         | 6 6 6           | 6 6 6        | 6 6       |

|                |               |                 |              |           |
| FUCUS          | 1U 1M 1L      | 1U 1M 1L        | 1U 1M 1L     | 1U 1M     |
|                | 2 2 2         | 2 2 2           | 2 2 2        | 2 2       |
|                | 3 3 3         | 3 3 3           | 3 3 3        | 3 3       |
|                | 4 4 4         | 4 4 4           | 4 4 4        | 4 4       |
|                | 5 5 5         | 5 5 5           | 5 5 5        | 5 5       |
|                | 6 6 6         | 6 6 6           | 6 6 6        | 6 6       |

Wildlife Observations/General Comments: TIDE WINDOW -1.0 -+ 5

Ecological Considerations: 6V, 711, 5-T2, 2M

See attached pages
Barnacles — same comments as ELO53-A

Mussels —
A. Generally the same comments as ELO53-B, except
B. Mussel beds are present on 20-30 sand/cobble flats. Important characteristics are:
   1) Beds contain large number of dead mussels, many with small holes indicating that preditory gastropods contribute a large portion of their mortality
   2) Beds are discontinuous or "broken", with large & small gaps between groups.
   3) Juveniles are abundant and spart are dense near the base of juveniles & adults.
   4) Mussel beds appear to be developing on a cobble/beach while recruiting mussels (dense spart & most moderate juveniles) are consolidating the rock & filling in gaps.

Gastropods — same comment as ELO53-A, plus
1) Nerita lamellata appears to prey heavily on mussels.

Fucus — same as ELO53-A

Other species:
Most or all of the species listed in ELO53-A are present, plus several species found on the sand flat detailed below.
VI  SAND/COBBLE FLAT.

1) This subdivision included a sand/cobble flat ~ 100 m long x 50 m, containing a mussel bed, eel grass bed, and sand/pebble flat.

2) Important Characteristics
   a) Mussel Bed - described above
   b) Eel Grass Bed (Zostera marina). This plant forms a small "marsh-like" plant association containing clams, worms & other sediment-dwelling species.

Eel grass is an important plant on which herring deposit eggs during spawning. This small isolated bed should not be heavily disturbed.

3) Sand Flat Community.

Several species of clams & other worms are present, including:

* Benthoic Clams (Macoma spp.)
* Steamer Clams (Protothaca staminea)
* Hiatella arctica
* Butter Clams (Saxidomus giganteus)
* Moon Tails (Natica clausa)
* Cockles….. (Climacdimus mullali)

* Indicates juveniles or eggs present.

** Usually probably present.

Worms (Echiura echiura)
Norieidae

VII  WILDLIFE

River otter - on bank adjacent to sand flat
- dropping adjacent to beach — contain clamshells.

Barn Owl - 2
Bald Eagle
Scaup - 2
Raven
Pelagic Cormorant - 1
White-winged Scoter - 1
Ecological Considerations

1) Eelgrass community may be important (locally) for herring spawn
   it should not be destroyed.

2) Mussel beds show evidence of disturbance on sand flat & edible bea
   this disturbance appears to be recovering, as indicated by
eight in moderate recruitment of new individuals.

3) Sand/edible flat appears to be recovering (see above.)
<table>
<thead>
<tr>
<th>ELSOY - B</th>
<th>ELSOY - A</th>
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</thead>
<tbody>
<tr>
<td>6 prickly pears under 1 cm deep</td>
<td>4 cm deep</td>
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<tr>
<td>peach</td>
<td>peach</td>
</tr>
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<td>Not enough data</td>
</tr>
<tr>
<td>Photo taken of both</td>
<td>Photo taken of both</td>
</tr>
</tbody>
</table>

**BEACH**

- **Boulders at 300 feet**
- **Beach**
- **Dunes**
- **Spotted sand**
- **Barnacle**
- **Mozzarella**
- **Flats**

**Flats**
- **Murdered dead**
- **Almost all dead**
- **Mostly dead**

**Beach at 3 and 4 rigged**
- **Small core of beach**
- **Dunes**
- **Juvenile**
- **Mozzarella**
- **Barnacle**

**Upper**
- **Flats**
- **Dunes**
- **Mozzarella**
- **Barnacle**

**Lower**
- **Dunes**
- **Mozzarella**
- **Barnacle**

**LUNCH**
- **Beach**
- **Sandy beach**
- **EPA# 07**
SEGMENT ST4-5952
SUBDIVISION BA
DATE 31 Jan 90

CHECKLIST
- N Arrow
- Approx. Site
- Subsite Entry
- Oil Dist.
- Weather
- Oil Property
- % Cover
- Subsite Character
- Ed. Haulage
- SSL
- Profile Location(s)
- Profile(s)
- PP Location(s)
- Photo Location(s)

LEGEND
- 1 Subsite Oil
- 2 Subsurface Oil
- CT/C Continuous Distribution
- CT/B Broken Distribution
- CT/T Patches Distribution
- CT/S Splashed Distribution
- OT Vegetation
- Photo location, direction, and number

OIL CHARACTER LENGTH (m): AP PO CV CT 130 ST 635 MS PT TB 3 FL 10 NO 5

635m long narrow VL sporadic and patchy coat and stain on R/B-face of UITZ

15m long narrow patchy stain and coat with tar spots on face of UITZ

10m long x 6m wide brown translucent film on top MITZ sed.

AVOID DISTURBANCE

MANUAL PICKUP TARAELS BIOREMEDIATE COAT & SUBSURFACE OIL

MANUALLY RAISE IN AREA OF ATS PRIOR TO BIO.

SCHNEIDER
ADDENDUM: SUBDIVISION CONSTRAINTS
- SEGMENT EL-52 SUBDIVISION A (1 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation Manual Raking</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

NO CONSTRAINT. ADF&G catalogued anadromous stream (226-10-16902) is located in adjacent Subdivision B more than 100m from work area.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/19/90 by Mike Lockhart indicates no active nests within 400m of the work area.

7II Subsistence: Deer Harvesting

No constraint to manual pickup. Closed to bioremediation and manual raking after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unceded biota and substrate.

FOSC ______________________ DATE 6-10-90

Prepared By: ______________________ Date 6/9/90
ECOLOGY MAP 5/30
SEGMENT EL-52
SUBDIVISION A (1 of 2)

Seabird Colony
Eagle Nest

Incorporates information from USFWS bald eagle survey 5/19/90

Exxon Company, USA
Map Key: KNI-EL-52
Mar. 11, 1990
SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION B (2 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16902
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6U Recreation: Tent sites (6/1 to 9/15)
6V Anchorages (6/1 to 9/15)
6Y Special use destination
7II Subsistence area: Deer harvesting

See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 4/17/90

OILING CATEGORIZATION:

Wide 98 m: Medium 16 m: Narrow 59 m: V.Light 454 m: No Oil 0 m

Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

X Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat: Breakup
X Removal

Snare/Absorbent Booms
Oil Snares (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommend break up and removal of tarmat, pick up of tar balls, and Bioremediation of areas shown on sketch map, but not within 100 m of stream. Work should be conducted from 5/16 to 7/9 based on above salmon constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90
ADEC [Signature] DATE: 9-12-90
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
Salmon stream mouth - fry outmigration (5/1 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 bech 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)

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

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

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

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

Remote release site

Gill net area (6/7 to 8/31)
Purse seine area (7/21 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 uncoiled 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 (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

Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/23)
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 / EL-52 / B SUBDIVISION: B DATE 4/6/90

USCG NAME David A. Schneider SIGNATURE David A. Schneider 833/USER

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Manual breakup and removal of tar/asphalt mat in UTE.
Manual scrapping and removal of tar spots and coat in MITE and UTE along eastern stretch of subdivision and in MITE after snowmelt.

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

ADEC NAME Peter Montesano SIGNATURE Peter / Montesano

The area is not broachable due to the primary clean surface sediments. I recommend that ADF&G examine the Stream at the Southern end, to check the Supratidal, snow covered grasses and if necessary, dig additional pits by stream.

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

LAND MANAGER NAME JANETTA PRITCHARD SIGNATURE Janette Pritchard

New recreational beach. Overall treatment recommended is manual clean-up of tar/asphalt, sand washing by sled, creation of cleanable areas adjacent to Stream. Care needs to be taken to not disturb the mouth of the stream used by spawning salmon. Please the area after the snow melts.
## SURFACE OIL

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

**Pavement:** H @ 3.6 sq. m by 2

**Patties (Tarballs)**

**Near Shore Sheen?** No

**Oil Category Length:** W 75 m M 465 m N 150 m V 261 m

### OILED DEBRIS

- Logs
- Vegetation
- Trash
- Debris

**Debris Collect:** Yes

**Type:**

**Photographs:**
- Roll No. ST-64
- Frames: 12

### 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 DEBRIS</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSES</th>
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<tr>
<td>1</td>
<td>30</td>
<td>X</td>
<td>0 - 12</td>
<td></td>
<td>X</td>
<td>X</td>
<td>C / P / G</td>
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<tr>
<td>2</td>
<td>30</td>
<td>X</td>
<td>12 - 20</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>P / G</td>
</tr>
</tbody>
</table>

**Comments**

---

**Page 1 of 3**

**Reviewed:**

**Date:**
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST:** ELO52  
**Subdivision:** B  
**Date (mo/day/yr):** April 4, 1990  
**Time (24 hr):** 1445  
**Biologist:** Jim Barry  
**Length:** 696

---

(A) **Substrate type and % of segments:**
- (1) Bedrock 5  
- (2) Boulder 30  
- (3) Cobble 40  
- (4) Pebble 20  
- (5) Sand 5  
- (6) Silt

(B) **Overall % cover of biota (% of segment):**
- Dense 20  
- Moderate 70  
- Low 10

(C) **Density, substrate preference (by number from A, above), & vertical zonation of major taxa:**
- Juveniles / adults (X), new settlement (3)

**Photographs:**
- **Roll No.:** 5T-6-4  
- **Frames:** 13-17

---

**BARNACLES**

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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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</tbody>
</table>

**NOT PRESENT**

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**Wildlife Observations/ General Comments:**

- Dead sea urchin (no sessile species)  
- Dead fish on beach - small, highly decomposed.  
- Plastic container  
- Debris cleanup  
- **Raven**

**Ecological Considerations:**

1) **Salmon Spawning:** Stream mouth (1B). Clean up activities should avoid the stream mouth due to salmon spawning.

2) **Sandy/Beach** has areas with recovering mussel beds - avoid heavy foot traffic or machinery.
GENERAL COMMENTS:

This subdivision has 2 major features, 1) a stream/mouth/beach and 2) a cobble/boulder flat.

1) The stream/mouth/beach has important biological features. First time is a spawning stream for salmon (designated by special sanctuaries). No such area should be taken to avoid disturbance to the stream and estuarine area during and after the salmon spawn. In addition, the estuarine flat has a patchy cover of mussels; some areas appear to be forming mussel beds. Heavy foot traffic or machinery traffic could disrupt this recovery and should be avoided.

2) The cobble/boulder flat, a low angle beach, has a large proportion of sands and cobbles used by invertebrate species such as clams and worms. Several species of clam shells are found on this beach, but I was unable to find live individuals of each species.

<table>
<thead>
<tr>
<th>Clam Shells</th>
<th>Live Clams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scallops (Chlamys spp.)</td>
<td>NO</td>
</tr>
<tr>
<td>Jinga (Potomachmus spp)</td>
<td>YES (juvenile)</td>
</tr>
<tr>
<td>Cockle (Cerastoderma spp)</td>
<td>NO</td>
</tr>
<tr>
<td>Clam (Macoma spp)</td>
<td>YES (juvenile)</td>
</tr>
<tr>
<td>Steamer Clam (Protobraca)</td>
<td>YES (juvenile)</td>
</tr>
<tr>
<td>Butter Clam (Saxidomus)</td>
<td>NO</td>
</tr>
<tr>
<td>? Clam (Trirella)</td>
<td>YES (juvenile)</td>
</tr>
</tbody>
</table>

The "missing species" may have been present, but undetected, so may live in slightly deeper water and wash ashore as empty shells, or may have been killed by oil and have yet to recover.

Other species found on the flat that are typical and important in sand-flat habitats are the marine worm (Eidesma octopus), large invertebrate worms (Nephthidae, Serpulidae), and crabs (Hemigrapsus rugosus).

Overall, this the cobble/sand flat appears to be healthy, or
3) Red Algae (cont.)
- Lithothamnion R1
- Membranacea S12
- Cryptophyta S12
- Micrachme/Phaeoclada (S12)
- Mastocarpus S1

4) Brown Algae - Phaeophyta
- Fucus distichus - D12
- Laminaria spp. - S12
- Hedergenidae S1
- Rhodyta S1
- Costaria S12
- Acaricia S12
- Sargassina S12

5) Animals

6) Barnacles
- Semibalanus cariosus S1, T1
- Balanus glandula S1, T1
- Chthamalus S1, T1

7) Crabs
- Pachygrapsus crassipes M1, T1
- Hemigrapsus oregonensis M1, T1
- Haplochira R2

8) Amphipoda
- Orchestia spp. M1, T1, S12
- Anonyx spp. R2

9) Brach Hoppers - Isopoda - S12

10) Mussels - Mytilus edulis M12

11) Snails
- Littorina Scutata M123
- Littorina saxatilis M123
- Nucella lamellosa S12
- N. emarginata S12
- Scaridia dura S12

12) Limpets
- Teuta saxa M12G
- T. perina S12
- Siphonaria S12

7) Corals
- Lettuce pensula S12
- L. digitalis S12

8) Corals
- Katharina tunicata R12

9) Sea Slugs
- Pyrocoelia spp. S12
- Lepidara R1123
- Portheus S12

10) Scallop/Clams
- Pectoloma S123
- Bivalvia S123
- Prothoe munda S123
- Macoma S12

11) Worms
- Echinoderms
- Echiurus echirius M3
- Bipinnularis
- Pholas moneta S12
- Portheus S123
- Nereidae S34
- Nephtyidae S34
- Other Spionidae M123

12) Anemones
- Anthophora spp. R12

13) Fish
- Pholidae M123
- Cottidae R29

Date: April 6 1990
II- MAJOR SPECIES
A. Barnacles - moderate densities were found overall, as would be expected in this habitat. Balanus glandula was the primary species.

B. Mussels - mussels were moderate to sparse overall, but were very patchy, with occasionally high densities. Boulders and cobble on the flat frequently had patches of mussels. Small juveniles also were found on most areas.

C. Gastropods - rare or occasionally dense on the sandstone flat, and otherwise moderate.

D. Fucus: Except on the sandstone beach, where fucus was rarest. Fucus was dense on cobble & boulders in the mid & low zones.

II- SPECIES LIST
A. MARINE PLANTS
  1) DIATOMS / BLUE GREEN ALGAE
  2) GREEN ALGAE - CHLOROPHYTA
     SPOONOMORPHA / ACROSPIRONIA 512
     UVA MIZ
     UROSPORE M12
     CHLOROPHYDRA 512
     EUTEROMORPHA 512
  3) RED ALGAE - RHODOPHYTA
     PORPHYRA 512
     PTEROCLES 512
     RHODOTLUS LAM / 51
     RHODOMENIA PALMATA MIZ
     BASSISPA *PP R1
     CALLIANTHON R1
     CALLANDRA R1
     EPHEDRA MIZ
     HALOCERCA 512 A
     IRIOATA 512

- SPAT OR JUVENILES PRESEN
  D Dense
  M Moderate
  S Sparse
  R Rare
  1 Bedrock
  2 Boulder
  3 Cobble
  4 Pebble
  5 Sand
ELO32-B

III. SPECIES LIST

A. MARINE PLANTS
1) DIATOMS/BLUE-GREEN ALGAE
2) GREEN ALGAE - CHLOROPHYTA
   SPONDYLOPHORA/ACOSIOPHYNA M123
   ULVA M123
   CHLOROPHYTA S12
   Enteromorpha S12

B. RED ALGAE
1) PORPHYRA M12
2) PETROLIUS S12
3) RHODOMELA LAR M12
4) RHODOPHYNIA PARMATA D12
5) BOSSELLA SPP. S12
6) CALLIATHROUS S12
7) CORALLINA S12
8) ENODIOCLADIA S12
9) HALOSCOLACIA M123
10) IRIDAEA S12
11) CRYPTOSIPHONIA M12
12) MEMBRANIOPHTA M12
13) MASTOCARPUS S12
14) MICROCHAETE (PETRERCLAUSA M123
15) LITHOTHAMNION S12

C. BROWN ALGAE - PHRAGMOPHYTA
1) Fucus distichus M123
2) Laminaria O12
3) HILDA-BRANCHIA M12
4) RACUSU M12
5) COSTARIO S12
6) ALARIA M123
7) SUTOSIPHON S12

B. ANIMALS
1) BARNACLES
   Semibalanus cariosus S12
   Balanus charrua M12
   Crangonides dalli M12

2) PAGURIDAE - HAMM CARDS M123
   Hemigrapsus oregonensis S123
   Harpocaster T2 B2 S123
   Pugettia spp. R2 S123

B. ANEMONES
1) Anthopleura elegansiana S123
2) A. antillarum R123
3) A. karatayevi R123
4) Tealia Crossidactylus R123
5) Epicaphis R123

APRIL 1990

3) Amphipods -
   Orchestra spp. M123
4) Pyrrolo - Phydraceae - R123
5) Bead Koppers - Notacka S123
6) MOSAS - Mytilus edulis M123
   Moderula R123
7) Lithoria bidentata M123
   L. striate M123
   Nucella lamellosa S123
   N. lamellosa S123
   Searlesia mira M123
   Tachyhyalea S123

8) LIMPETS
   Teelanotum M123
   T. estatus M123
   T. pusilla M123

9) CHITONS
   Fasciochilus linnea R123
   Mogula spp. R123
   Katherina mirabilis R123

10) SEA SLICE:
   Pygospio elegans M123
   Dendrochaeta S123
   Leposhenella M123
   Orthonecilla R123
   Psamatichthys M123

11) SCALES/CLAMS
   Pododesmus S12
   Traveller S12
   Prote orthes S123
   Malama spp. S123

12) ARMENOUS
   Antiphora elegans R123
   P. antillarum R123
   A. karatayevi R123
   Tealia Crossidactylus R123
   Epicaphis R123
CLO52-B

APRIL 7 1990

ANIMALS (cont.)

13) Worms

Echiurid worms = Echiurus rogushy
Sipunculidos = Phascolosoma spp.
Polychaetes -

NERIOIDAE R123
RHYTHIDIDAE R123
OTHERS

SERPULIDAE R123
Serpula crucigera
SPIROBIDAE M-D123
SPYROBIDIS spp.

14) Fish -

Ctenolabid - 3 spp. M12-54
Pholidote - 1-2 spp. M2-30

15) Hydrozoa - Carybdea sp. sp. pyrgmaea

16) Others

Natica clausa - nominal R23A
Amphissa colombiana R23A
Lamellides tvica ? M123

Gymnosomaphrona argenticus S123A
OTHERS 1 species - 2 spp.
Lebedina spp. R23A
Schependula spp. ? M123A
Strongilocentrotus droebachiensis R23A

A: Juvenile present
D: Dead
M: Moderate
S: Sparse
P: Rare
1: Rep Bedrock
2: Boulder
3: Cobble
4: Pebble/Sand
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EL-52 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
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<tbody>
<tr>
<td>Tarmat Removal</td>
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<tr>
<td>Bioremediation More Than 100m From Stream</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
<tr>
<td>Bioremediation Less Than 100m From Stream</td>
<td>WORK PRIOR TO 7/10 (ADF&amp;G MONITOR REQ.)</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon stream

ADF&G catalogued anadromous stream is present in Subdivision (226-10-16902). 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.

7II Subsistence: Deer Harvesting

No constraint to manual pickup and tarmat removal; closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance of stream bed or banks. No flushing of pollutants or sediments into stream drainage. Restrict boat and air traffic to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unolled substrate and biota.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16902) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG ADDENDUM DATE 6/04/90
ADEC
EXXON
NOAA
USCG
FOSC
DATE 6/7/90
DATE 6/4/90

Prepared by: [Signature] Date: 6/4/90
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16902
SEGMENT EL-52 SUBDIVISION B

WORK WINDOW

<table>
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<th>Bioremediation and Manual Raking</th>
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<td>(ADF&amp;G Monitor Req.)</td>
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<table>
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<tr>
<th>Bioremediation and Manual Raking</th>
<th>WORK PRIOR TO 8/15</th>
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<tbody>
<tr>
<td>More Than 100m From Stream</td>
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</tr>
</tbody>
</table>

ARCHEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream  
ADF&G catalogued anadromous stream (226-10-16902) is in Subdivision B. This subdivision is closed to bioremediation and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual raking more than 100m from stream.

71I Subsistence: Deer  
Harvesting  
Closed to manual raking and bioremediation after 8/15.

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 8/15. Avoid any unnecessary disturbance or damage to unaltered biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM EL-52B FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC  
Date 6-18-90

Prepared by  
Date 6/15/90
ASAP FOLLOWUP RECOMMENDATIONS

Conditions Observed: Pooled oil present at the site along boulder-stone beach on the east side of buoy. Subsurface oil extends up to 50 ft. Continuation at the site. SR sediments present in stream area. Sheening observed.

Followup Recommendations: Pooled oil present thin-out site should be manually removed. Field will need to be explored at either minimum tide or very low tide due to the location of the oil. String sponge boom along entire shore to contain oil. Remove SR sediments from stream area, manually fill and cut-in blind. Remove oil log around stream. No evidence of cut-in blind is present in work area.

Compiled by Pickup:

☐ YES  ☐ NO

Priority for Addressing in 1990:

☐ High  ☐ Mod.  ☐ Low

Advisors:

Wesley Shamley

Weekly Shamley

Comments: I totally agree with above recommendation. Most important is sponge boom must be used due to the condition of the oil.

Boat:

Rey Satelo  Rey Shett

Comments: I don't agree with above recommendation, instead I suggest that crew be expanded for cleaning and applying cut-in blind, this should be a high priority problem for 90.

USCO:

B5/Lee Bensong  Lee Bensong

NOAA:

Art Weiner  Art Weiner

Comments: Agree to Recommendations.

The problem is that the conditions for cutting-in blind is limited.

This is a low priority problem for 1990.

Lead Rep:

John Ebel  John Ebel

Comments: Please obtain alongshore surveys. Saline sampling and migratory closed eye area for next phases. Skimming for area. Tied out 30 ft. Remove oil and sediments. Modify the operational schedule. Recommend mechanical/interventional removal of oil due to tide zone.
ASAP TAG REVIEW SHEET

Segment: E257  Subd: B  Site: 1  Date: PRE-Review 11 Aug 90

Priority For Addressing In 1990

- HIGH   - MEDIUM   - LOW   X NTR

Treatment Recommended: NTR: Based on OG & SKETCH

Recommendation/Comments Sheets

[Do not agree with OG & SKETCH. Which underscored paperwork on SOR sheet]

ANAD: Stream present

Priority Site For Reassessment In 1991

YES  NO  YES  NO  YES  NO  YES  NO
CG X  ADEC X  EXXON X  LAND MGR

TAG 13 Aug

Manuel Lake and B10 after Removal of Bonded Oil.

Remove HIGH SOR, LOW ITZ in VICINITY OF ANAD STREAM.

See sketch
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/EL 525 SUBDIVISION: E SITE: 1 DATE 3-8-90

USCG/NOAA PS1 Leo Berzakora Leo Berzakora
NAME Art Weiner SIGNATURE Art Weiner

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Proposed work, as specified in the ASAP Followup Recommendations, should remove all oil.

ADEC NAME Wesley Ghandley SIGNATURE Wesley Ghandley

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Due to the area containing wetted stream #226-10-16902, I believe a reassessment is in order to determine if any oil remains.

LAND MANAGER NAME John Ebel SIGNATURE John Ebel

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: To evaluate effectiveness of treatment.

EXXON NAME Ray Sotelo SIGNATURE Ray Sotelo

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: This site should not be a priority for reassessment in '91, my recommendation is that it must be assessed at all.
### ASAP SHORELINE OILING SUMMARY

**Team No.** ASAP #2  **Segment As:** EL 52
**OG** CHANCEY  **Subdivision:** 13
**ADEC** G. HORMLEY  **Weather:** ☀️ Sun ☁️ Clouds ☄️ Fog ☔️ Rain ☃️ Snow

**Date:** Aug. 18 1990  **Time:** 07:30 to 08:15  **Tide Level:** 2.5 - 0.3

**Total Est. Length of Shoreline Surveyed:** 627 m

**Surveyed From:** ☑️ Foot ☐ Boat ☑️ Halo

**Oil Category Length:** W15 m M100 m N - m V512 m NO - m US 0 m

#### SITE 1

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oiled ZONEs</th>
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<tbody>
<tr>
<td>ASPHALT</td>
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<tr>
<td>S.O.R.</td>
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<td>✓</td>
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<tr>
<td>POOLED COVER</td>
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<td>✓</td>
</tr>
<tr>
<td>COAT STAIN</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>MOUSSE PATTIES</td>
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<td>✓</td>
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<tr>
<td>FILM NO OIL</td>
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**Est. Site Length:** 627 m

#### SITE 2

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#### SITE 3

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**Subsurface Oil**

<table>
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<tr>
<th>Site No.</th>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Depth (cm)</th>
<th>Clean Below (Y/N)</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
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<tr>
<td>1</td>
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<td>30</td>
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<td>X</td>
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<td>X</td>
<td>GPM-GPM</td>
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<td>X</td>
<td>GP-GP</td>
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**Photographs:** Roll No. NONE

**Frames:**

- Dark Sheen W/Brown Oil Drops

**Comments:** The region within 200 meters of the stream retained most of the surface oil. However, the low angle bank on the subdivision's N.E. side holds the majority of the region's mobile subsurface oil. Black oil slurry present.
SITE 1
WHOLE BEACH

No customblen over major part of area. Rainbow sheen on MITZ flats. Black oil film up to 10cm deep.

NOT OBSERVED
CUSTOMBLEEN IN AREA

CUSTOM BLEEN

M-UNITZ 6m wide, 8m long area with sporadic spots of consolidated clay/pellet cement. May have inclusive oil film.
SEGMENT ST/EL-53 SUBDIVISION A (1 OF 1) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid damage to unoiled intertidal and subtidal algae and seagrass.

SHPO SIGNATURE: DATE: 4/17/90

OILING CATEGORIZATION:
Wide 0 m: Medium 71 m: Narrow 119 m: V.Light 518 m: No Oil 214 m
Subsurface Oil Observed: Yes X No Maximum Depth 45+cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of subsurface oil and coatings as shown on attached sketch map. *Top 15cm should be raked off in area of pit #1 prior to bioremediation as shown on map. Work should be conducted between 6/15 and 8/14 based on above 2M and 7II constraints and with approval from USFWS and ADF&G concerning (5T).

TAG COMMENTS:

AT THE TIME OF TREATMENT, CASITE MONITORS TO ASSSS SUITZ.
MONITORS TO ASSESS FEASIBILITY (MANUALLY) TO RAKE AREA INDICATED.

TAG APPROVAL DATE: 4/21/90

ADEC JOHN BAILEY DATE: 4/21/90
EXXON CAMERON FOSS: DATE: 4/21/90
NOAA BUWERSCOTT  ADF&G
USCG KEITH KURPEK
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  Esthoh 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 from haulouts. 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)
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)
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.
SEGMENT ST/EL-53-A  SUBDIVISION:  A  DATE 4/1/90

NAME  DAVID A. SCHNEIDER  SIGNATURE  David A. Schneider

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

MANUAL TREATMENT IS APPROPRIATE FOR THIS SUBDIVISION. TREATMENT
SHOULD INCLUDE THE FOLLOWING: 1) WIRE BRUSHING OF SCATTERED AREAS
OF COATING ON BOULDERS & ROCK FACES IN MINE AND UITE, AND 2) FURTHER
SURVEY OF SUPRA TIDAL AFTER SNOW MELT OFF FOR DEBRIS COLLECTION WHERE
NECESSARY.  ADEC'S COMMENT CONCERNING BOULDER SHADOW OILING PERTAINING
EMPHASIS ON THESE SHADOW AREAS BY WORKERS.  SHOULD BE PLACED

NAME  Peter Montes  SIGNATURE  Peter Montes

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Subdivision A's oiling is primarily Boulder Shadow oiling with the
areas under and around large rocks and crevices. The areas of penetration
are under these boulders, and all of the oil is difficult to reach. Hand
scrubbing localized removal is appropriate for "A" whereas bio-
remediation is not.

NAME  Janetta Pritchard  SIGNATURE  Janetta Pritchard

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

I concur with the USCG and ADEC. No high
recreational values were noted in this
Subdivision.
**SHORELINE OILING SUMMARY**

**SEGMENT NO.:** EL-53

**TEAM NO.:** 6

**TIDE LEVEL:** +3.5 ft

**DATE:** 10/31/90

**EST. SUBDIVISION LENGTH:** 600 m

**DATE:** 10/22/90

**TIME:** 08:45 to 10:00

**USCG TEAM:** C. DILLON

**LAND REP.:** D. SCHNEIDER

**ADEC:** T. BARRY

**NO. 1 SUPERVISOR:** P. MONTESANO

**UPLANDS DESCRIPTION:**
- Grass
- Forest
- Rock

**SURFACE SEDIMENTS:**
- 55% S
- 40% C
- 4% P
- 1% G
- 1% M
- 3% V

**SLOPE:**
- Lang: 75%
- Hang: 45%
- Vert: 35%

**WAVE EXPOSURE:**
- Low
- Med
- High

**SURFACED 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>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>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>Snow on beach</td>
<td>Only S</td>
<td>X</td>
</tr>
</tbody>
</table>

**PAVEMENT:**
- H: 3 sq. m

**NEAR SHORE SHEEN?**
- No

**OILED DEBRIS AMOUNT:**
- Logs
- Vegetation
- Trash
- Debris

**DEBRIS COLLECTED TYPE:**
- Yes

**PHOTOGRAPHS:**
- Roll No.:__
- Frames: None

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45</td>
<td>0.45</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<td>2</td>
<td>30</td>
<td>0.30</td>
<td>X</td>
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<td></td>
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<tr>
<td>3</td>
<td>17</td>
<td>0.15</td>
<td>X</td>
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</tr>
<tr>
<td>4</td>
<td>10</td>
<td>0.10</td>
<td>X</td>
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<td></td>
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<td>5</td>
<td>25</td>
<td>0.25</td>
<td>X</td>
<td></td>
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</tbody>
</table>

**COMMENTS:**

Subdivision consists of mostly Vert/Hang Rock and Boulder slopes with 3 small areas of Hang Boulder/Cobble/Rock slopes. The Vert/Hang Rock has a discontinuous 0.5 1m wide at the high tide level and some unoiled sections. The 3 B/C/R areas are a slightly lower angle and contain medium width coats and some subsurface penetration. Access to penetrated substrate is difficult due to large size of surface boulders/cobble.
SHORELINE ECOLOGICAL SUMMARY

Segment STI
Subdivision A
Date (mo/day/yr) MARCH 31, 1990
Time (24 hr) 07:45
Bioligist Jim Barry

760-600 m length

A. Substrate type and % of segments:
   1) Bedrock 50 2) Boulder 40 (3) Cobble 4 (4) Pebble 1 (5) Sand (6) Silk

B. Overall % cover of biota (% of segment): Dense 50 Moderate 40 Low 10

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>Bedrock</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
<tr>
<td>Boulder</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Cobble</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Pebble</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Sand</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Silk</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:
7:45 AM window +5 -4 +1
Barnacle goldilocks - 4
Sea Otter - 2
Birds - 1

Ecological Considerations:
6V, 711, 5-72, 2M

Impacts to Sensitivities:
Herring spawning success may be inhibited by frequent or heavy boat traffic.
ADDITIONAL COMMENTS

MAJOR SPECIES

BARNACLES - BACANUS PACIFICUS?

- DISTRIBUTION PATTERN CONSISTENT BETWEEN PATCHES OF SEDIMENT

- All colony patches had moderate adult/juvenile spat cover, with low zones having sparse cover.

- Barnacles present in open bare rock in all tide zones

- Thick area cover in lower zones inhibits recruitment, especially on bedrock & boulders.

MUSSELS

- Settlement of new individuals greatest in crevices & on adult & juvenile mussel shells at the mid to high tide levels.

- Boulder & cobble fields have some cover at the surface, but sparse to moderate cover below the surface.

GASTROPODS

A. Periwinkles (Littorina) are by far the most abundant.

- Distribution is patchy, but are generally moderate to dense overall.

- Greatest densities tended to occur in some cobble areas and crevice habitats of bedrock & boulders.

- Spat commonly found in crevices of bedrock

- Egg masses found only under cobble or boulders in unexposed microhabitats.

B. Whelks - Serlesia sp. and Nucella lamellosa are the dominant whelks.

- Both are present throughout the intertidal. Serlesia is most abundant in cobble areas.

C. Limpets

- Limpets were found on bedrock, boulders, and under cobble.

- Upper area limpets are mostly on boulder and bedrock.

- Lower area - under - cobble.

- Major species - Tectura sectuna (common under cobble)

- Tectura princeps (common in mid & upper-tidied zone below

FUCUS

- Sites where intertidal was heat-treated have a high proportion of withered plants in the upper zone. Many have started to regrow, many open dead.

- Sporlings are mixed in with adults throughout the intertidal, but are

- F. longifolia, F. muelleriana, F. elongata.
OTHER SPECIES

ANIMALS

- Several species were found under cobble boulders in the mid and low tide zones.

- Pycnopodia, Ochoterenas, Dermothenes, Leptasterias, Pisa, and Pycnopodia were present as juveniles.

SEA CUCUMBER - Holothuria - 1 found under boulder in low zone

Bryozoans - (crust forming animals) - Membranipora

Several others included in species list.

SPECIES LIST - STARS INDICATE JUVENILES PRESENT

SEA STARS

- Pycnopodia sp.
- Pisa sp.
- Ochoterenas sp.
- Dermothenes sp.
- Pycnopodia sp.

SEA CUCUMBER - Cucumaria sp.

* Bryozoans - Membranipora sp.

TUBE WORMS

- Spirorbis sp.
- Serpula

- Unknown tube worm

OTHER WORMS

- Peanut worms - Phacolasoma
- Polychaete worms - 2-3 spp.

SEA URCHIN - Strongylocentrotus droebachiensis

Echinoderms

- Balanus clinodactyla
- Semibalanus cariosus

SNAILS

- Poritides
- Littorina scutulata, L. obtusata
- whelks
- Scarletia varia, Nuclella lamellosa

CRANES

- Tealia parasitica, T. truncata

MOLLUSKS - Armina californica

- Tomixella sp.
- Katharina hamata
- Noparia mucosa

* MUSSELS - Mytilus edulis

- FISH - Pteraididae
- CRABS - Uca sp.
- PINNIPEDS?

PLANTS

- Fucus distichus
- Rhodymenia palmata
- Ulva
- Petroselis
- Rhizoclonium
- Enteromorpha
- Spongogymma
- Scytosiphon

Several unknown

Filamentous green algae

Filamentous red algae
ECOLOGICAL CONSIDERATIONS / COMMENTS

1) Several species appears to be actively recouping to this segment & indicating that if oil-related mortality occurred, recovery is progressing.

2) Oil covered sites or patches do not show as strong of recovery as the adjacent sites. (Even within 1-2 inches of removed barrels, mussels, Mytilus, etc.)
EL053-A 0745

Start to Beach 1

Up 7 FOCUS

7 BATH T PAN

Mark 1 GA STR

Spanner Notion J

2 splinter IV, compact form

Beach 1

Boulder/Gold 7 FOCUS

Map-Dense Gastra under building

L. sitkana eg mosses, Adulta

Pencil began (R-38)

7 FOCUS 3

Drown, fish

7 Buff by pond

Lagarta - pene

H22 Boulder field

2 Cr. sand eagle

#21 Subsurface oiling 7FL

Fist 4

Small beach along first PR of open beach

Jovina 5104

Cucumber 10/11/81
<table>
<thead>
<tr>
<th>Beach #2</th>
<th>10.00-20.00</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fucus Juv</td>
<td>Low</td>
<td>Lycothrix - algae shore below 10 cm, very 2 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mytilus - No Adone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Few juvenile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Littorina - Egg masses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dense Mort in Crevice</td>
</tr>
<tr>
<td>Green Sea Lettuce</td>
<td>Along South Cliff</td>
<td>Photo #15, 18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trees on South Cliff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate juvenile 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flower 13, 14, 18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low Clothing, 13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mort of Fucus, 13, 14, 18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mort of Fucus 13, 14, 18</td>
</tr>
<tr>
<td>OTTO</td>
<td>Eugene Miller</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>Read 3 Low Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Fucus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Crayfish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Spirorbis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Calyptophila</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Echinus</td>
<td></td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>PR</th>
<th>3m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 Pterocoma</td>
<td></td>
</tr>
<tr>
<td>24 V. urceus</td>
<td></td>
</tr>
<tr>
<td>22 ? wong</td>
<td></td>
</tr>
<tr>
<td>1 Polyphemus</td>
<td></td>
</tr>
<tr>
<td>3 L. depressus, 1 egg, 6 crab</td>
<td></td>
</tr>
<tr>
<td>1 Fish</td>
<td></td>
</tr>
</tbody>
</table>

End of ELO 53B

ELO 53 B, 10:10 am

Next photo 17 July? Solaster or Fucus in Low Zone

16 Main coat of Ochre in upper 2011

Boulder/Rubble beach
Pollack
Rock Shark
Clam in sand
Clam - 2

Fucus anemona in high - mid tidal

Boulder Beach
> Fucus in upper
> " " mid dew
> Fucus a mixed forest in upper
SKETCH MAP

SEGMENT EL-53
SUBDIVISION A
SUBDIVISION LENGTH 600 M
760 M

OG C. DILLON
DATE 3/31/90

1. Pit with subsurface oil
2. Pit with no subsurface oil

[Diagram with various symbols and notes]

Oil character
length (m) 125
ST 485
NO 150

Broken band of VL stain at high tide level along rock face ≤ 1m wide

Break off top 15cm (64Ga) and bioremediate

Bioremediate only

Subsurface coat

Narrow broken coat and VL stain along high tide level of Hang Rock and boulder slopes

Beach 1

Beach 2

Beach 3

Pit 1

Pit 2

Penetration 5 - 45 cm

40m long x 4m wide

Surface UITZ sediments

Final sediments across site

Penetrations

5cm wide x 20m long

Okorn coat on sides and bottoms of surface B/C

Revision 4/11/90
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M  Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

5T  Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

7II Subsistence: Deer Harvesting

Closed to bioremediation and manual raking after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled biota and substrate.
ASAP FOLLOWUP RECOMMENDATIONS

Conditions Observed: MITZ prior is 5 to 6 cm @, compacted Pebble Substrate. Armor coating consisting of 2 cables/ball of distinct core of deposit in S #6 & E #1 with 8 or 9 #4, #7. Sheen not observed in fish water during ASAP survey, surf ace history is not available. Sufficient data to assess ecological/ human health impacts. ASAP survey did not have sufficient time to determine extent of oil.

Followup Recommendations: Mechanical investigation to determine extent of oil (recommend #4 hand auger or #6 auger extensive gasoline powered). Demanding an extent of deposit, i.e. MITZ extending to SUEZ, and the changing the order of a discussion could be made on techniques appropriate to restore site.

Completed by Pickup

Priority for Addressing in 1990: X High □ Mod. □ Low

ADEC: Wesley Ghorley

Comments: ADEC is very concerned about subsurface oil. Substrate is very compacted sediment so another island will not penetrate. I highly recommend mechanical excavation removal and hot hip flooding cleanup oil.

Exxon: Ray Settles

Comments: This site is a definite candidate for re-approach of custom. Work in '90 and should be re-assessed in '91. The primary recommendation that is written for this site is to reinforce for the level of disposal observed.

USCG: Act Weimer

Comments: AGREE with recommendation to adequately define extent of subsurface oil. Work 1993 if re-assessment threat continues. The subsurface reservoir should be mechanically tilted and treated & customized or removed.

Land Rep.: John Etzel

Comments: Full visit were safe. Large patch, small hard patches, and to lower back limit, hard island, small hard cases, headland access, injury effort to stop.
ASAP TAG REVIEW SHEET

Segment: EL53 A  Subd: A  Site: 1  Date: PRE-Review 14 Aug 90

Priority For Addressing In 1990

[ ] HIGH  [ ] MEDIUM  [ ] LOW  [ ] NTR

Treatment Recommended: NTR

[ ] OUT ONLY

Priority Site For Reassessment In 1991

[ ] YES  [ ] NO  [ ] YES  [ ] NO  [ ] YES  [ ] NO  [ ] YES  [ ] NO

A CG  A ADEC  NO  YES  EXXON  X  YES  LAND MGR

T.AO- 15 Aug 90

Reapply Custombka
(already school)
for B10

 resc 91
ASAP TAG REVIEW SHEET

Segment: ELSJ  Subd: J Site: 2  Date
PRE-Review 4/24

Priority For Addressing In 1990

HIGH  MEDIUM  LOW  NTR

Treatment
RecommenJ

Priority Site For Reassessment In 1991

YES  NO  YES  NO  YES  NO  YES  NO
CG   ADEC   EXXON  LAND MGR

NTR
ASAP TAG REVIEW SHEET

Segment: E53  Subd: A  Site: 3  Date  PRE-Review 14 Dec

Priority For Addressing In 1990

___ HIGH  ___ MEDIUM  ___ LOW  \ NTR

Treatment Recommended:

NTR

Priority Site For Reassessment In 1991

YES  NO  YES  NO  YES  NO  YES  NO

CG \ ADEC \ EXXON \ LAND MGR
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/EL: 53  SUBDIVISION:  A  SITE:  I  DATE  9-9-90

JSCG  Ps.  Leo  Beyer  Long  Long  Long  Long

NAME  Art  Wimmer  SIGNATURE  Art  Wimmer

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
Assess EFFECTIVE Buss of CUSTOM Blends on HIGH
CONCENTRATION of SUBSURFACE OIL [OR (15-40 cm+)].

ADEC
NAME  Wesley  Ghormley  SIGNATURE  Wesley  Ghormley

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
Reassessment is requested to determine the Condition of
Sub-surface oil, (OR 40 cm in very tight Sediment)
- IF high or is still present then additional work
will be requested.

LAND MANAGER
NAME  John  Red  SIGNATURE  John  Red

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
To Evaluate the effectiveness of 70 treatment after winter

EXXON
NAME  Ray  Sotelo  SIGNATURE  Ray  Sotelo

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
If reassessment is done on this site in '91 it should be
trated as a low priority site.
SEGMENT AS/EL 53  SUBDIVISION:  A  SITE:  2  DATE 8-7-90

USCG / NOAA PS1  Leo Berson  Leo Berson
NAME  Art Weiner  SIGNATURE  Art Weiner

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

ADEC
NAME  Wesley Grahamley  SIGNATURE  Wesley Grahamley

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:  No Further treatment at this time

LAND MANAGER
NAME  John Ebel  SIGNATURE  John Ebel

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:  No further treatment at this time

EXXON
NAME  Rey Sotelo  SIGNATURE  Rey Sotelo

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:  No assessment should be necessary in '91.
SEGMENT AS: EL 53  SUBDIVISION: A  SITE: 3  DATE 8-7-90

NAME: Art Weiler  SIGNATURE: Art Weiler

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: NO EFFECTIVE TREATMENT AVAILABLE FOR EXISTING OILING CONDITION

ADEC

NAME: Wesley Graham  SIGNATURE: Wesley Graham

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: A Band of cover is SOR sediment is present at the Mitz under buildups. Reassess and if and/or remains roll buildups to expose oil and manually remove SOR sediments.

LAND MANAGER

NAME: John Avel  SIGNATURE: John Avel

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: 

EXXON

NAME: Ray Scott  SIGNATURE: Ray Scott

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: No reassessment should be necessary in '91.
### ASAP SHORELINE OILING SUMMARY

**TEAM NO.** ASAP #2  
**EXXON SOTLO** SEGMENT AS/FL53  
**CHINEY** USCG WEINER/BERGAN SUBDIVISION A  
**DECEMBERLEY** LAND REP. (HCR)  
**DATE** AUG 17-1990  
**TIME** NOON 18-1950  
**TIDE LEVEL** AS 10.2'  
**TOTAL EST LENGTH OF SHORELINE SURVEYED:** 265 m

**SURVEYED FROM:**  
- ☑ Foot  
- ☐ Boat  
- ☐ Helo  
**WEATHER:**  
- ☐ Sun  
- ☐ Clouds  
- ☐ Fog  
- ☐ Rain  
- ☐ Snow

**OIL CATEGORY LENGTH:**  
- W  m  
- M 72 m  
- N/32 m  
- V  m  
- NO  m  
- US 7/7 m

### SURFACE OIL

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

**EST. SITE LENGTH:** 75

### 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 (Y/N)</th>
<th>PIT ZONE SUBSURFACE SEDIMENTS</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>40</td>
<td>X</td>
<td>15-40 N</td>
<td>X</td>
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<td>0-20 N</td>
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<td>20</td>
<td>X</td>
<td>10-20 N</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>30</td>
<td>X</td>
<td>0-30 N</td>
<td>X</td>
</tr>
</tbody>
</table>

**Photographs:** ASAP #2  
**Roll No.:** Roll #2  
**Frames:** 29 to 32

**COMMENTS:** This subdivision is made up 3 beaches but the southern beach is only distinctive at...
SEGMENT EL-53
Subdivision A

Subdivision Length: 600 ft

PATCHY COAT ON BEDROCK & LARGE BOULDER WITH SOME INDICATION OF INEPOL APPLICATION. ~1/METER WIDE.

SEGMENT EL-53

SKECH MAP
ASAP #2
AUG 7 1990
CHANAY
MAP FROM SSAT MAP

C T/S ON BEACH BOULDERS, SILVER SHEEN NEAR SHORE

EL-53 C
Broken board of VL stain
At high tide level along
root face ≤1m wide

Broken distribution
Patchy distribution

Date 3/31/90

0.75m long broken
Coral head
Subsequent penetration ≤45 cm.

Not recovered

Red off
Top 15 cm (6"
And discontinuity

SITE 1

SITE 2

SITE 3

RUGGED BOULDER
NO CUSTOMBLEN

2 m²
CUSTOMBLEN
PRESENT

Py 3

EST

Also

Py 2

Also

Frequent Patches
Sor & Ap/I/U

15 m²

Patches
Sor & Ap/I/U

0 0 0 0

Py 2
SEGMENT ST/ EL-53 SUBDIVISION B (2 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5T-2 All bald eagle nests (3/1 to 6/1) – Active eagle nest (3/1 to 9/1)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid damage to unoiled intertidal and subtidal algae and seagrass.

SHPO SIGNATURE: [Signature] DATE: 6/1/92

OILING CATEGORIZATION:
Wide 0_m: Medium 71_m: Narrow 119_m: V.Light 518_m: No Oil 214_m
Subsurface Oil Observed: Yes X No Maximum Depth 20+cm

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

COMMENTS: Recommend manual pick up of mousse, tar balls and oiled vegetation and bioremediation of coat, cover and subsurface oil areas. Areas should be treated between 6/16 and 8/14, based on above herring and deer constraints and with approval from ADF&G and USFWS regarding eagles.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90
ADEC [Signature] DATE: 6-8-90
EXXON
NOAA
USCG

FOSC: [Signature] DATE: 6-8-90
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)

Ester 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 sites

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, (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 uncollected 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.

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)

Forest Service cabins (5/1 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 2/28)

Invertebrate harvesting
For Codes 7Z through 7JJ contact AOF&G and Chenega Corporation for specific dates, locations, and constraints.
I concur with both the Land Manager's and ADEC's comments below. The small inlet off NW corner of island should not be disturbed as it supports rich mussel beds & intertidal life, and the very small patch of coating present there is highly exposed to wave action.

ADEC
NAME Peter Montesano
SIGNATURE

[Signature]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments: If this island were thoroughly cleared, it would once ag. have recreational value.

The entire island is ringed by a coat of varying concern, most of which is scrape/scorched. Recoverable oil is trapped in crevices illustrated on the map. The N/S island-wide crack contains saturated sediments as well as coatings on the rock surfaces. The slope and angles made this crack unwashable. The crack is not bioremediation appropriate, and should be addressed by hand-wiping and substrate removal. Pavement forming grasses on the Supratidal of the South beach should be collected. The beach on the W side of the Send, N/S crack is a small area but likely to form pavement and is hot-water washable.

LAND MANAGER
NAME Janeta Rethard
SIGNATURE

[Signature]

[Initial]

[Signature]

[Initial]

[Signature]

[Initial]

[Signature]

[Initial]

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### Surface Oil

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<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>X</td>
<td>X</td>
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<tr>
<td>COAT</td>
<td>X</td>
<td>X</td>
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<td>STAIN</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>MOUSSE</td>
<td>X</td>
<td>X</td>
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<tr>
<td>TARBALLS</td>
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</tr>
<tr>
<td>FILM</td>
<td>X</td>
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<tr>
<td>NO OIL</td>
<td>X</td>
<td>X</td>
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### Subsurface Oil

<table>
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<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>
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<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>50 - 15</td>
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<td>X</td>
<td>P/G</td>
<td></td>
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<tr>
<td>2</td>
<td>20</td>
<td>X</td>
<td>15 - 20</td>
<td>X</td>
<td>X</td>
<td>P/G/S</td>
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</table>

**Comments:** Island has a broken, narrow coat and cover around the high tide level. The W side has a crevice at the UITZ containing a dark brown 8 cm diameter x 2 cm deep mouse spot within a narrow coat and cover. The W side has a fissure in the bedrock running G N-5 to each shore. The B/O/P at the S end are coated. The center of the fissure has a shallow accumulation of small sediments and grassy vegetation patches approx 2-3 m wide by 30 m long. The sediments are penetrated up to at least 20 cm. There is a moused veg patch and a moused grassy patch on the SITZ W of the fissure.
SEGMENT ST/EL - S3
SUBDIVISION #B

DATE: 31 March 90

CHECKLIST

- Oil Area
- Approx. Value
- Seg/Sub Ending
- Oil Dist.
- Weight
- Length
- % Cover
- Substrate Character
- Est. HWA/WL
- SEL
- Point Location(s)
- Pic(s)
- Plot Location(s)
- Photo Location(s)

LEGEND

1 Δ
Ph. - Subsurface Oil

2 Δ
Ph. - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Closed Vegetation

Photo location, direction, and number

Oil Character Length (m): AP PO CV CT 40 ST 300 NS 2 PT TB 1 FL NO
SHORELINE ECOLOGICAL SUMMARY

Segment ST  ELOS  Subdivision - C  B  Date (mo/day/yr)  MARCH 31 1990

Time (24 hr)  1500  Biologist Jim Barry  272 m

(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 70  Moderate 10  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 (G)

### BARNACLES

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<th>Sparse</th>
<th>Rare</th>
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### MYTILUS

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### GASTROPODS

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### FUCUS

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Wildlife Observations/General Comments:
MAMMALS: Seal

Ecological Considerations:
1) mussel beds are increasing - avoid disturbances that would remove or destroy large portions of these beds
2) Special sensitivity, area not (designated) are not relevant to this subdivision
ADDITIONAL COMMENTS

LOW ZONE NOT OBSERVED DIRECTLY

MAJOR SPECIES

Barnacles - most of subdivision C is cliff face 2 or 3
cobble beaches also are present
- Barnacle distributions have similar characteristics to ELOG3-A, but
  perhaps slightly denser.
- beaches (cobble) have moderate densities, except where oiled
  sediments are present.

Mytilus -
- Mytilus is present in high densities in exposed locations. Some other
  locations have lower densities, resulting in the general “moderate”
  density of adults and juveniles. Spat are dense in most extreme
  mussel bed habitats.

Gastropods - Dense in general over the middle and upper
  intertidal. Limpets are more abundant than on other subdivision
  ELOG3. Litoreinae too, are dense at most locations.

Fucus - Generally dense & shows dense recruitment of
  sporelings.

Other species

1) Since the low intertidal and much of the middle zone were
   not accessible, I could not search for low zone species.
   However, there the faunal flora appears to be recruiting heavily
   all around the island, with generally dense cover of boota.
   Mussel beds and Fucus, in particular, are recruiting.
   Algal cover is generally high, & species diversity also is likely
   to be high.
ER53-B

1320
Children and pregnant women

Prohibits entry

Brush by the sea

3 months SASPA?

Spearfishing is that correct?

Believe Commandant

What winged Scot

End of ER53-B

1330 and

ER53 XB
OFFSHORE ISLAND

Start 1400

+1 11-7: Cover of mouse

1D -> Litterines

on rhinoceros? upper level pool.

B: recovery barrels

an upper gue (Excavated)

Washed around island

Tide pretty high

Some required not live health

burned boats & were not treated

last year.

Dined by the peninsula

all day.

Focus some, but some adults,

especially in midgame.

Lunching, no moderate distance.

mar
<table>
<thead>
<tr>
<th>EL 053-#B</th>
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<tbody>
<tr>
<td>Handwritten on the right</td>
<td>- Egypt, settled Egypts</td>
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<tr>
<td>Renee Latham</td>
<td>- Egypt, Lower Egypt</td>
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<td>Photo D on cover</td>
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<td>Pape 1972</td>
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<td></td>
<td>- Canellis algae (Callianthus)</td>
<td>- Canellis algae (Callianthus)</td>
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<td>FUO</td>
<td>*Nap *</td>
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<tr>
<td>END 1500</td>
<td>Could get one purchase due to</td>
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<tr>
<td>MOST OF BS ISLAND SIMILAR</td>
<td>* Nap</td>
<td>* Nap</td>
</tr>
<tr>
<td>1) Fucus abundant A, J, S</td>
<td>Many island has steep cliffs</td>
<td>Many island has steep cliffs</td>
</tr>
<tr>
<td>2) Barnacles &gt; Barnacles A, J, S</td>
<td></td>
<td></td>
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<tr>
<td>Moderate some spots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Mussels Moderate to dense</td>
<td></td>
<td></td>
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<tr>
<td>A, J</td>
<td></td>
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</tbody>
</table>
EL-53 & B

Transferred from map by C. Dillon
4-5-90
Her map had top island cutoff

EL-55

EL-53

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

Map Key: PWS-138
Name:
Date:
Date Entered:
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EL-53 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
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<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK PRIOR TO 8/15</td>
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</tbody>
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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>NO CONSTRAINT. Authorized by Claudia Slater/ADF&amp;G on 5/10/90 to Exxon/Tom Kelley.</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 B work site.</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>Closed to bioremediation and manual raking after 8/15. No constraint to manual pickup.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to uncollected substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC ___________________________ Date __________
Prepared by ___________________________ Date __________
ECOLOGY MAP
SEGMENT EL-53

SUBDIVISION B (2 of 2)

Metres

0 420 855

1 inch = 1403 feet

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest

Exxon Company, USA
Map Key: PWS-EL-53
June 08, 1990
ASAP FOLLOWUP RECOMMENDATIONS

Segment: A2/ E153  Sub.: B  Sec: 1  Date: 8/7/90 9999

Conditions Observed: Custom blend applied on surface (applied w/6x6c1x2 flat) with little degradation. Dispersant use: or little penetration between sediments. 308/1
En HZ: B/1/1. Cu sat at base of 1st 6.5 ft band around core.
308/1 H1 1.5m x 1.3m Shallow pot on top of black viscous mobile or oil. All for 308/1 H1 or H2 3m x 3m. Surface sheet in this 308/1 H2.
shock in tide water.

Followup Recommendations: Manual removal of 308/1 until sediments are < 0.1m. Manual removal of Cu from all surface water. Brush by bare
up dock. Roll cobble to expose any coatings. Manual try to maintain
supplying condition.

Completed by Pickup Crew: [ ] YES [ ] NO

Priority for Addressing in 1990: High [ ]  Low [ ]

ADOC: Wesley Gromley  Wesley Hume

Comments: Custom blend applied 3/10/90. No difference in appearance is present.

Highly recommended have manual removal of saturated sediments. Black/de
and present in pit that was constructed. Remove tank w/Hot H2O and
heavily custom blend with sodium pyrophosphate 2 torr.

Env: Rev Soto

Notes: Jody Cott

Recommendation is necessary in 91 to follow-up on custiodal application. The manual pick up on the segment was completed on original
workorder. It is my recommendation that removal of more sediment + water is
necessary.

USCG: Art Weiner

Comments: Agreed to manual removal of screen at 308/1. Custom blend should
be spread in areas where appearing. Do not agree to manual
removal of costs & covers.

Land Use: John Abel

Notes: Well around column/12 to 3x2 flat. 308/1 exists an 12x12 site Identifiers
impaired. 1st travel waters core oil in present. Multiple Vertical
308/1, North, South, East, Excellent Reduction expected. Six seals are rock off
shock a well.
ASAP TAG REVIEW SHEET

Segment: ESL Subd: Site: Date Pre-Review 14 Aug 90

Priority For Addressing In 1990

- HIGH
- MEDIUM
- LOW
- NTR

Treatment Recommended:

NTR

SOR - patchy not "it"

No reassessment

This is a done deal

Priority Site For Reassessment In 1991

YES CG NO YES ADEC NO YES EXXON NO YES LAND MGR NO

TAG 15 Aug 90

Site 90 Treatment

Reassess 91
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/EL 53: SUBDIVISION: B SITE: #1 DATE 8-9-90
USCG/NOSA PSI Leo Bessolna Leo Bessolna
NAME ART WEINER SIGNATURE Art Weiner

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
EVALUATE EFFECTIVENESS OF CUST OMBLEND ON
SUBSURFACE OIL COR10P1.

ADEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: To evaluate the effects of Custom blend.
Also to determine the presence of CT/CU on beach
after winter activity.
- A determination of removal should be recommended
upon visual observation of CT/CUs after winter
storms. If still present they should be removed.

LAND MANAGER
NAME John Ebel SIGNATURE John Ebel

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: This oil condition presents a hazard to wildlife as
Mammals.
Heavy coats stick and adhere to bodies and clothes.
Mammals
which come into contact of sticky oil will lick fur to clean
themselves & ingest oil.

EXXON
NAME Ray Smith SIGNATURE Ray Smith

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
This should not be a priority site for reassessment in '91. Most
all oil has been removed and Custom Blend has been applied, so I be
surprised to see more work done here.
<table>
<thead>
<tr>
<th>SURFACE OIL</th>
<th>SITE 1</th>
<th>SITE 2</th>
<th>SITE 3</th>
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<tr>
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<td>OILED ZONES</td>
<td>DISTRIBUTION</td>
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<td>ASPHALT</td>
<td>/C /B /P /S</td>
<td>SU UI MI LI</td>
<td>/C /B /P /S</td>
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<td>PATTIES/T.B.</td>
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<td>EST. SITE LENGTH</td>
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<th>SUBSURFACE OIL</th>
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<td>SITE NO.</td>
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**Comments**: The fissure which divides the island in half retains the most oil. It is trapped by the bedrock and well protected from wave energy. Although manual removal has been conducted, 30% sediments remain. Just southwest of the fissure is a region of broken coat and patchy cover. Based on the pit information, its likely that further oil is lurking beneath. A review of the documents and images is necessary.
SHORELINE EVALUATION

SEGMENT ST/ EL-54 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
6U Recreation: Tent sites (6/1 to 9/15)
6V Anchorages (6/1 to 9/15)
6Y Special use destination
7III Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: DATE: 4/8/90

OILING CATEGORIZATION:
Wide 24 m: Medium 36 m: Narrow 428 m: V.Light 2107 m: No Oil 84 m
Subsurface Oil Observed: Yes X No Maximum Depth 50 cm

RECOMMENDATIONS:
X No Treatment Recommended ___ Snare/Absorbent Booms
___ 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 areas shown on attached sketch map. Work should be conducted after 6/15 based on spawning constraints.

TAG APPROVAL DATE: 4/18/90
ADEC ART WEINER DATE: 4/22/90
Xxon DATE: 4/22/90
IAA DATE: 4/22/90
USCG DATE: 4/22/90
<table>
<thead>
<tr>
<th>Code</th>
<th>Activity</th>
<th>Dates/Details</th>
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<tbody>
<tr>
<td>1A</td>
<td>Salmon stream mouth - fry outmigration</td>
<td>5/1 to 5/15</td>
</tr>
<tr>
<td>1B</td>
<td>Salmon stream mouth - spawning</td>
<td>7/10 to 8/31</td>
</tr>
</tbody>
</table>
|      | 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   | 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 7/26                                                                 |
|      | For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints. |
| 2M   | Herring spawning                              | 4/1 to 6/1                                                                  |
|      | Restrict boat traffic to essential minimum. Avoid damage to unoided intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations. |
| 3N, 3P | Harbor seal and sea lion pupping             | 5/1 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 600m. 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 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                        | 8/1 to 9/15                                                                 |
|      | Anchorages                                    | 8/1 to 9/15                                                                 |
| 6V   | Forest Service cabins                          | 6/1 to 9/15                                                                 |
| 6W   | Lodge                                         | 6/1 to 9/15                                                                 |
| 6X   | Special use destination                       |                                                                              |
| 7Z   | Subsistence area: Salmon harvesting           | 5/1 to 9/30                                                                 |
|      | Subsistence area: Finfish harvesting          |                                                                              |
| 7HH  | Subsistence area: Deer harvesting             | 8/15 to 2/28                                                                |
| 7J   | Subsistence area: Invertebrate harvesting     |                                                                              |
| 7JJ  | For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints. |
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/EL-54-A  SUBDIVISION: A  DATE 4/6/90

USCG NAME: DAVID A. SCHNEIDER  SIGNATURE: David A. Schneider

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

TREATMENT SUGGESTED

BIOREMEDIATION SHOULD BE UTILIZED ON LARGE COBBLE/PEBBLE BEACH
ADJACENT TO EL-100. SITE SHOULD BE REASSESSED AGAIN AFTER
SNOWMELT TO DETERMINE IF TREATMENT IS NECESSARY THERE.
TILLING THE BERM AT THE UITE/SITE BOUNDARY WILL INCREASE
THE EFFECTIVENESS OF THE BIOREMEDICATION AGENTS. REMAINDER
OF SUBDIV REQUIRES NO FURTHER TREATMENT.

ADEC NAME: Peter Montesano  SIGNATURE: Peter Montesano

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

TREATMENT SUGGESTED

LOCATIONS OF PIT 1, 2, 3 HAVE SURFACE OILING AMONG
BOULDER, LINEY SEDIMENTS, AND ROCK CRUSTS. THOSE AREAS ARE NOT
BIOREMEDIABLE BUT REQUIRE SOME HANDWASHING AND REMOVAL OF SURFACE
MUTUALS. THE PITS #1, #2 FILLED WITH INTERSTITIAL WATER WITH DBR
OIL ON IT.

THE BEACH IS JUST SHY OF EL-100 ON THE DOCUMENT ON THE MAP
EXCEPT FOR A MITT PIT WHICH REQUIRED ORG OIL. NO OIL WERE NOT
FOUND. THIS BERM SHOULD BE TILLED AND DISCARDED. THE SAPRITIDE
SHOULD BE TILLED AFTER SNOWMELT TO UNCOVER THE EXTENT OF OILING. MORE
AGGRESSIVE FORMS OF TREATMENT SHOULD BE CONSIDERED IF OIL OILING IS NOT
CONSIDERED.

LAND MANAGER NAME: JANETTA PITCHARD  SIGNATURE: Janetta Pitchard

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

TREATMENT SUGGESTED

THE BURNER FLAT DOES NOT REQUIRE CLEAN-UP. THEурс
SAPPING OF SOIL AND PEAKS UP OF OILED FEDIR
SUGGESTED FOR THE OILED BEACH ACROSS THE
SHORE. THE BEACH ADJACENT TO EL-100 HAS A DEEPER
PERMEATION OF OIL AND A HIGHER RECREATIONAL USE
THAN THE OTHER BEACH. THEREFORE, I RECOMMEND TILLING
AND REMEDIATING THE MITT SITE AND SURF. SECOND,
THERE IS STILL OIL LEVANT THE WATER IN THE
## SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
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<td>PATTIES</td>
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<td>TARBALLS</td>
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<tr>
<td>FILM</td>
<td>X</td>
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</tbody>
</table>

**NO OIL**: Snow on W'st 2 beaches

**PAVEMENT**: H F S C sq. m by C

**PATTIES / TARBALLS**: C

**NEAR SHORE SHEEN?**: NO BR RW SL TL

**SLOPE**: Lang 10% Hang 20% Vert 20%

**WAVE EXPOSURE**: Low Med High

**OIL CATEGORY LENGTH**: W 13 m M 20 m N 385 m VL 2250 m NO 200 m

## 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>
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<td>12</td>
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<td>PIG/S</td>
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**Coil interval = 5 cm does not constitute subsurface oil**

**Reviewed**: 3/4 |

**Date**: 
EL-54-A CONTINUES AS HANG ROCK AND BOULDER SLOPE TO BOUNDARY OF EL-52-B

SEGMENT ST/EL-54
SUBDIVISION A
DATE 04 April 90

CHECKLIST
- Approx. Scale
- Seg/Sub Entry
- Oil Dis.
- Width
- Length
- % Cover
- Subsite Character
- Est. HML/WL
- SSL
- Profile Location(s)
- Profile(s)
- Pt Location(s)
- Photo Location(s)

LEGEND
- Case - No Subsurface Oil
- Case - Subsurface Oil
- CT/C
  Continuous Distribution
- CT/P
  Soker Distribution
- CT/IP
  Patchy Distribution
- CT/V
  Spotted Distribution

Oil Character Length (m): AP PO CV CT 65 ST 800 MS PT TB 1805 NO 200
SHORELINE ECOLOGICAL SUMMARY

Segment ST  ELOY  Subdivision  A  Date (mo/day/yr)  April 4 1990

Time (24 hr)  1300 - NVD  Biologist  Jim RAEY  Length  2870 m

(A) Substrate type and % of segments:
(1) Bedrock  20  (2) Boulder  70  (3) Cobble  6  (4) Pebble  2  (5) Sand  5  (6) Silt

(B) Overall % cover of biota (% of segment): Dense  30  Moderate  55  Low  15

(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 (E)

### BARNACLES

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<th>Rare</th>
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### MYTILUS

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### GASTROPODS

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### FUCUS

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Wildlife Observations/ General Comments:

- Bald Eagles - 3
- Ravens - 3
- Oyster Tracks - 1
- Merganser - 3
- Unknown Duck - 1
- Glaucous Gull - 3

Ecological Considerations:

1) EEL GRASS BED LIKELY ARE PRESENT ALONG PART OF THIS SUBDIVISION.
2) HERRING SPawning IN THIS AREA MAY BE DISTURBED BY HEAVY BOAT TRAFFIC.
3) DOLPHIN USE AREA
4) OTHER SENSITIVITIES NOT AFFECTED
ECOSY - A
START 1300
STOP 1440 +6→42

1. General Comments

1) MOST OF THE SUBDIVISION IS COMPRISED BY HIGH ANGLE CLIFFS
WITHIN THE WESTERN ARM OF NORTHWEST BAY. EXPOSURE TO SURF FOR
THIS PORTION OF THE SEGMENT IS LOW. TOWARDS THE OUTER END OF
THE BAY & OUTSIDE TOWARDS THE NW, THE EXPOSURE IS MODERATE
TO HIGH, & BEACHES OR COBBLES & PEBBLES ARE FOUND ON THE SEGMENT.

2) OVERALL, THE ABUNDANCES OF BIONTA WERE MODERATE, EXCEPT
FOR FUCUS, WHICH GENERALLY WAS DENSE. THE DENSITIES OF INVERTEBRATES
(MUSSELS, BARNACLES, GAUFROPOS), VARIED BETWEEN EXPOSED & PROTECTED
SHORES BEING MODERATE ON PROTECTED SHORES AND MORE DENSE ON
EXPOSED SITES. COBBLE/PEBBLE BEACHES, ESPECIALLY ON SHIELDED SHORES,
WAS RARE OR NO BIONTA.

II. MAJOR SPECIES

A. BARNACLES - PROTECTED SHORES - MODERATE TO DENSE SPAT, WITH MODERATE
JUVENILES AND ADULTS, MOSTLY BALANUS GLAUROCA.

B. MYTICUS - SPAT WERE OCCASIONALLY DENSE IN PATCHES ALONG
SHIELDED SHORES, BUT GENERALLY WERE MODERATE TO SPARSE. ON EXPOSED
HEADLAND PROTRUSIONS, SPAT, JUVENILES AND SMALL ADULTS WERE DENSE, PARTICULAR
NEAR BEACH 3.

C. GAUFROPOS

1) PERIWINKLES - LITTORINA WAS MODERATELY ABUNDANT, BUT PATCHY
2) WHELKS - MODERATE TO SPARSE ON MOST BEACHES
3) LIMPETS - MODERATE ON MOST BEACHES, OCCASIONALLY DENSE

D. FUCUS - GENERALLY DENSE IN THE MID ZONE TO LOW ZONE, ESPECIALLY ALONG
SHIELDED SHORES.
III. Species List

Major Species

1) Marine Plants

A. DIATOMS/BLUE GREEN ALGAE D12
B. GREEN ALGAE - CHLOROPHYTA
   Dictyosolen/Lacera/Acrosiphonia D12
   Ulva M12
   Urospora M25
C. RED ALGAE - RHODOPHYTA
   Porphyra - S12
   Petrocelis - S12
   Rhodomela larix - M12
   Rhodymenia palmata - M12
D. BROWN ALGAE - PHAEOPHYTA
   Alaria pulchra - M12
   Fucus distichus - D123
   Laminaria spp. - M12
   Hildenbrandia - M12
   Phalina spp. - S12

2) Animals

A. Barnacles
   Chthamalus dalli * M12
   Balanus glandula * M12
   Semibalanus cariosus * M12
B. Hermit Crabs - Pachycheles * M25
C. Anemones - S2-3
D. Mussels - Mytilus edulis * M12
E. Snails
   Littorina scutulata M12
   L. littorea - M25
   Nucella lamellosa S12
   N. limaria M12
F. Limpets
   Lottia digitalis S12
   T. Scutum - M23
G. Sea Stars
   Pycnopodia - M312
   Echinasteris - M25
   Pisaster ochraceus S12
MINOR SPECIES

1. PLANTS
   a) GREEN ALGAE - CHLOROPHYTA
      Cladophora M 12
      Enteromorpha M 123
   b) RED ALGAE - RHODOPHYTA:
      Bossiella S 12
      Calliarthron S 12
      Corallina S 12
      Endocladia S 12
      Halosaccion glandiforme M 12
      Irisnea sp. M 12
      Lithothamnion - M 12
      monesporangia platyphylla? M 12
      Microcladia/Procladia S 12
      Mastocarpus R 12
      Cryptophragmus S 12
   c) BROWN ALGAE:
      Costaria M 12
      Sympodium M 123

2. ANIMALS
   a) WORMS
      Nematode spp. S 23
      Platynereis H P R 23
      Polychaeta
         Scoloplos M 23 At
         Serpula S 12
         Cucumaria R 12
         Nereis R 12
   b) MOLLUSCA
      a) Snails/Limpets
         Tellinidae spp. S 23 A
         Littorina saxatilis S 12
         Tellina flammans S 12
         Siphonaria sp. M 123 A
   b) CRAYS
      Toninella lineata S 12
      T. australis S 12
      Katharina tenuis T A M 12

3. SEA STING
   Orthocodium R 12

4. SCALLOPS - Pedolaemus spp S 1

5. ANEMONES
   Anthopleura xanthogrammica
   A. artemesia R 12 A
   Erythraea S 12 A
   Tealia crassicornis S 12

6. CRABS
   Hemigrapsus oregonensis R T 3
   *Acantho临海ia/Nephropsus S

7. BRACHYURAS - Schizopodana S 23

8. BEECH HEAPS - Stagnula S 12

9. FISH - Phycodone M 12 A
   Cottine C S 12 A
"Missing Species"?

Most of the beaches have clam shells on them, including scallops (Chlamys spp.), cockles (Cercoedum spp.), Macoma spp., Steamer Clams (Protothaca spp.), and Bitter Clams (Saccidina spp.).

I found no juveniles or live adults on any of the beaches, although juveniles of some (Protothaca staminea, Helcilla anthica, Macoma spp.) have been found on nearby beaches.

V Oil Effects on Beaches —

Protected sites within the bay are more oiled than those outside the bay. Oil coating was found on under boulders and cobbles that sheared when disturbed by turning rocks. Oil was present under rocks, but less so where oiling was heavier.
XXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

EL-54

Patchy film UITZ

EL-54-A
2870 m

UITZ 1-2m wide, 220m long sta
M-UITZ 2-3m wide patchy film

Map Key: PWS-1370
Name: C. Dillon
Date: 4/4/90
Date Entered:
SHORELINE EVALUATION

SEGMENT ST/ EL-55 SUBDIVISION A (1 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
6U Recreation: Tent sites (6/1 to 9/15)
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 biota and substrate.
Ensure that there is no disturbance of tide pools.

SHPO SIGNATURE: [Signature] DATE: 4/28/90

OILING CATEGORIZATION:
Wide___m: Medium___m: Narrow___m: V.Light___m: No Oil___m
Subsurface Oil Observed: Yes___X___ No___ Maximum Depth 7 cm

RECOMMENDATIONS:
____No Treatment Recommended  _____Snare/Absorbent Booms
____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 cover and subsurface oil in areas shown on attached sketch map. Work should be conducted between 6/16 and 8/14 due to herring and deer constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/26/90
ADEC John Barlow
EXXON Allen Rice
NOAA Gary Peltier
USCG Kenneth Renner

FOSC: [Signature] DATE: 5-12-90
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 Esther 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.
   6. 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.
   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 600m
   horizontal and 300m vertical distance from haulouts.
   3O, 3Q 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. 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 (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)
   7HH Finfish harvesting
   7I Deer harvesting (8/15 to 2/25)
   7JJ Invertebrate harvesting
   For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
I concur with both parties' comments below. The beach of this small island could be improved with a minimum expenditure of man hours by a small work crew. Impact/traffic in the intertidal zone should be minimized as much as possible by the work crew during clean up.

Subdivision A contains tide pools and other areas of rich/healthy intertidal life. The oiling is extremely stable with the exception of the SE corner where a light silver sheen was noted. In this area a small crew could effectively scrub, scrape, and remove contaminated beach materials. Additionally, coated rock scattered around the Island is scrape/scrubbable. The Island is a Dames and Moore study site and should also be considered of high recreational value.

I concur with ADEC and would stress the importance of maintaining the intertidal life by utilizing a small crew after manual clean up.
OG C. DILLON ___________________ USCG D. SCHNEIDER ___________________ SEGMENT ST/EL-56
BIO T. BARRY ___________________ LAND REP. ___________________ FRITCHARD ___________________ SUBDIVISION A (1 of 3)
EXXON A. SNORK ___________________ ADEC ___________________ WINTESAND ___________________ TIME 07:30 to 09:00
TEAM NO: __________ TIDE LEVEL: +4 to 0 DATE 03/30 90
ST. SUBDIVISION LENGTH: 361 m __________ Sun __________ Clouds __________ Fog __________ Rain __________ Snow
PLANS DESCRIPTION: __________ Grass __________ Forest __________ Rock __________ SURVEYED FROM: __________ Foot __________ Boat __________ Helo
SURFACE LEVEL: __________ Working Direction: W to E
SURFACE SEDIMENTS: R 70 % B 10 % C 5 % P 10 % G 5 % S 5 % M 2 % V 2 %
SLOPE: __________ Lang __________ Hang __________ Ven __________ WAVE EXPOSURE: __________ Low __________ Med __________ High
OIL CATEGORY LENGTH: W 0 m M 36 m N 30 m VL 80 m NO 211 m

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>TARBALLS</td>
<td>X</td>
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</tr>
<tr>
<td>FILM</td>
<td>X</td>
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<tr>
<td>NO OIL</td>
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</tbody>
</table>

**PAVEMENT:** 
- H | F | S | C sq. m by | cm |

**PATTIES / TARBALLS:** 
- C | BAGS |

**NEAR SHORE SHEEN:** 
- NO | BR | RW | SL | TL |

**OILED DEBRIS AMOUNT**
- LOGS
- VEGETATION
- TRASH
- DEBRIS

**DEBRIS COLLECTED**
- YES | NO

**OIL FILM COLOR ZONE**
- PAINTED | POND |

**PLANTS DESCRIPTION:** 
- Grass
- Forest
- Rock

**SURFACE OIL**

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<thead>
<tr>
<th>OILED</th>
<th>DEBRIS</th>
<th>AMOUNT</th>
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<td>LOGS</td>
<td>SM</td>
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<td>DEBRIS</td>
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**PHOTOGRAPHS:**
- Roll No. ST-6-1 |
- Frames 26-32 |

**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>
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<th>SUBSURFACE SEDIMENTS</th>
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<td>C/P/R</td>
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**COMMENTS:**
- SN quadrant of island has splatters of dark brown stain on bedrock on UITZ. P/G area at UITZ has VL stain and film to 5 cm depth. Rock face extending down toward shoreline has spotty coat and cover of dark brown oil on underside of outcrop and boulders at its base. The center of the island has a group of outcrops and boulders with cobbles/pebbles substrate on the UITZ. These have a patchy surface coat and penetrated substrate to 5 cm (pit 2). East side of island rock face has a broken coat and cover inside a crevice. All oiling is on interior of island.

**REVIEWED:** 
- PSH | DATE 3/15/76
SEGMENT ST/EL-55
SUBDIVISION A
DATE 30 APRIL 90

CHECKLIST
- N Arrow
- Approach Styke
- Rep/Side Entry
- Oil Drape
- Wash
- Length
- % Cover
- Substrate Character
- Est. HWL/WL
- ESL
- Profile Location(s)
- Profile(s)
- Plot Location(s)
- Plot Location(s)

LEGEND
1 A
Pt - No Subsurface Oil
2 A
Pt - Subsurface Oil
CT/C
Continuous Distribution
CT/D
Discrete Distribution
CT/P
Patchy Distribution
CT/S
Splattered Distribution

Oil Vegetation
...:
- Plot location, direction, and number

OIL CHARACTER: Length (m): AP PO CV CT 3 A ST MS PT TB FL NO
**SHORELINE ECOLOGICAL SUMMARY**

Segment **ST/ELOSS**  
Subdivision **A**  
Date (mo/day/yr) **30 MAR 90**  
Date (mo/day/yr) **0730**  
Biologist **Jim Barry**  
Length **261 m**

**A)** Substrate type and % of segments:  
(1) Bedrock **10**  (2) Boulder **10**  (3) Cobble **5**  (4) Pebble **15**  (5) Sand **6**  (6) Silt **5**

**B)** Overall % cover of biota (% of segment): Dense **80**  Moderate **20**  Low **0**

**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 (Z)

### BARNACLES

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<th>Rare</th>
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### FUCUS

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**Photographs:**  
Roll No. **5+6-1**  
Frames **23-33**

**Wildlife Observations/General Comments:**

1) Recovery evident in area  
2) Mussels, barnacles, sea stars, Note present juveniles  
3) Bald eagle - adult & sub forest  
4) Ecological Considerations: 7 11, 2 M, 6 U  
5) Interference w/ herring spawn possible if overlapped w/ heavy boat traffic  
6) See 5 attached pages
ELOCC-A
START 0730
STOP 0930
TIDE window +2--2

BARNACLES - Balanus glandula
- Bedrock - steep cliffs
  - Dense (All stages, Adult (A), Juvenile (J), Spat (S))
    - mainly A, J, S, S
  - Mid zone - High Adult density (~15 mm diameter) on steep cliffs
    - dense
  - Low - similar high A. J. S. density with less O. F. S. on open faces
  - Low - sparse - moderate - due to high algal cover
- Boulder - some on bedrock
  - Dense - mid zone densities
    - Adult - rare to absent, Juvenile - scarce, Spat - sparse
  - Pebble - all rare

M. chilensis - saw no M. californianus
- Bedrock
  - High zone
    - Moderate abundance of Juvenile, Spat - not present in thallus cores, but
      common in thallus in some cores, especially J. Spat
      - dense, but somewhat and more dense - still moderate relative to a well
        developed mussel bed.
  - Low - Few mussels
- Boulder - some on bedrock - slightly lower density.
  - Cobble - sparse on some cobble in Hires to mid - Moderate overall
  - Pebbles - generally low, except high (dense) on patchy
    potentially mussel bed on landing beach.

Fucus
- High zone
  - Moderate Cover of Adults killed during treatment
  - or during winter.
    - Some individuals show evidence of regrowth from old thelles
  - Juveniles present in Dense Stands
  - Sproutings dense in patches & moderate in others (moderate)

Note: Euchema - Densest area for Fucus sproutings juveniles similar
  on Bedrock, Boulder, and sometime on large cobble.
  Fucus is rare or absent from Pebbles to small cobble.
Litorines
Littorina scutulata, L. obtusata
Habitat less important for differences in density; size, geometry
power on rubble, pebbles
High - High densities of Litorines - 40,000 - on bedrock, boulders
mid - Dense on all but pebbles, where they are moderate, due to
low - Moderate on all but pebbles

Nucula - Usually
latching, but occasionally dense in pools - mid to low

Limpets - Variable
present in mussels - moderate
rare on some rock faces
moderate on other
highest densities in mid to upper tide level

---

Other Species

Tide Pools - Low Zone (potential pooling area for oil)
- Sea stars abundant
  Pyenopodia (Sunflower Star)
  Orthasterias
  Demeasterias (Leather Star)
  Lots of juvenile Sunflower Stars
- Anemones
  Actinia equina
  Tealia Grassicorns
  Eplaxis spp.
  Anthopleura xanthogrammica
  Anthopleura artemisia
- Hermit Crabs - moderate to sparse under rocks
- Peanut worms - occasional under rocks (Phascolosoma spp.)
- Nudibranchs - Armingi californica
- Moon Snail Egg Case found on beach
Algae

HIGH ZONE
- Petroselis
- Diatom Films, Filamentous
- Selachophorus
- Ulva
- Unknown Filamentous
- Cladophora?
- Ralfisia
- < Fucus

MID ZONE
- Fucus Distichos
- Caulophyllis / Rhodymentia?
- Rhodomela
- Scytosiphon
- Ulva
- Enteromorpha

LOW ZONE
- Halosaccion
- Fucus
- Ulva
- Ralfsia

MISC. COMMENTS
- This little island is fairly clean. Sediments (under boulders and cobble) have greater numbers of species and densities than E2056.

WILDLIFE
- Sea Lion - offshore
- Sea Otter -?
- Bald Eagle - 1 over forest
<table>
<thead>
<tr>
<th>Segment</th>
<th>Sensitivities</th>
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<tbody>
<tr>
<td>ELOSS1</td>
<td>7 m</td>
<td>Herring</td>
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<td>ELOSS2</td>
<td>6 m</td>
<td>Anchorage, Tent/dye, Special</td>
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<td>- Small Island</td>
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**ELOSS-A**

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<tr>
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<td>High-Mid</td>
<td>Moderate to Spary Low</td>
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<tr>
<td>Damp, mid to low</td>
<td>AJ</td>
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**ELOSS-A**

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**Littorians**

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**RARE LIMPETS**

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**Sparse Pergunious**

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**Less Oil Here**

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**7 Skolithes, Upera**

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**7 Green Slime**

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<tr>
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</tr>
<tr>
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**ELOSS-A**

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<tr>
<td>Vicinity of Pfi</td>
<td>Dense - Marine Life</td>
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<tr>
<td>Near shore</td>
<td>Juveniles</td>
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<tr>
<td>U.S. Navy</td>
<td>Juveniles spread</td>
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<tr>
<td>Near shore</td>
<td>Marine Life as far north as rock walls</td>
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<tr>
<td>Near shore</td>
<td>Marine Life U.S. Navy</td>
</tr>
</tbody>
</table>
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M  Herring Spawning  NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

71I  Subsistence: Deer Harvesting  Closed to bioremediation and spot washing after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unexplored biota and substrate. Do not disturb or flush pollutants into tide pools.

TAG APPROVAL DATE  5/29/90
ADEC  ART WEINER  DATE
EXXON  ART WEINER
NOAA  FOSQ
USCG  DANIEL

Prepared By:  ANDER MAYER  DATE  5/28/90
ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/EL-55  Subd.: A  Site: 1  Date: 8/4/90 1990

Conditions Observed: Persistent bleeding of black mobile oil, coats/cover on bedrock in sheltered areas.

Followup Recommendations: AREA OF SUBSURFACE OIL NEEDS TO BE MANUALLY TILLED AND BLACK MOBILE OIL MOPPED UP WITH POM-POMS. COATS/COVERS ON BEDROCK IN SHELTERED AREAS SHOULD BE NOTED AND IF PRESENT NEXT YEAR SHOULD BE REMOVED. AFTER OIL IS REMOVED CUSTOM BLEND NEEDS TO BE APPLIED.

Completed by Pickup Crew: [ ] YES [X] NO

USCG Interim: Wesley Ghormley

Commerc: Areas where pits were dug filled with black mobile oil. Pom-poms were used by ASAP to absorb oil in pits dug. Coats/cover are a concern if still present in 1991. Removal will be recommended.

USCG Interim: Roy Sotelo

NOAA Interim: Art Weisberg

Mobile oil must be totally removed.

This is an isolated incident and should be a low priority.

Land Rep: John Ebel

Comments: Due to rapid tide distances, visual surveys failed to determine the extent of QP oil. Pits should be excavated horizontally & vertically across the tide zone to adequately locate oil for removal.
ASAP TAG REVIEW SHEET

Segment: E155  Subd: A  Site: 1  Date: 1/16/90

Priority For Addressing In 1990

- HIGH
- MEDIUM
- LOW

Treatment Recommended: NTR

Recommendation Sheet - IDs
Isolated subsurface mobile oil.

Priority Site For Reassessment In 1991

- YES  NO  - YES  NO  - YES  NO  - YES  NO

NOAA  PADEC  EXXON  LAND MGR

TAG 13 AUG

Manual trap sponge up PO.

Low Priority
SEGMENT AS/ 55  SUBDIVISION: A  SITE: 1  DATE 8-4-90
JSCG /NOAA PSI  Leo Bershalm, USCG  Leo Bershalm
NAME  Art Weiner  SIGNATURE  Art Weiner

☒ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
  TO EVALUATE CUSTOM-BLEND TREATMENT
  TO EVALUATE PERSISTENCE OF COATS ON VERTICAL SURFACES THAT HAVE NOT
  BEEN TREATED.

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
  To evaluate follow up treatment. Coats/covers with
  spruce needles are a concern. They are very noticeable
  in sheltered areas. If still present in 1991 Removal
  will be recommended.

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
  I concur w/ NOAA, USCG and ADEC.

☒ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
  The amount of oil remaining is questionable so this site should
  be reassessed in '91 but not as a priority.
# ASAP SHORELINE OILING SUMMARY

**TEAM NO.** ASAP #2  
**EXXON SOTELLO**  
**ADEC CHANEY**  
**DATE AUG 4, 1990**  
**TOTAL EST LENGTH OF SHORELINE SURVEYED:** 65 m

<table>
<thead>
<tr>
<th>SURFACE OIL</th>
<th>SITE 1</th>
<th>SURFACE OIL</th>
<th>SITE 2</th>
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**EST. SITE LENGTH:** 55

## SUBSURFACE OIL

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<th>CLEAN BELOW (Y/N)</th>
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**COMMENTS:** Area around pit 6 was originally listed as OP but ASAP only observed a rainbow film in the area. In the vicinity of pits 1 and 2, fresh looking black oil flowed into the pits along with groundwater. Subsurface...
SHORELINE EVALUATION

SEGMENT ST/EL-55 SUBDIVISION B (2 OF 3) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
6U Recreation: Tent sites (6/1 to 9/15)
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 biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/28/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 14 m: V.Light 0 m: No Oil 110 m
Subsurface Oil Observed: Yes X No Maximum Depth 22+ cm

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

COMMENTS: Recommend manual pick up of oiled vegetation, tar balls and bioremediation of areas with coat, cover or subsurface oil. Work should be conducted between 6/16 and 8/14 due to ecological constraints.

TAG COMMENTS: RAISE RUN TO BCO IN AREAS OF TP 6,7,8.
MONITORS TO ASSESS SUITABILITY DURING TREATMENT.

TAG APPROVAL DATE: 4/16/90
ADEC [Signature] DATE: 5-5-90
EXXON [Signature] DATE: [Signature]
NOAA [Signature] DATE: [Signature]
USCG [Signature] DATE: [Signature]
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.

1B
SMnon - moult - try auburn P/1 to S/15

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 6/1)

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

1H
Remote release site

1I
Gill net area (5/7 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 AOF&G for specific dates, locations and constraints.

2A
Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact AOF&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 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 (5/1 to 9/1)
Active Bald Eagle nests (5/1 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
Anchorages (5/1 to 9/15)

6V
Forest Service cabins (5/1 to 9/15)

6X
Lodge (5/1 to 9/15)

6Y
Special use destination

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

7H
Finfish harvesting

7J
Shell harvesting (8/15 to 2/28)

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

SEGMENT ST / EL-55-B  SUBDIVISION: 13  DATE 3/31/10

USCG NAME  DAVID A. SCHNEIDER SIGNATURE  DAVID A. SCHNEIDER

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

I concur strongly with both ADEC’s and the Land Manager’s position on this Subdivision. The recreational potential of the beach sites along this shoreline would be well served by the employment of the methods listed in their comments below.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

The proceeding report is an excellent depiction of Subdivision B, and I concur with the ADNR comments.

The various beaches of “B” require extremely labor intensive hand work to reach/remove the oiling. Hot water wands are locally appropriate for the E corner of Beach 3, which is in the most need of treatment. Bioremediation after consideration of other treatment methods.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

The three possible and visible beaches are ideal for bioremediation. Beach 3 has a potential for high recreational value. This beach should be tested, if possible, to remove subsurface oil and bioremediated. SUT was covered with sawdust and should be evaluated when it dries. Any solid vegetation should be removed. Tar spots burned manually.
SHORELINE OILING SUMMARY

BIO: J. BARRY
LAND REP: I. FITZPARK

EXXON & SNORK
AEC & F. WINTERANGE

TEAM NO.: 6

DATE: 03/30/89

EST. SUBDIVISION LENGTH: 515 m

UPLANDS DESCRIPTION: [ ] Grass [ ] Forest [ ] Rock

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

WORKING DIRECTION: E to W

SURFACE SEDIMENTS: R 40% B 40% C 15% P 4% G 1% S 0% M 0% V 0%

SLOPE: Lang 40% Hang 50% Vert 10%

WAVE EXPOSURE: [ ] Low [ ] Med [ ] High

OIL CATEGORY LENGTH: W 40 m M 10 m N 100 m V 130 m NO 335 m

SURFACE OIL

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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<tr>
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</table>

PAVEMENT: H [ ] F [ ] S [ ] sq. m by [ ] cm

PATTIES/TARBALLS: [ ] BAGS

NEAR SHORE SHEEN: [ ] NO BR RW [ ] TL

OILED DEBRIS | AMOUNT |
<table>
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Photographs:

Roll No. ________

Frames ________

SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (CM)</th>
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Comments: Beach 1 - 12m long x 30 wide. Base of overhanging face rock at W. End of beach and underside of B/C on U/I/Z has a broken coating <3m wide x 5-6m long. Rock-face has a narrow VL stain swash 4-5m long. Pits 1 and 2 on U/I/Z. Pit 1 dug through 1m long x 1m wide coat on B/C surface sed. Pit 2 dug through same seds 1m below pit 1.

Page 1 of 4

REVIEWED O/H DATE 4/1/90
## Subsurface Oil (Continued)

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<tr>
<th>Pit No</th>
<th>Pit Depth (cm)</th>
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**Comments:** Beach 2 - 25m long x 35m wide. Broken coat 2-3m wide x 10m long across UIITZ at W. corner. Pit 3 dug here. Base of outcrop on W. side of beach has 1-2m wide broken coat and cover with incorporated small vegetation (spruce needles) for length of 5m at high tide level. Pit 4 is 5m W. of Pit 3. Bedrock outcrops and boulders on W. half of Beach has 3m by 3m broken coat/cover on UIITZ with 2-3cm penetration of pebble substrate. Steep B/C slope at extreme E. corner has 23m wide x 2m long coat/stain on UIITZ. Pit 5 dug here. Beach 3 - 50m wide x 100m long C/B beach with HANG B/R at E + W ends terminating into headlands. E-face rock to headlands has 100 m long x 1-2m wide broken coat/cover at high tide level. Back sides of outcrop/Boulders on MITZ has broken cover/coat. Pit 6 here UIITZ B/C (extends under snowline) has 10-12m wide x 20 m long broken cover/coat on surface B/C and 4cm penetration of pebble substrate. Small amount of oiled vegetation on MITZ and UIITZ.

**Reviewed:** 04/10

**Date:** 4/190
CHECKLIST
- N Amper
- Apprx. Scale
- Sunglass String
- Oil Dist.
- Width
- Length
- % Cover
- Subsurface Character
  - Ew.
  - HWL
  - SML
  - Profile Location(s)
  - Point(s)
  - PA Location(s)
  - Photo Location(s)

LEGEND
1 A
Pt. - Non Subsurface Oil
2 A
Pt. - Subsurface Oil

SKETCH MAP

NOTE: Oiling may spread near beaches 1-4 (April-May)

Frequent boat traffic may interfere

Oil Character Length (m): AP PO CV6 CH ST RL MS PT TB FL NO
COMMENTS: Beach 3 (cont'd) - W. corner of UITZ B/C/P has 3-4 m wide x 10 m long broken surface coat that possibly extends under snowline. Pits 7-8 dug here. Extreme E. corner face rock has <1 m wide x 15 m long broken coat of dull black and light brown oil on UITZ with VL film and silver sheen on surrounding B/C HANG slope.

Beach 4 - 25 m long x 30 m wide. UITZ has 8-10 m wide x 20 m long broken coat on surface and sides of B/C/R and patchy cover 4 cm saturated pebbles in substrate. Boulder slope at base of W. face rock has broken coat 3 m wide x 10 m long at UITZ with up to 4 cm penetration of pebble substrate. Tar splashes underneath and behind large boulders at base of W. cliff face. Tar spots are within patchy stain and broken coat along boulders. Final 75 m of subdivision is VEET/HANG rock with a narrow coat and stain in a broken band at the high tide level.
LEGEND

1A
Pit - No Subsurface Oil

2A
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/9
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Odor Vegetation

1
Photo location, direction, and number

SKETCH MAP

MANUAL PICKUP TARR BALLS

BIOREMEDIATION COAT OR SURFACE OIL

VI. broken stain and patchy coat

Beach 1

Beach 2

Beach 3

Beach 4

observation notes:

Harrying may spawn near beaches 1-4 (April-May)

Frequent boat traffic may interfere

Oil Character Length (ft): AP PO CV/19m CT 275 ST 25D US
SHORELINE ECOLOGICAL SUMMARY

Segment ST / E L OSE Subdivision B

Time (24 hr) 09:15 P  Biologist Barry

Date (mo/day/yr) 30 Nov 1990

515 m. length

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

(B) Overall % cover of biota (% of segment): Dense 70 Moderate 60 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 (€)

### BARNACLES

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### GASTROPODS

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### FUCUS

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Wildlife Observations/ General Comments:
- Bass - 8
- Cod - 1
- Clam - 2
- River otter - Track
- Bear - Track

Ecological Considerations: 7 11, 2 M, 6 U

**USE CAUTION DURING HERRING SPawning** - **FREquent BOAT TRAFFIC MAY INTERFERE**
START 0910
END 1230
TIDE -2 → +4

MAJOR SPECIES - comments in addition to data sheet

**Barnacles**

- Generally dense *Balanus glandula*
- Most juveniles - few large live adults
- Dense to moderate in some low zone sites where spat & juveniles present on open space.
- Obvious on bedrock
- Under surface on boulder areas.

**Oil Related Distribution**

Barnacles seem to settle & grow adjacent to, but not on, weathered oil (coast)

**Mytilus - m. edulis**

- This subdivision has moderate densities overall, but occasionally very dense stands of small to mid-sized *m. edulis*
- Spat (*mussels < 5 mm) are often abundant (dense) in aggregations of juveniles/adults.

**Distribution much patchier than barnacles, *P. vulnus*** or *Littorina***

- Cobble beaches have very few or no *Mytilus*

**Gastropods**

- Generally includes *Littorina* spp (*L. scutulata*, *L. littorea*), *Nucella* spp, *Trochus*
- *Littorina* - generally abundant throughout intertidal, somewhat less in upper zone.
- *Littorina* - generally abundant throughout intertidal, somewhat less in upper zone.
- *Littorina* - generally abundant throughout intertidal, somewhat less in upper zone.
- *Littorina* - generally abundant throughout intertidal, somewhat less in upper zone.
- *Egg cases were found for *Littorina***
**Fucus**

- IN THE HIGH ZONE IN PARTICULAR, FUCUS SHOWS EVIDENCE OF MORTALITY, PROBABLY RELATED TO OIL CLEANING TREATMENTS OR OIL CONTAMINATION.
- THE BULK HOLLOW "ROOTS" OF MANY PLANTS ARE WITHERED. SOME SHOW SIGNS OF REGENERATION.
- MIDDLE TIDE FUCUS IS THE MOST DENSE AND HAS THE GREATEST AMOUNT OF SETTLEMENT OR NEW INDIVIDUALS.

**OTHER INTERTIDAL SPECIES**

**ALGAE**
- General algal zonation was similar to ELOS-1. See its list of species.
- The low to mid zone: cobble beaches often are covered by microscopic green algae (diatoms, filamentous chlorophyta).

**ANIMALS**

1) Animal life in this subdivision was rich in the low zone compared to ELOS-6.
- Cobble boulder habitats in low zones have several species of crabs, worms, snails, anemones, fish, and sea stars.
- Groups not observed include brittlestars and clams.

Specie
- crab spp A
- - B
- - C
- Hermit Crab - Paguridae
- worms
  - SIRIDOIS
  - SERRA
  - GLYCERIDAE?
- a fish
  - PEELEDBACK (PHOLIDAE?)
- sea stars
  - Pycnopodia
  - Solaster
  - Dermoaster
  - Pisaster
  - Ophaster

2) Most in exposed microhabitats: Pycnopodia & Dermasterias were dense (~1/m² in some areas) (all ~15-30 cm).
WILDLIFE OBSERVATIONS

REYNOS - 2
GLACIOUS GULL - 1 adult flew over
? ALCID
RIVER OTTER TRACKS - ABOVE BEACH
SEA LION
DEER TRACKS

ECOLOGICAL COMMENTS

1) Several species, including focus species, show signs of recovery
   BARNACLES, MUUSELS, SEA STARS, LITTORINE SNAILS, LIMPETS, EUPUS
   (ROCKWEEED)

2) Some adult LIMPETS & CHITONS were found in this sector
   KATHARINA TUNCATA
| ELOSSE- B  |  | ELOSSE-B  |
|-----------|  |          |
| Time 0910 |  | Grounds improved |
|          |  | Moderate recruit |
|          |  | Occupants - collected |
|          |  | Beach, cliff area |
|          |  | Dead tree / fallen trees |
|          |  | Arrangement and tree |
|          |  | Marine recruitment |
|          |  | Low zone |
|          |  | Pycnopodia (10 cm dia.) |
|          |  | Arrangement |
|          |  | Moderate Forest Spacing |
|          |  | More adults on Boulder |
|          |  | Myrionia 5T-6-8 |
|          |  | #35 Pycnopodia on head |
|          |  | Boulder |
|          |  | Dead adults - branches |
|          |  | 6 mm / Brown stems |
|          |  | 0 Myrionia |
|          |  | Sparsely spaced / regrowth |
|          |  | Moderate openings |

- Cliff to 5
- YM oil tree cover on boulders
- Some recruitment nearby
- Generally heavy drift
- Sparse / moderate / low
- O Myrionia
- Fucus - algae
- Low zone
- 6 mm / Brown stems
- Sparsely spaced / regrowth
- O Myrionia
- Moderate openings
Towards N
Moderate Mytilus
> Limpets, Barnacles, Chromis

35 -> Focus
36 -> " accommodation

Tidal creeks

Birds
- Raven
- Glaucous Gull
- ? Accio

Time 1044

Moderate to Mytilus, A. sp., S. sp.
> 7 Barnacles 1/5

LargeEels

Chitons (Tonicella?)
on rock

Croconabatidae
7 Callipodium
Cladophora

GreenChains
Barnacles
Patches of Green Crust
Zebra
High 2 Retrocoelus

Next Beach to N
Cobble - Somewide
<table>
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<tr>
<th>ELO55-B</th>
<th>ELO55-B</th>
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<tbody>
<tr>
<td><strong>Collected</strong> A couple snails on wall</td>
<td>Bedrock in Core</td>
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<tr>
<td>Some - no anthills though</td>
<td>&gt; Celerina {s}</td>
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<tr>
<td>in cave - except</td>
<td>for graduate A</td>
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<tr>
<td>on large boulders/harden</td>
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<tr>
<td>WORM</td>
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<tr>
<td>RAVEN</td>
<td>Unconfirmed Grace Shad</td>
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<tr>
<td>OTTER TRACKS</td>
<td>&gt; Cadophora/J? Antellicia spp B</td>
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<tr>
<td>BEETLE</td>
<td>Collected</td>
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<td>SEA LION</td>
<td>mid zone</td>
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<td>31</td>
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<td>BAY SHORE</td>
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<td>ROCK</td>
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<tr>
<td><strong>30)</strong> VICINITY of 30</td>
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<tr>
<td>LOW TIDE BEACH</td>
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<tr>
<td>GREEN SAMP (Zonation?)</td>
<td></td>
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<tr>
<td>on cobbles</td>
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<tr>
<td>29</td>
<td>KATHARINA IN CODE</td>
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<tr>
<td>28</td>
<td>ACTINIUM LIKE ANEMONE</td>
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**Note:** Several small Adals. 4 or more.
**ELOSS-B**

<table>
<thead>
<tr>
<th>28</th>
<th>Fucus, polyps/record. /</th>
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<tr>
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<td>Septophyta</td>
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**Next Cave:**

- **High nutrient G Al**
- **B, G, M, F**

**Poults Fu - Spence**

**700W - L. Scutata**

- Collected a Gastropod killing a bromada

**Green Shells Above**

**Boulders Field to N:**

- Slime on Gown m for
- Bromica (87), Kelp, etc.

**Mytilus, Lithotoma**

**Conchita**

- Ceratosoma, Mytilus, Calama, Lithotoma
- No Fucus this HLV

---

**ELOSS-B**

**Blew Trough seen 2x**

- **Pou** - MIO - MIN
- **> Parvulus**
- **> Ruscus**
- **> Kuphira**
- **> Heteronema**
  - pr. dense aggregation + egg masses

**Photo**

**2P - poor in ginger/stonewall**

**Small ELOSS-B**

1230
SHORELINE EVALUATION

SEGMENT ST/ EL-55  SUBDIVISION C (3 OF 3)  DATE  4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M  Herring spawning (4/1 to 6/15)
6U  Recreation: Tent sites (6/1 to 9/15)
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 biota and substrate.

SHPO SIGNATURE:  DATE:  4/20/90

OILING CATEGORIZATION:
Wide 0 m:  Medium 20 m:  Narrow 11 m:  V. Light 524 m:  No Oil 0 m
Subsurface Oil Observed:  Yes X  No  Maximum Depth 15+ cm

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 coat area and subsurface oil. Work
should be conducted after 6/15 based on herring constraints.

TAG COMMENTS:
Field monitors to assess presence of tarballs/spot and need for pickup.

TAG APPROVAL DATE:  4/4/90
ADEC  EXXON  NOAA  USCG
STAN BURKE  BARRY EARL  GARY PETROW  KEVIN WRIGHT
DATE:  5-9-90
FOSC:  L  DETER:  5-9-90
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
Esther Hatchery release (4/15 to 6/1)

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

1F
Seward 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 (5/7 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 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 (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 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 (8/1 to 9/15)

6V
Anchorages (9/1 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

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  EL-55 - C  SUBDIVISION: C  DATE 3/31/90

USCG
NAME DAVID A. SCHNEIDER  SIGNATURE  David A. Schneider

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
90% of this subdivision consists of high angle to vertical rock cliff faces with several small boulder/rubble slides that extend into the intertidal zone. Due to the very light nature of the narrow band of oil coat/stain, its limited distribution, and its high exposure to storm/surge action, I recommend that no treatment be attempted here. Bioremediation techniques are inappropriate in this instance.

ADEC
NAME Peter Montesano  SIGNATURE  Peter Montesano

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS None of subdivision C is appropriate for bioremediation. The oiling on the east Boulder beach is not easily accessible, but should be considered worthy of treatment. The oiled pocket to the west land of C has oil covered gravel trapped on/between beachrock lith that could be removed by a crew of 4-5 in days time.

LAND MANAGER
NAME JANETTA Pritchard  SIGNATURE Janetta Pritchard

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
The majority of this subdivision has a patchy, stain/foil band. Some tar spots were found and could be manually removed. The buildings in this vicinity are not of high recreational value and do not warrant removal/clean-up. Some shearing may take place without the benefit of additional cleaning.
SHORELINE OILING SUMMARY

OG: C. DILLON
USCG: D. SCHNEIDER
SEGMENT ST; EL-55
BIO: J. BARRY
LAND REP: J. FELTHAM
SUBDIVISION: C (8.0 FT)
EXXON: A. SPo0K
ADEC: P. MONTESANO
TIME: 12:45 to 19:30
TEAM NO.: 6
TIDE LEVEL: +6 to +9
DATE: 6/30/90
EST. SUBDIVISION LENGTH: 5.15 m
UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
WORKING DIRECTION: E to W
SLOPE: Long 10% □ Hang 65% □ Vert. 25%
WAVE EXPOSURE: ☐ Low ☐ Med ☐ High
SURFACE OIL

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<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>TARBALLS</td>
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PAVEMENT: H F S ☐ sq. m by ☐ or
PATTIES / TARBALLS ☐ BAGS
NEAR SHORE SHEEN? ☐ BR RW SL TL
OILED DEBRIS AMOUNT
Logs ☐ MD ☐ LG
Vegetation ☐ YES ☐ NO
Trash ☐ YES ☐ NO
Debris ☐ YES ☐ NO
BAGS ☐ YES ☐ NO
Photographs:
Roll No. ☐
Frames ☐

SUBSURFACE OIL

<table>
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<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED DEBRIS</th>
<th>OILED OIL</th>
<th>OILED SAND</th>
<th>SUB OIL</th>
<th>SUB FILM</th>
<th>SUB STAIN</th>
<th>PATTERNS</th>
<th>OILED AMOUNT</th>
<th>DEBRIS COLLECTED</th>
<th>DEBRIS TYPE</th>
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COMMENTS: SUBDIVISION C begins with 75 m long Hang headland rocks and Hang/Lang R/B slopes followed by a beach. The E corner of the beaches UITZ has a 1-2 m wide x 4 m long localized patch of coat/stain containing Pit 1. The center of the beach has a B/C UITZ with 2 m wide x 8 m long patchy stain and tar spots. W. end of B/C UITZ has 2-3 m wide x 30 ft. long patchy stain/coat. Boulders at W. end of subdivision has a REVIEWED 04/4 DATE 4/11/90
4 ft wide x 3 m long patchy coat with 4 cm penetration.
SEGMENT ST/H - 55

SUBDIVISION C

DATE 30/1/30

CHECKLIST

- N Arose
- Appras, Scale
- Seg/Side Entry
- Oil Dbl
- Oil
- Length
- % Cover
- Substrate Character
- Est. HWL/VL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

- PT - No Subsurface Oil
- PT - Subsurface Oil
- CT/C
- CT/C-1
- CT/C-2
- CT/C-3
- Broken Distribution
- Patchy Distribution
- Splashed Distribution

Cited Vegetation

- Photo location, direction, and number

Oil Character Length (m): AP --- PO --- CV --- CT 272 ST 650 MS --- PT --- TB 8 MFL

BARRY/SCIENCE
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST  ELOSS Subdivision C Date (mo/day/yr) March 30 1990

Time (24 hr) 12:30-15:30 Biologist Barry

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

(B) Overall % cover of biota (% of segment): Dense 30 Moderate 60 Low 10

(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 (8)

**BARNACLES**

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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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Wildlife Observations/General Comments:

7.11 2M 6L

Ecological Considerations: 7.11, 2M, 6L

1) Interference w/ herring spawn possible if heavy boat traffic exists.
MAJOR SPECIES - comments augmenting data sheet

BARNACLES - Balanus sp. prominent
- spat found on most surfaces with bare rock.
- adults (>1-1.5 cm) RE DENSE on many rock cliffs; more than extension 1996

MUTILUS
- Boulder areas & cliffs at South End have high densities of mutillus in crevices. Most are small adults, juvenile and spat. Some (~10%?) are these
- under boulders, mutillus is less dense, but present
- these sites have high % dead mussels

GASTROPODS
- littorina (periwinkles) common and the most abundant gastropod
- Littorina scutulata, L. setosa = most abundant in boulder & cobble areas, under rocks
- eggs masses present

- LIMPETS
  - adults and juveniles present, but sparse

- WHELKS
  - Nucella, sparse

FUCCUS
- Most of subdivision has dense cover of adults and sporlings.
- Evidence of regrowth from withered individuals
- Lower zones (underwater) appear to have dense to moderate cover of fucus.
OTHER SPECIES

Few direct observations were made over most of exposed bedrock cliff. General appearance similar to ELOSS-B.

ECOLOGICAL COMMENTS

- Oil damage appears no low relative to other sites, especially in middle to low zone.
- Although mussels haven't yet recruited, barnacles and mussels show evidence of recovery.
- I expect lower zones to recover more rapidly, at least for common species.

WILDLIFE

Barrow's Golden Eye
Sea Lion
Bald Eagle
<table>
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<tr>
<td>1230 -</td>
</tr>
<tr>
<td>70C</td>
</tr>
<tr>
<td>Boulder Beach -</td>
</tr>
<tr>
<td>Spans focus</td>
</tr>
<tr>
<td>rotate &amp; regrowth of focus</td>
</tr>
<tr>
<td>25 - Fucus regrowth + recruitment at bottom 1B</td>
</tr>
<tr>
<td>Benthic Field</td>
</tr>
<tr>
<td>Dense L. sitkana under -</td>
</tr>
<tr>
<td>dense barn</td>
</tr>
<tr>
<td>Can't see bottom</td>
</tr>
<tr>
<td>Looks like fucus</td>
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<td>----------</td>
</tr>
<tr>
<td>MOD 2022 -</td>
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<tr>
<td>Sparse Acetabularia</td>
</tr>
<tr>
<td>Some dead</td>
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<tr>
<td>Dense littorina</td>
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<tr>
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<tr>
<td>Upper Zone -</td>
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<td>Acetabularia unicolor</td>
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<td>Lot dead</td>
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<td>Some dead large adults</td>
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<td>Littorina</td>
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<tr>
<td>Balanus</td>
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<td>25 Spizes for Mytilus</td>
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ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-55 SUBDIVISION C (3 of 3)

WORK WINDOW

Bioremediation
Manual Raking

WORK BEFORE 8/15

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

5T Bald Eagle Nests

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision C work site.

7II Subsistence: Deer Harvesting

Closed to bioremediation and manual raking after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE

ADEC
EXXON
NOAA
USCG

Prepared By: _______ Date 6/1/90

FOSC

6/4/90

DATE 6-4-90
SHORELINE EVALUATION

SEGMENT ST/ EL-56        SUBDIVISION A (1 OF 4) DATE  3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15; Deer harvesting (7II) - 8/15 to 3/1; Recreation area (6U,Y) - 6/1 to 9/15; Restrict disturbance of dense to moderate unoiled fucus, barnacles, and gastropods where observed in the upper-lower intertidal zones.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE:        DATE: April 9, 1990

OILING CATEGORIZATION:

Wide___m: Medium___m: Narrow___m: V. Light___m: No Oil___m

Subsurface Oil Observed: Yes___ No___ Maximum Depth___

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of surface coat on pocket beach. (See Sketch map). Work recommended after 6/15/90 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE:  4/9/90

ADEC  JOHN BAUER  FOSC:  DATE:  4/9/90
EXXON  ANDY TEAL  FOSC:  DATE:  4/9/90
NOAA  Bu-l Wessett  Keeler  DATE:  4/9/90
USCG  G.A. REITER  DATE:  4/9/90
FIELD SHORELINE COMMENT SHEET

GMENT ST / EL 56 SUBDIVISION: A DATE 03/29/90

USCG NAME/F33 SCHNEIDER/lec VANDER/Signature [Signature]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

I suggest a work crew of small size utilize manual clean up methods throughout this subdivision to wipe and scrape the coating of oil residue along the exposed rock faces and boulders. Wire brushes and paint scrapers would be effective tools, with scraped surfaces wiped with pads following initial treatment. This coat has incorporated organic (straw needles). Removal will improve aesthetics.

ADEC I suggest manual clean up by small crew with materials to wipe area.

NAME/ Michele Baer Signature [Signature]...

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments Subdivision A is a combination of Rock faces and boulders/Cobbles over varying fine sediments. Hot water/meth and/or manual scrubbing is appropriate for the faces. Bio-remediation is totally appropriate, not only to follow other removal attempts. The oil is in and around the boulders/ Cobbles with shallow and patchy saturation in the fine sediments. Saturation is apparent in sand on patches with penetration found of 1-5cm. Occasional silver sheen formed on small pools trapped between boulders. An abundant band of feces striping lies along the rock headlands and boulder fields of this segment.

LAND MANAGER
NAME/ Dan LOGAN/Signature [Signature]...

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments Cancer with Coast head recommendation for treatment. Also recommend bio-remediation of the boulder/cobble beach.
SHORELINE OILING SUMMARY


BIO: Frank / Barry, LAND REPS. J. Postkard / Legal, SUB DIVISION. A (104)

ON: J. Tanio / A. Stow, ADEC. M. Bats / Clouds, TIME: 08/10 to 11:30

M NO.: 5/6, TIDE LEVEL: 12' to +3', DATE: 03/19/90

EST. SUBDIVISION LENGTH: 225 m / 150, Sun-Clouds, Fog-Rain-Snow

UPLANDS DESCRIPTION: Grass, Forest, Rock

SURVEYED FROM: Foot-Boat-Helicopter

SURFACE SEDIMENTS: R 50% B 30% C 15% P 10% G 5% S % M % V %

SLOPE: Lang % Hang % Ven 30% WAVE EXPOSURE: Low-Med-High

OIL CATEGORY LENGTH: W 25 m M 17 m N 260 m V L m NO. m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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PAVEMENT: H F S____ sq. m by____ cm

PATTIES / TAR BALLS _______ BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

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<td>Debris</td>
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Photographs:

Roll No. ST6-1
Frames 6-7

SUBSURFACE OIL

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COMMENTS

Occasional stains on rock and occasional sheens on pools in crevices.

Oiled interval in pit no. 1 does not constitute subsurface oil.

Page 1 of 4

REVIEWED BY _____ DATE 3/31/90
SHORELINE ECOLOGICAL SUMMARY
Segment ST_E 1056 Subdivision A Date (mo/day/yr) 3-29-90
Biologist Jim Barry

SHORELINE ECOLOGICAL SUMMARY
Segment ST_E 1056 Subdivision A Date (mo/day/yr) 3-29-90
Biologist Jim Barry

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 30 (3) Cobble 20 (4) Pebble 0 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 75 Moderate 25 Low 0

(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)

Photographs:
Roll No. ST-6-1
Frames 1-8

Not Present

Wildlife Observations/General Comments:
Sea Otter - Adult 1 - Kittiwake
Bald Eagle - Adult 2 - Gull
Harbor Seal - Adult 4 - Pigeon guillemot
River Otter - 1

Ecological Considerations:
7/11 Deer Harvesting 2 No special problems
2/4 Herring Spawn Except potential impact to herring spawn
6/4-7/4 Recreation
Algal Observations

Low Zone
Halosaccion - juveniles - sparse
Rhodymenia spp.? - adults, juveniles - dense
Ulva - moderate
Rhodomela lanata - moderate
Tecus - dense
Goniopeltis? - dense

m. Aquanotaria

Mid Zone - similar to low zone, but decrease in most of
and more?

Diatom / blue green / Entomophora c. other - green slimy
Kaffra - dense
Lithothamnion (spore)

High Zone -

Petrocelis
Kaffra
+ Others

Decvets
Lottia spp. (collisella) -
Pandalus spp. - 1 m low zone
Nucella lamellosa - dense in small and mid zone posts
OTHER COMMUNITY

- Heavy Petroclus cover in high

2) Algae

- High

- Petroclus parva
- Raftsia spp.
- Syntrophomon spp.

MITZ

- Fucus distichus
- Rhodomela lana
- Monostroma

WILDLIFE OBSERVATIONS

BIRDS

- Bald Eagle - 1 Adult flying over forest above site
- Kittiwake - 1
- Pelagic Cormorant - 1 Diving nearshore
- Gull (Herring?) - 1 flyby
- Pigeon Guillemot - 4 on water/FLYBY
- Ravens - 4 flying by
- Bufflehead - 2 on water
- Common Loon - 1 Diving
- White-Winged Scoter - 1

OTHER

- Sea Otter - 1 Adult Diving nearshore
- River Otter - 1 Tracks
- Harbor Seal - 1 - Diving

MORE LOW TIDAL COMMENTS

- Dense (~1-3 m²) Pycnopodia and Dermoasterias (Sea stars) in low zone; Pycnopodia are juveniles
- Several dead Sea Stars in low to upper zone (winter freeze?)
- Found 1 Orthasterias? dead in low zone
- Limpets: Few adult observed - Some boulder/bedrock with abundant juvenile - Most of mud lower densities
- Littorine egg cases and hya densities Adult. last in some
1st Assessment Attempt: Arrival time 8:10
Low tide @ 10:22

A. Procedure
1) Applied machine to team 5 to identify general biological, geomorphological, oil characteristics
2) Sampled & assessed examples of oil characteristics
3) Survey of intertidal zones

B. Results
1) Bedrock cliffs, boulders covered with dense vegetation
2) High Zone
   - Greatest concentration of oil
     - Barnacles
       - Low density of adults, moderate cover, dead shells
       - High - juveniles
       - Low - spat
   - Fucus
     - Rare in upper zone
     - Dense in upper mid/lower zone for adult/juveniles/spat
     - Appears to be lots of recent recruitment
     - Algae fairly dense adults
     - Cobble beach has only moderate cover of A, JU, SPAT = A, J, S

   - Mytilus
     - Found only 2 small (≤10 mm) Mytilus in subdivision A
     - They were in high zone

   - Gastropods
     - Adults only moderate to sparse
     - Juvenile & spat, much more abundant → dense
     - Cobble & rock fissures

3) Low Zone
   - Barnacles
     - Dense A, J, S on all but cobbles, where A, J, S were moderate
     - Lots of dead adults
   - Fucus - see high zone
   - Mytilus - more in zone
   - Gastropods: Littorina (sublittoral, sikkana) juveniles (J) and spat (S) fairly dense
   - Adults only moderate
   - Nassella lamellosa abundant (up to 10-20 m²)

4) Low Zone
   - Barnacles
     - Abundant on barnacles (A, J, S)
   - Fucus
     - High A (A, J, S)
   - Mytilus
     - Area covered
   - Gastropods: Some moderate adults, some egg cases on marks
SEGMENT ST/EL-56

SUBDIVISION A

DATE 3.39.90

CHECKLIST
- N Arrow
- Approx. Scale
- Substrat Entry
- Oil Date
- Well
- Length
- % Cover
- Substrat Character
- Est. Raw/Val
- ESL
- Profile Location(s)
- Profile(s)
- PH Location(s)
- Photo Location(s)

LEGEND
1 A
PH - No Substrat Oil
2 A
PH - Substrat Oil

CT/C Verrific Distribution
CT/B Broken Distribution
CT/P Pachy Distribution
CT/S Spladed Distribution

Oil Character Length (m): AP PO CV 50 GT 150 ST 101 MS PT TB FL 10 NO

Sketch Map

= indicate drainages

CT/B
M-197/2 Bullet hole with 5cm substrat oil, pebbles 8m wide by 25m long broken coat.

CT/B
Vertical and high angle bedrock with broken coat up to 1½ m wide.
face rock and boulder slopes with up to 1½ m wide band of patchy, thin coat and stain.

2M occurs along entire subtidal shorelines
711 along beaches

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

Map Key: PWS-139
Name: C. Dillon
Date: 3/29/90
Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ EL-56 SUBDIVISION B (2 OF 4) DATE 3/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15: Restrict disturbance of dense to moderate fucus in L and MITZ. and dense to moderate barnacles and gastropods in M and UIZZ.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE: [Signature] DATE: April 9, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 351 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No __ Maximum Depth 40 + cm

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

COMMENTS: Recommend restricted treatment in this subdivision as broken coating found on steep boulder beds is relatively inaccessible and placing crews on shoreline at this location would be hazardous. Please review Field Shoreline Comment Sheet. However those areas that are accessible should be spot washed as necessary, and bioremediated.

TAG COMMENTS: INIPOLE NOT APPROPRIATE DUE TO CONCENTRATION OF FINNA + ROSSA: COMPOST/GRANULAR FERTILIZER Recommended.

TAG APPROVAL DATE: 4/3/90
ADEC JOHN PAUL J. A. ALLEN
EXXON E. E. R. T. DATE: 4-19-90
NOAA U.S. COAST GUARD
USCG C.A. TAYLOR C.A. PETERSON
FIELD SHORELINE COMMENT SHEET

SEGMENT ST | EL56 | SUBDIVISION: | B | DATE 03/29/90

USCG NAME: AECKENDOPS/BS SCHNEIDER
SIGNATURE: AECKENDOPS/DAVID A. SCHNEIDER

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Suggest small crew manually clean boulders + rock face with hand tools.

I concur with Land Manager's and ADEC's comments below.

Peter Montesano
Michele Beer

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Sub-segment B is primarily a headland facing treatment recommended would be hot water wash combined w/manual scrubbing. Areas with B fields have visible penetration to 45cm between boulders. Access is difficult. Whole boulders cannot be removed due to concerns by the geologists w/vision. Area is very steep, bioremediation is inappropriate. Any attempt at treatment in these areas would be labor intensive and hazardous.

LAND MANAGER
NAME: JANET TA LOGAN
SIGNATURE: JANETTA PRITCHARD

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Manually treat oil coat by scraping and wire brush. Not tactical for bio-remediation.
Area could also be treated by hot water wash at high tide see Shoreline Oiling Summary.
**SHORELINE OILING SUMMARY**

**BIO.**: I. C. Dillon, J. Springer, USCG; M. Von Hofe-Schneider, SEGMENT ST1 E1-50
**LAND REP.**: T. P. Church-Taylor, ADEC; M. J. Baer, P. Mandone;

**TEAM NO.**: 1/6; **DATE**: 03/29/1996

**TIDE LEVEL**: +2 to +6;
**WEATHER**: Sun, Clouds, Fog, Rain, Snow

**SURFACE OIL**

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<thead>
<tr>
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<th>IMPACTED ZONES</th>
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**NOTES**

- Lower intertidal zone covered by incoming tide.
- Up to 3 m band of
  - Observed coating below large boulders.
  - Very slight, nearshore sheen (may be biological).
- Note from C. Dillon (3-31-96): Pit (*) was looking between large boulder not actually due to tidal action.
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/E056 Subdivision B Date (mo/day/yr) 3-29-90
Time (24 hr) 1130 - 1230 Biologist BARRY CRANK Length = 574' - 377 m

(A) Substrate type and % of segments:
- Bedrock 15
- Boulder 60
- Cobble 25
- Pebble 5
- Sand 5
- Silt

(B) Overall % cover of biota (% of segment): Dense 25 Moderate 50 Low 25

(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**

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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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Photographs: Roll No. ST-6-1 Frames 9, 10, 11, 12

Wildlife Observations/General Comments:
- Low tide (LITZ) observed from boat - high tide prevented direct observation

Ecological Considerations: 7 II 2 M 6 U Y
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Notes</th>
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<tr>
<td>11:30</td>
<td>Started</td>
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<tr>
<td></td>
<td>PPI - Zouch J. 70 calph/15 mins</td>
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<td>Suspect 2 branches (green)</td>
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<td>BALD eagle over trees in flight</td>
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<td>2 Pigs pull wood on water</td>
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<td>Still no algae drift</td>
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<tr>
<td></td>
<td>Slightly</td>
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<tr>
<td></td>
<td>No myna has been seen on wood</td>
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<tr>
<td></td>
<td>Subdivision 1230-1240 1930-1940</td>
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<td></td>
<td>Possible motion at either end of beach</td>
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<td>Cause was off oil on sand and water</td>
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<td></td>
<td>Spares worn to account</td>
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<tr>
<td></td>
<td>in upper sense. Low oil</td>
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<tr>
<td></td>
<td>Is thick, though some oil</td>
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<td>1 grain adjacent to other spots</td>
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<td>Few new bubbles were given</td>
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<td>New myna has on the beach</td>
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ECOSG-5

START 1130
STOP 1230
TIDE WINDOW +3' - +5'

HIGH ZONE
GREEN SLIME - (DIATOM/BLUE GREEN/ENTEROMORPHA/SYMSIPHON
FALCIS/OTHER?)
• Dense in mid to high zone
PETROSCELIS - dense in high zone
BARNACLES UNDERSIDE OR Boulders
OPEN SPACE W/ >> SPAF, HEALTHY ADULTS

W ZONE - DIRECT OBSERVATION NOT POSSIBLE

MIDDLE ZONE
FUCUS VISIBLE FROM SURFACE
ADULTS/SPERMATHECA

SPECIES LIST (INCOMPLETE)

FUCUS
RHODOMENIA SP
ENTEROMORPHA
ULVA
RAISER
PETROSCELIS
RHODOMELLA

BALANUS PACIFICUS
LOTIA SP
UTTERINA SCUTULATA
L. SIRKENA
NUCELLA SP.

WILDLIFE
BALD EAGLE - 1 ADULT - FLYING OVER FOREST
PIGEON Guillemot - 2 OVER WATER
KITTEN WAKE - 1 FLYING
Assessment Attempt  
Arrival time 8:10 Low tide @ 138.22
10:30

Procedure
1. Located peaking line and team 5 to identify general biological, geomorphological, oil characteristics
2. Landed & inspected examples of oil characteristics
3. Survey in intertidal zone

Results
1. Bedrock cliffs, boulders among w/ dense vegetation
2. High Zone
   - Greatest Concentration of Oil
      - Barnacles
         - Low density of adults - moderate cover dead shells
         - High - juveniles
         - Spot
      - Fucus
        - Rare in upper zone
        - Dense in mid and lower zone for adult/juvenile/spat
   - Appears to be lack of recent recruitment
   - Has fairly dense adults
   - Cobble beach has only moderate cover of Ad, Ju, spat = A, J, S
2. Mytilus
   - Found only 2 small (<10mm) Mytilus on subdivision A
   - They were in high zone
   - Gastropods
     - Adults only moderate to sparse
     - Juveniles & spat much more abundant — dense
     - Cots &WHIN legs
3. Mid Zone
   - Barnacles
      - Dense A, J, S on all but cobble, where A, J, S are moderate
       lots of dead adults
      - Fucus — see high zone
      - Mytilus — more in zone
      - Gastropods — Littorina (sentinals, sibarina), juveniles (J) and spat (S) fairly dense
        Adults only moderate
        Nucula lamellata abundant (up to 10-20 m2)
4. Low Zone
   - Barnacles
      - Abundant on low spots (A, J, S)
   - Fucus

Other Comments
7. Heavy Petrocelis cover in high
2. Algae
  High
  Petrocelis parva
  Raffira spp.
  Syctobacter spp.

MITZ
  Fucus distichus
  Rhodomela lanu
  Manostoma

LITZ
  Ulva

WILDLIFE OBSERVATIONS

BIRDS
  BALD EAGLE - 1 ADULT FLYING OVER FOREST ABOVE SITE
  KITTYWAKE - 1
  FELAGIC CORMORANT - 1 DIVING NEARSHORE
  GULL (HERRING?) - 1 FLY BY
  PIGEON GUINNESS - 4 ON WATER/FLY BY
  RAVENS - 4 FLYING BY
  BUFFLEHEAD - 2 ON WATER
  COMMON LOON - 1 DIVING
  WHITE WINGSO SOARER - 1

OTHER
  SEA OTTER - 1 ADULT DIVING NEARSHORE
  RIVER OTTER - 1 TRACKS
  HARBOR SEAL - 1 DIVING

MORE LOW INTERTIDAL COMPONENTS
- Dense (~1-3 m²) Pycnopodia and Dermasterias (Sea Stars)
  In Low Zone. Pycnopodia are juveniles
- Several dead Sea Stars in low to upper zone (winter freeze)
- Found 1 Orthasterias? dead in low zone
- LIMPETS: Few adults, observed - some boulders/bidrock with
  abundant ....
Algal Observations

Low Zone

Halosaccion - juveniles - sparse
Rhody menia spp.? - adults, juveniles - dense
Ulva - Moderate
Rhodomenia larae - Moderate
Fucus - dense
Gloiopelets? - Dense

Mid Zone - similar to low zone, but decreases most of
and more of
Diatom/blue green/Intonomorpha 10ften - green slim
Rafitia - dense
Lithothamion (sparse)

High Zone -

Petrocelis
Rafitia
- others

Decverts
Lotka spp. (Collisella) -
Pandalus spp. - 1 m low zone
Nucella lamellosa - dense in small and mid zone pools
SKETCH MAP

Broken cover/coat. Narrow (63 m). Oil coat/cover on substrate below boulders. ~ 75% oil cover.
face rock and boulder slopes with up to 1½ m wide band of patchy, thin coat and stain

2M occurs along entire subtidal shorelines
7II along beaches

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

Map Key: PWS-139
Name: C. Dibbord
Date: 3/29/90
Data Entered:
SEGMENT ST/ EL-56  SUBDIVISION C (3 OF 4)  DATE  3/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15; Deer harvesting (7II) - 8/15 to 3/1; Recreation area (6U, Y) - 6/1 to 9/15; Restrict disturbance of uncooked moderate fucus and barnacles in L and MITZ.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE:  DATE: 4-14-90

OILING CATEGORIZATION:
Wide 0 m: Medium 88 m: Narrow 77 m: V.Light 48 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 + cm

RECOMMENDATIONS:
X No 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: X Wands
_____ Tarmat: ____ Breakup  ____ Beach Cleaner
_____ Removal  X Other (see comments)

COMMENTS: The recommended treatment activities are as follows: 1) Spot washing with wands and sorbents in areas with continuous and broken cover. 2) Manual pickup of tar balls. 3) Manual tilling with hand tools followed by bioremediation in areas shown on sketch map. All work should be conducted after 6/15 based on constraints listed above.

TAG COMMENTS: USE MANUAL AGGREGATION IN CONJUNCTION WITH THE RISING TIDE TO REDUCE SAVING AND HELP IN REMOVAL OF SUBSURFACE OIL. SNARE BOOMS + ABSORBENTS SHOULD BE MAINTAINED AT THE WATER/SHORE INTERFACE. WORKING WITH THE RISING TIDE WILL HAVE TO BE EVALUATED ON SITE TO DETERMINE FEASIBILITY AND PRACTICABILITY. LOGS TO BE RE-EVALUATED DURING TREATMENT ACTIVITY.

TAG APPROVAL DATE: 4/12/90
ADEC  JOHN BROWN  DATE: 4-19-90
EXXON  ANNETT  FOSC:  DATE: 4-19-90
NOAA  Bill Weisent  DATE:
USCG  G.A. Reiter  DATE:
FIELD SHORELINE COMMENT SHEET

SEGMENT STI  EL 56  SUBDIVISION: C  DATE 03/29/90

JSCG
NAME: F. R. Schneider
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

TREATMENT SUGGESTED C SHOULD INCLUDE MANUAL METHODS IN CONJUNCTION WITH BIOREMEDIATION IN SECTIONS INDICATED IN EXON'S OP NOTES. DEBRIS IN AND ABOVE EL 141 AT STRANDLINE SHOULD BE RAKED, BAGGED, MANUAL WIPING AND COLLECTION OF OILED DEBRIS BELOW COBBLES AND BOULDERS SHOULD BE AUGMENTED BY TILLING, WASHING AND FLushing TECHNIQUES AS APPROPRIATE. LARGE COBBLE/BOULDER AREA IN WESTERN PART OF SUBDIVISION ALONG DRAINAGE ZONE SHOULD BE HAVE AFFECTED SUBFOOT TOPO ADDED TO TREATED ZONE.

ADEC
NAME: Peter Montesano
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

IN TERMS OF TREATMENT SUGGESTED, SUBDIVISION C CONTAINS AN AREA FREQUENTED BY HUNTERS, HAYES, ETC., AND IS ARTIFICIALLY UNACCEPTABLE FOR SHORELINE PURPOSES. THE MAJORITY OF THE VISIBLE OIL IS HIDDEN IN Boulders/cliffs: shade on pumice/gravel/beach in the center of C and the 20m of boulders, cobbles and gravel to the west requires the most extensive treatment. The pumice/gravel beach could be treated with a T/H, natural flushing, and bio remediation combination. The second beach is a candidate for possible removal of cobble to expose the finer sediments for debris to be followed by bio remediation.

LAND MANAGER
NAME: Day Logan/Patricia Parkish
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

A CABLE IS LOCATED IN THE UPLANDS ADJACENT TO THE PUMICE/GRAVEL BEACH IN THE CENTER OF THIS SUBDIVISION.

REVISION NO. 03/17/90
### SURFACE OIL

<table>
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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>ASPHALT PAVEMENT</td>
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<td>POOLED COVER</td>
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<td>COAT STAIN</td>
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<tr>
<td>MOUSSE PATTIES</td>
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<tr>
<td>TARBALLS FILM</td>
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### SUBSURFACE OIL

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<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>
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### COMMENTS

- Pit 1 - Layer of oiled peat at 15-25 cm.
- Pit 2 - OIL ends at clean peat layer.
- Pit 3 - Sheen in groundwater at 40 cm.
- Pit 4 - 70 cm snow, 20 cm oiled organic debris.
- Heavy oil near stream 1.
- Returned to beach at 19:05. Dig pits 5 and 6 in lower intertidal.

**REVIEWED 04H DATE 3/31/90**
**SHORELINE OILING SUMMARY (PAGE 2 of 2)**

**SEGMENT ST/EL-56 SUBDIVISION C (36x4)**

### SUBSURFACE OIL (CONTINUED)

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<th>OILED INTERVAL (cm-G)</th>
<th>OIL / FILM COLOR</th>
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**COMMENTS**

Left side at 19:25

Pit 5 had brown oil droplets floating on groundwater.
Pit 6 had 1mm dark brown floating product on groundwater.
Second visit worked tide from +4' to +3'.

Portion of storm berm was covered with snow.

**REVIEWED**

**DATE**
SEGMENT ST/EL-56
SUBDIVISION C
DATE 3/13/90

CHECKLIST
- N.Ames
- Approx. Scale
- Seg/Job Enquiry
- Oil Dist.
- Width
- Length
- % Cover
- Subsurface Character
- Ext. H.W./P.L.
- SEL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Plot Location(s)

LEGEND
1 A
- Pit - No Subsurface Oil

2 A
- Pit - Subsurface Oil

CT/C
- Complex Distribution

CT/S
- Section Distribution

CT/D
- Pantry Distribution

CT/3
- Splashed Distribution

Oil Vegetation
- Site location, direction, and number

Oil Character Length (m): AP PO CV H CT 150 ST MS PT TB 30 FL 10 NO
SHORELINE ECOLOGICAL SUMMARY

Segment ST: ELO56 Subdivision: C Date (mo/day/yr): 3-29-90

Time (24 hr): 1230-1330 Biologist: Barry Cranke Length: 300 m - 798 m

A) Substrate type and % of segments:
   (1) Bedrock (2) Boulder 50 (3) Cobble 20 (4) Pebble 25 (5) Sand 5 (6) Silt

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

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Wildlife Observations/General Comments:
River Otter Tracks Stream Bed
Duck Tracks
Strand Eagle
Plover Sandpiper

Ecological Considerations:
7 11 CAUTION DURING HERRING SPAWN
2 M
6 4

Potential interference with herring spawn.
29 Mar 1990

ELOSG - C

START 1230 - and 1730 - 1805
STEP 1330
TIDE WINDOW +6 → +9, +9 → +6
LOWEST EXPOSURE = Top 1/2 of mid zone

Headland at S end
Moderate Barnacles (adult, zoea, spat)
Fucus - dense mid to low (A, J)
    high zone - moderate Fucus J. sparr
Litorea - Sparse

> Green Shiner (see ELOSG-8)
> Spp N - unknown Red (Rhodoglossum?)

WILDLIFE
River Otter - tracks
Deer - tracks
Bald Eagle - 1
Pigeon Guillemot - 1

OTHER

> Green Sunfish (see ELOSG A) in high to mid

Tide level prevented direct observation of low to mid
zone. THESE ZONES OBSERVED FROM BOAT

> 2 streams - both w/ low fish potential

______________________________
Algal Observations

Low Zone

Halosaccion - juveniles - sparse
Rhody mena spp.? - adults, juveniles - dense
Ulva - moderate
Rhodomela lanix - moderate
Fucus - dense
Gloiopeolus? - Dense
m. Aquactaria

Mid Zone - Similar to low zone, but decrease in most of:

Rhodiolaria / blue green / diatoms / other - green alga

Lithothamnion (sparse)

High Zone - Fools
Petrocelis
Riftia
Others

Reeves
Lottia spp. (collisella) -
Pandalus spp. - 1 in low zone

Lusella lamellosa - dense in small and mid zone pools
Other Comments
1) Heavy Petroecus cover in high
2) Algae

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<th>LITZ</th>
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<td>Fucus distichus</td>
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<td>Rhodomenia</td>
<td>Monostroma</td>
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WILDLIFE OBSERVATIONS

BIRDS
- Bald Eagle - 1 Adult Flying over forest above site
- Kittywake - 1
- Pelagic Cormorant - 1 diving nearshore

- Gull (Herring?) - 1 Flyby
- Pigeon Guillemot - 4 on water / Flyby
- Ravens - 4 flying by
- Bufflehead - 2 on water
- Common Loon - 1 Diving
- White-winged Scoter - 1

OTHER
- Sea Otter - 1 Adult Diving Nearshore
- River Otter - 1 - Tracks
- Harbor Seal - 1 - Diving

---

MORE LOW INTERTIDAL COMMENTS
- Dense (~1-3 m²) Pycnopodia and Dermasterias (Sea stars) in Low Zone. Pycnopodia are juveniles
- Several dead Sea stars in low to upper zone (winter freeze?)
- Found 1 Orthasterias? dead in low zone
- Limpets: Few adults observed - some boulder/bedrock with abundant juveniles - most of much lower densities
- Chlorine egg cases and barnacles A3, A5, L4, 9 in some
1st Assessment Attempt: Arrival time 8:10 Low tide @ 154:22

2. Procedure
   1) Attached beechine of team 5 to identify general biological, geomorphological, oil
      characteristics
   2) Lamped & inspected examples of oil characteristics
   3) Survey of intertidal zones

3. Results
   1) Beach cliffs, small area w/ dense vegetation
   2) High Zone
      - General Concentration of Oil
      - Barnacles
         - Low density of adults - moderate covers dead shells
         - High - juveniles
         - Spot
      - Fucus
         - Cover in upper zone
         - Covering mid/lower zone for adults, juveniles, spot
         - Appears to be lots of recent recruitment
         - Also large, dense adults
         - Cobble beach has only moderate cover of adult, juveniles, spot = A, J, S
      - Mytilus
         - We found only 2 small (≤10 mm) Mytilus in Subdivision A
         - They were in high zone
      - Gastropods
         - Adults only moderate to sparse
         - Juveniles & Spat - much more abundant - dense
         - Ciliata (see Section 2)

3) Mid Zone
   - Barnacles
      - Dense A, J, S on all but cobbles, where A, J, S are moderate
      - Lots of dead adults
   - Fucus - see High Zone
   - Mytilus - more in zone
   - Gastropods - Litorina (subhasta, sibamina), juveniles (J) and spat (S) fairly dense
     Adults only moderate
     Hexamerula lamellata abundant (up to 10-20 m²)

4) Low Zone
   - Barnacles
      - Abundant on low spots (A, J, S)
   - Fucus
     - High density (A, J, S)
   - Mytilus - mixed
   - Gastropods - sparse - moderate adults - some egg cases or meeres
face rock and boulder slopes with up to 1½ m wide band of patchy, thin coat and stain

Vertical rock with narrow oil band
Boulders with narrow surface oil coat and broken subsurface oil coat
Boulders with narrow subsurface oil coat

Pebble beach with 20 cm penetration of LITZ berm and >30 cm penetration on LITZ

Subdivision Boundary

Map Key: PWS-139
Name: C. Dillon
Date: 3/29/90
Data Entered:
ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/5C  Subd.: C  Site:  Date: 8/5 1990

Conditions Observed: STORM BERM in the SITE contains moderate to high levels of "OR". Heavy or down to 30cm - Light or from 30-55cm. Pit in Note released a small amount of oil. Entire area has been treated with CUSTOMBLEND, but has not been tilted as per work order. Adjacent Boulder Fields have broken coats. Beach and uplands have exceptionally high recreation potential. Freshwater stream on West side of beach continues sheen that originated in Storm BERM.

Followup Recommendations: OIL in STORM BERM should be eliminated. The BERM could be relocated to the METZ. Washed & BERM/BERM. Rounding coats on boulders should be treated with INIPOL. ABSORBENT + CONTAINMENT BOOM should be utilized during relocation + washing procedures.

Completed by Pickup Crew: [ ] YES [ ] NO
Priority for Addressing in 1990: [ ] High [ ] Mod. [ ] Low

ADEC Wesly G. Minor
(name)

Comments: Storm berm needs to be relocated and possibly flushed retaining oil and other pollutants or sheens. Entire area is still heavily impacted with oil. It should be of high priority in remainder of 90 and also 91.

USCG Art Weiner
(name)

Comments: This site needs TAG evaluation.

NOAA USCOG Art Weiner
(name) PS Leo Bergstrom, USCG

Comments: The STORM BERM is quite POROUS and could be tilted to such an extent that all OIL BREAKOUTS are exposed to the accompanying INIPOL TRANSPORT. CUSTOMBLEND should be applied as the final treatment.

Land Rep. John Ebel
(signature)

Comments: Follow up, Recreational designated site. Maintain highest standards of bay treatment. Methods available: Drench w/ADEC. Remove all oil.
ASAP TAG REVIEW SHEET

Segment: EL56  Subd: C  Site:  
Date PRE-Review 11 AUG 90

Priority For Addressing In 1990

HIGH MEDIUM LOW NTR

Treatment Recommended: NTR — BASED ON AVAL INFO.

---

Only have OG/ASAP Recommend. Sheet

---

Priority Site For Reassessment In 1991

YES NO  YES NO  YES NO  YES NO

CG  ADEC  EXXON  LAND MGR

---

NO COMMENT SHEET

---

13 TAG AUG — TAG SITE VISIT SCHED for 14 AUG
**SURFACE OIL**

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<th>DISTRIBUTION</th>
<th>OILED ZONES</th>
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**SITE 1**

- **ASPHALT**
- **S.O.R.**
- **POOLED**
- **COVER**
- **COAT**
- **STAIN**
- **MOUSSE**
- **PATTIES/T.B.**
- **FILM**

**SITE 2**

**SITE 3**

**SUBSURFACE OIL**

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERNAL</th>
<th>CLEAN BELOW (Y/N)</th>
<th>PIT ZONE</th>
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**COMMENTS**

Original SSAT survey still provides a working document. All conditions observed on original survey were located. In addition, new areas of oiling were located. Storm berm seems to retain the majority of the subsurface oil present.

**ROLL No.**

12

**FRAMES**

12

**PHOTOGRAPHS:**

ASAP #2

**DISTRIBUTION**

- STORM BERM
- STORM BERM
- HEAVY OR 0-30
- LIGHT RAINBOW

**FILM ON SEDIMENT DIFFICULT TO DEHANDLE**
SHORELINE EVALUATION

SEGMENT ST/ EL-56

SUBDIVISION D (4 OF 4)

DATE 3/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15; Restrict disturbing mytilus beds, barnacles and gastropods in M or UITZ, or unoiled fucus in MITZ.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

OILING CATEGORIZATION:

Wide 0 m: Medium 22 m: Narrow 339 m: V. Light 550 m: No Oil 0 m

Subsurface Oil Observed: Yes X No Maximum Depth 18 + cm

RECOMMENDATIONS:

X No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

Tarmat: Breakup

Removal

Snare/Absorbent Booms

Oil Snare (pom poms)

Absorbents (pads, rolls, etc)

Spot Washing: Wands

Beach Cleaner

Other (see comments)

COMMENTS: Recommend bioremediation in areas where broken coat found on pocket beaches (see sketch map). Work should be done after 6/15/90 based on constraints.

Avoid dense mussel areas when applying bioremediants.

Pickup oil and vegetation + tar patties.

Logs to be re-evaluated at times of treatment activity.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90

ADEC JOHN BAUER

EXXON ANTHONY BAUER

NOAA BU FISHER

USCG G. A. REITER
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  EL 56  SUBDIVISION:  D  DATE 03/29/90

USCG
NAME: David Schneider  SIGNATURE: David A. Schneider

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

I concur with suggested treatment described by land managers below.

Suggest manual cleaning of boulders + removal of debris.

ADEC
NAME: Michelle Baer  SIGNATURE: "Michelle Baer"

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Subdivision D is a combination of coated faces and B, C beaches with oiled shadows, similar to the outer subdivisions. Bio-remediation is locally appropriate, possibly to compliment a labor intensive hot water flood. Hot water or manual scrubbing is appropriate for the coated faces. Manual removal of TR is suggested on the beaches. A 2 M discontinuous band of mussels lies along most of the sub-segment. This is rare in the other sub-segments and should be considered in treatment recommendations.

LAND MANAGER
NAME: Dan Langan  SIGNATURE: "Dan Langan"

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

1/3 of sub-section should be treated with hot H2O wash.
Cobble and Boulder sections should be manually treated with wire brushes and scrapers.
Remove tarballs adjacent to beach areas.
Oiled logs and debris to be removed.
See diagram on Shoreline Oiling Summary.
**SHORELINE OILING SUMMARY**

**OG Dillon/Spencer** USCG Schneider/Handels SEGMENT: **EL-5C**

**BIO: Frank Barry** LAND REP: Louie/Phil Subdivision **D** (1974)

**EXXON Tomlin/Snook** ADEC: M. Boes/Monies R DATE: **03/29/94**

**TEAM NO.: 5/6** TIDE LEVEL: **M to +1** DATE: **03/29/90**

**EST. SUBDIVISION LENGTH:** 1400 m 9.24 H Sun Clouds Fog Rain Snow

**UPLANDS DESCRIPTION:** Grass Forest Rock

**SURVEYED FROM:** Foot **BOAT** Helo WORKING DIRECTION: **E to W**

**SURFACE SEDIMENTS:** R 70% B 20% C 8% P 2% G % S % M % V %

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

**WAVE EXPOSURE:** Low Med High

**OIL CATEGORY LENGTH:** W M M 503m N 550m V 528m 363

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**SURFACE OIL**

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

**PATTIES/TARBALLS** 2 BAGS

**NEAR SHORE SHEEN?** NO BR RW SL TL

**OILED DEBRIS**

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**DEBRIS COLLECTED**

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**Photographs:**

Roll No. **None (not enough light)**

Frames

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**SUBSURFACE OIL**

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**COMMENTS**

**REHEARD** 03/16 **DATE**
SHORELINE ECOLOGICAL SUMMARY

Segment ST  Eclose - Subdivision D  Date (mo/day/yr)  29 Mar 90

Substrate type and % of segments:
(1) Bedrock 7%, (2) Boulder 20%, (3) Cobble 8%, (4) Pebble 2%, (5) Sand 0%, (6) Silt 0%

Overall % cover of biota (% of segment): Dense 40%, Moderate 40%, Low 20%

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

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MYTILUS

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GASTROPODS

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FUCUS

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Wildlife Observations/General Comments:

could not view mid to low zone directly: Observations from surface: can't see barnacles, gastropods, pencils
Common Murres on Northwest Bay / white-winged Crossbills in trees
Pigeon Guillemot - X

Ecological Considerations: 7UL, 2M, 6UY - Potential Problem w/ frequent traffic nearshore during Herring spawn.

SEE ATTACHED PAGES
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<td>B(A,5)</td>
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Could see a lot of MITZ

and some about the same as these

Susan

Second Beach from South end of subdivision

MITZ -> MITZ Molecular Mytilus (10 - 40 mm TH)

Littorina

Fucus

Sparse dead adults, few juvenile

Collected algae, some inverts
CLOSE-D 29 mar 90

WILDLIFE OBSERVATIONS

Common Murre - Dining in Northwest Bay
Pigeon Guillemot - Y E#649

OTHER BIOTA

Dense filamentous algae in mid to high intertidal
(Enteromorpha, blue green algae ?, Spongiomorpha, diatom film ?)

Very low input densities throughout - likely related to

Fucus killed by cutting, hot water, or other treatments are
not showing evidence of regeneration by growth of some
individuals: Many areas showing dense recruitment of juveniles

Oiled rock has no barnacle recruitment (adjacent rock does)

Mytilus juveniles present in some areas under cobble, biscuit
with some oil.

* Greatest recruitment of molluscs located near outlet stream
  on cobble/pebble beaches

High percentage of dead barnacles (Adults) in many sites

_____

Time: 1805 - 1920 29 mar 90

TIDE WINDOW # + 6 - + 3 ft

Could not directly view most of middle intertidal
& all of low zone
Algal Observations

Low Zone
- *Halosaccion* - juveniles - sparse
- *Rhodymenia* spp.? - adults, juveniles - dense
- *Ulua* - moderate
- *Rhodomenia tenuis* - moderate
- *Fucus* - dense
- *Gloiopeplus?* - Dense
- *Agardhiella*

Mid Zone - similar to low zone, but decreases most of
and some of
- *Diatom* / *blue green* / *Cryptomonad* / other - green
- *Kalfassia* - dense
- *Lithothamnion* (spore)

Nineteen Zon - *Kati*
- *Gelidium*
- *Kalfassia*
+ Others

- *Barentia ssp.* (Collorella) -
- *Pandanus ssp.* - 1 m low zone
- *Mytilus lamellus* - dense in small and mid zone pools
Other Comments
- Very icterus cover in high

2) Algae
- Fucus parve
- Raifia spp
- Siphonophora spp

WILDLIFE OBSERVATIONS

BIRDS
- Bald Eagle - 1 Adult flying over forest above site
- KITTYWAKE - 1
- Pelagic Cormorant - 1 Diving nearshore
- Gull (Herring?) - 1 Flyby
- Pigeon Guillemot - 4 On water / Flyby
- Ravens - 4 Flying by
- Bufflehead - 2 On water
- Common Loon - 1 Diving
- White-winged Scoter - 1

OTHER
- Sea Otter - 1 Adult Diving nearshore
- River Otter - 1 Tracks
- Harbor Seal - 1 - Diving

MORE LOW (INTERTIDAL) COMMENTS
- Dense (~1-3 m²) Pycnopodia and Dermasterias (Sea stars) in low zone. Pycnopodia are juveniles.
- Several dead Sea Stars in low to upper zone (winter freeze).
- Found 1 Orthasterias? dead in low zone.
- Limpets: Few adults observed - Some boulders / bedrock with abundant juvenile - Most of much lower densities
- Littoraline reef grass is 1 / 2 to 2 / 3 of normal density.
Assessment Attempt 8:10 Low tide @ 18:38

1) Procedure
   - Raised deckline by team 5 to identify general biological, geomorphological, oil
     characteristics
   - Camped & inspected examples of oil characteristics
   - Survey of intertidal zone

2) Results
   - Seaweed, flowers, and algae were dense vegetation

3) High Zone
   - Greatest Concentration of Oil
   - Barnacles
     - Low density of adults
     - Moderate cover dead shells
     - High - juveniles
     - Spot
     - Fucus
       - Rare in open zone
       - Dense in open mud/sand zone for adult/juvenile/splot
       - Appears to be lot of recent recruitment
       - There fairly dense adults
       - Cobble beach has only moderate cover of adult/juvenile/splot
       - Spot = A, J, S
   - Bryozoans
     - Found only 2 small (≤10mm) Bryozoa on subdivision A
       - They were in high zone
   - Gastropods
     - Adults only moderate to sparse
     - Juvenile/Spot - much more abundant in dense
     - Cobbles & Action less

4) Mid Zone
   - Barnacles
     - Dense A, J, S on all but cobbles, where A, J, S were moderate
     - Lots of dead adults
   - Fucus - see High Zone
   - Bryozoa - more open
   - Gastropods
     - Lithophora (serizianum, sibania) juveniles (S) and spots of fairly dense
     - Adult only moderate
     - Uncollected barnacles abundant (up to 10-20 m²)

5) Low Zone
   - Barnacles
     - Abundant in low spots (A, J, S)
     - Fucus
       - High Zone (A, J, S)
     - Bryozoa - scarce
SKETCH MAP

Very light coat on cliffs
< 3m width & ≤10% cover

Recommended Bioremediation here

PIT #3

PIT #2

PIT #1

Broken coat 2-3m wide
Isolated spots of cover under boulders
Silver sheens in quiet pools
65% cover

Broken coat 1-1.5m on cliffs
65% cover

JH: JN

CHECKLIST

V N Buyers
V Decom Scale
V Depth
V Cl Dist.
V Wash
V Length
V J. Cover

Subsurface Character
V Ext. HWA/LWA
V Pollut
V Pit Location
V Profile Location

RECOMMENDED:

BIOREMEDIATION

Here

LEGEND

1 A
2 A

A - No Subsurface Oil
A - Subsurface Oil

CT/C
CT/B

Soil Distribution

Patchy Distribution

Splashed Distribution

Dead Vegetation

Photo location, direction, and number

Character Length (as): AP PO CV CT OT MB PT TB FL NO
face rock and boulder slopes with up to 1½ m wide band of patchy, thin coat and stairsteps

2M occurs along entire subtidal short lines
711 along beaches

Subdivision Boundary

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

EL-56

ADEC Segment Length: 1813m

Map Key: PWS-139
Name: C. Dillon
Date: 3/29/90
Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ EL-57 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
6U Recreation: Tent sites (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 uncoiled biota and substrate.

SHPO SIGNATURE: ___________ DATE: 4/20/90

OILING CATEGORIZATION:
Wide 94 m: Medium 111 m: Narrow 34 m: V.Light 0 m: No Oil 344 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: X Wands
X Tarmat: X Breakup ___ Removal
X* Removal

COMMENTS: Recommendations: hand tilling of areas shown on attached sketch map followed by bioremediation. Also recommend spot washing with wands and absorbents in areas shown on map. Work should be conducted after 6/1 based on above herring constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC ART WEATHERFORD
EXXON ___________
NOAA ___________
USCG ___________
FOSC: ___________ DATE: 4-26-90

TAG AUTHORIZATION: ___________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / EL - 57 SUBDIVISION: A DATE 04/04/90

USCG
NAME: AEC VandenHeul SIGNATURE: AEC VandenHeul

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS
I suggest a hot water wash & Bio. for the 30 x 70-80 M beach southern most in this section. The next beach section to the north needs Bio.

ADEC
NAME: Michele Baer SIGNATURE: Mb

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS
Beginning at the southern end of the Map, the 2 x 5 ft/p1 required tilling, then applying bio-reclamation to the patch of C.P. Further north in this segment is a section with several areas of coat & cover on top of the rocks and underneath to 60cm. This area is the worst of the beaches we've seen and I would consider high priority. Between 30m x 30m and 80m x 20m. Section 12 has the upper intertidal zone requires tilling to at least 60cm. Throughout, the area is very accessible and low exposure.

LAND MANAGER
NAME: Dan Leeman SIGNATURE: DLeeman

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS
This segment has several sites of CV throughout. Starting on the southern end of the segment, the first 80m x 30m CV/O should be treated with hot water wash. The 2m x 5m CV/P should be treated with fertilizer. The 30m - 5m x 20m - 80m x 4m CV/O patches should also be treated with hot water wash.

30
# SHORELINE OILING SUMMARY

**Date:** 01/04/90  
**Time:** 17:15 to 18:45

**Surveyed From:** Foot  
**Working Direction:** S to N

**Surface Sediments:**  
- R: 15%  
- B: 60%  
- C: 20%  
- P: 5%  
- G: 3%  
- S: 8%  
- M: 8%  
- V: 1%

**Slope:**  
- Lang: 40%  
- Hang: 50%  
- Ven: 10%

**Wave Exposure:**  
- Low  
- Med  
- High

**Est. Subdivision Length:** 654 m

**Upland Description:**  
- Grass  
- Forest  
- Rock  
- Pillow Lawn

## SURFACE OIL

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### Debris Collected

- Type: YES  
- Bags: 100

**Photographs:**  
- Roll No.: ST-5-3  
- Frames: 17-29

## SUBSURFACE OIL

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**Comments:** Graffiti carved in oil coat.

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**Reviewed:**  
**Date:** 4-7-90
SHORELINE ECOLOGICAL SUMMARY

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

me (24 hr)  T20  Tidal Zone
Biologist  Cank

Length L53.

Tide Height  +7 +3.5

(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 30  Moderate 10  Low 10

(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)

Photographs:
Roll No. 57-5-3
Frames 17, 18

BARNACLES

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Wildlife Observations/General Comments:
- Bald Eagles - Adults, flying, 1 in tree
- Heard Eagle screech in distance
- Most of LIIZ unexposed

Ecological Considerations:
- Seabird has low fauna in cobble
- Northern Beach has mod. fauna in cobble
- Although the overall biota on this substation is low on the rock ecoregion recruitment is moderate as is the biotic concentrations

711 - Deer Harvesting
2M - Herring Spawning
4U - Tent Sites
1V - Special Use Destination
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*Among Segments, hi concentration 3*
SHORELINE EVALUATION

SEGMENT ST/ EL-58 SUBDIVISION A (1 OF 4) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M  Herring spawning (4/1 to 6/15)
6Y  Recreation: Special use destination
7II Subsistence area: Deer harvesting
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled substrate and biota. Avoid dense mussel beds in intertidal zone.

SHPO SIGNATURE: Charles J. Adams DATE: 4/18/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 18.4 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No
Maximum Depth ______

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

COMMENTS: Recommend manual pick up of tar balls and bioremediation as shown on sketch map. Work should be conducted between 6/15 and 8/15 as a result of constraints.

TAG COMMENTS:
Monitor to check supra 1TZ. Snow covered during survey.

TAG APPROVAL DATE: 4/18/90
ADEC  John  DATE: 4-21-90
EXXON  Amy  DATE: 4-21-90
NOAA  Bredwell  DATE: 4-21-90
USCG  C. A.  DATE: 4-21-90
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 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 unveiled 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 for specific dates and locations.
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)
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)
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/26)
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  E 5/15  SUBDIVISION: A  DATE 03/30/90

USCG
NAME AEC Vandepels  SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
I concur with Land Manager, use caution not to step on mussels during cleaning/removal of tar balls.

ADEC
NAME Michele Baer  SIGNATURE Baer

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
The beginning of this section is steep R headland and work must be performed in the skiff. A rich algae mat lies in a band along the face in the LITZ. Manual hand scrubbing of the rock face is recommended. Depending on the thickness/consistency of the coat in the band, hot water washing should also be considered. The remaining segment is primarily R, B, X, a small amount of cobble. Oil was minimal through this area and cleaning could be accomplished through manual scraping, and pickup of tarballs.

LAND MANAGER
NAME Dan Logan  SIGNATURE Logan

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Manually scrape tar balls off boulder and rocks. Small patches of coat could be scraped off on rock face however 90% is stain. Most tar balls are located under large rocks. The rock face is a slippery hazardous area to work. The area should be worked at low tide and the crew should be briefed about not walking on mussels.

SUPRA TIDAL LEVEL WAS NOT SURVEYED DUE TO SNOW

☐
**SHORELINE OILING SUMMARY**

<table>
<thead>
<tr>
<th>J. Springer</th>
<th>USCG</th>
<th>R. Vonderer</th>
<th>SEGMENT ST/EL S-5</th>
<th>B</th>
<th>SEGMENT A (1of4)</th>
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<td>D. LeGuer</td>
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<td>T. Tepelin</td>
<td>ADEC</td>
<td>M. Azar</td>
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**SURFACE OIL**

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<th>OIL / FILM COLOR</th>
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<tr>
<td>FILM</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
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</table>

**SURFACE SEDIMENTS**

- R 40%
- B 60%
- C 0%
- P 0%
- G 0%
- S 0%
- M 0%
- V 0%
- D 0%

**SLOPE**

- Lang 70%
- Hang 30%
- Vert 0%

**WAVE EXPOSURE**

- Low
- Med
- High

**OIL CATEGORY**

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<tr>
<th>LENGTH</th>
<th>W</th>
<th>M</th>
<th>N</th>
<th>V</th>
<th>L</th>
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</tbody>
</table>

**PAVEMENT**

- H: 0 sq. m by 0 cm
- F: 0 sq. m by 0 cm
- S: 0 sq. m by 0 cm

**NEAR SHORE SHEEN?**

- NO
- BR
- RW
- SL
- TL

**DEBRIS COLLECTED**

- YES
- NO

**TYPE**

- Pom Pom

**PHOTOGRAPHS**

- Roll No. ST-5-1
- Frames 1, 25

**COMMENTS**

- No pits dug.
- Too many large boulders and intact bedrock.
- Few oily patches under boulders. Rare tarballs.
SEGMENT 5 - 52

DATE 3/30/90

CHECKLIST
- No Arrows
- Approx. Scale
- Seg/Sub End
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1
- No Subsurface Oil

2
- Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/SP
Patchy Distribution

CT/S
Splashed Distribution

Oil Vegetation

Photo Location, direction, and number

Oil Character Length (m): AP PO CV CT ST 80 MS PT TB FL NO 73
SHORELINE ECOLOGICAL SUMMARY

Date (mo/day/yr) 03/30/90

Tide Height: +2 to -1
Length - 50 m

(A) Substrate type and % of segments:
(1) Bedrock (40) (2) Boulder (20) (3) Cobble (40) (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 (O)

Wildlife Observations/General Comments:
1 Harbor Seal - Adult in water
2 Kittiwake - on water
1 Bald Eagle - Adult flying
1 Marbled Murrelet - on water, winter plumage
9 Crow - Flying
1 Magpie - in trees

See Attached Sheet

Ecological Considerations:

11 Deer harvesting
2 M - Herring Spawning
Additional Present Biota:

**MITZ - Filamentous Green Algae** - possible combination of several species including *Sporoospora* and *Urosperma*
- may also include Blue Greens and Diatoms
- *Phaeosiphon* and/or *Polysiphonia* may also be present with this cover.

- *Gloiopeitis*
- *Enteromorpha*
- *Rhodomela larix*
- *Halosaccion*

**LITZ - Several species of bladed reds; filamentous reds**
- *Enteromorpha*
- *Laminaria*
- *Pycnopodia sp.*
- *Dermasteria sp.*
- *Sepulchid*
- *Encrusting sponge*
- *Encrusting coralline*
- *Unknown clam*

**General Comments:**
- Vertical rock face with boulder beach/shoreline - boat surveyed
- Rich LITZ and upper subtidal
- LITZ/MITZ covered w/ an algae mat consisting of filamentous reds, greens, coating barnacles
- Approx. 30% barnacle mortality
- Low LITZ and upper subtidal dense bladed reds concentration.
- Herring spawn area, no spawning observed at this time.
- Gastropod concentration in LITZ may be low due to boat survey, unable to make visible confirmation in cracks.
Wide grain of cova with subsurface oil in supratidal zone.

Medium

Vertical rock

Subdivision A

Pebble, cobble beach

Boulder, cobble beach

Boulders

Rocks

Wave-cut rock with cliffs
SEGMENT ST/ EL-58     SUBDIVISION B     DATE: 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M     Herring spawning (4/1 to 6/15)
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 substrate and biota.

SHPO SIGNATURE: _____________________________    DATE: 4/18/90

OILING CATEGORIZATION:
Wide 0 m: Medium 38 m: Narrow 124 m: V.Light 586 m: No Oil 34 m
Subsurface Oil Observed: Yes X No Maximum Depth 45 cm

RECOMMENDATIONS:
X  No Treatment Recommended     X  Treatment Recommended
X  Manual Pickup
X  Bioremediation
X  Tarmat: Breakup
   Removal

Snare/Absorbent Booms
Oil Snares (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: Wands
Spot Washing: Beach Cleaner
Other (see comments)

COMMENTS: Recommend manual pick up of tar balls and debris and bioremediation of areas shown on sketch map. Work should be conducted between 6/15 and 8/15 based on above herring and deer constraints.

TAG COMMENTS: MONITORS TO ASSESS SUITZ DURING TREATMENT

TAG APPROVAL DATE: 4/18/90
ADEC  ___________________________    DATE: 4/22/90
EXXON  ___________________________    DATE: 4/22/90
NOAA  ___________________________    DATE: 4/22/90
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 Esther Hatchery release (4/15 to 6/1)
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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 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)
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. 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)
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)
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 / EL57 SUBDIVISION: B DATE 03/30/90

USCG NAME AEC Vandepeels SIGNATURE AEC Vandepeels

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

I suggest manual removal of tar balls and
filling of upper intertidal area. Then
bio.

ADEC NAME Michele Baer SIGNATURE Baer

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

The sub-segment is primarily exposed C & B beaches.
The natural cleaning process and a high amount of
fresh-water runoff has taken care of the majority of
the sub-segment; however, there are a few pockets that
need additional attention. Suggested cleanup methods
are handwiping of the A, manual removal of saturate
C + P in pockets, and burning of oiled logs.

LAND MANAGER

NAME Dan Logan SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

This beach has the potential for a camp/recreation site but does not
appear to be used for recreation at this time. I recommend that this
beach be treated by a combination of 2 treatments:
1) Remove tar balls manually
2) Till upper intertidal areas where oiling is indicated on sketch map with
light machinery (4-wheeler) to aerate to a depth of ~30cm. Then
apply fertilizer to increase bacteria growth.
3) Till/tro sites will require archaeological survey first.
SHORELINE OILING SUMMARY

J. Springer
USCG R. Vondels
SEGMENT ST EL 52

Exxon T. Tomblin
ADEC
SEGMENT ST EL 52

Team No.: 5
Tide Level: +1 to -1
Date: 03/13/90

Est. Subdivision Length: 562 m
Uplands Description: Grass, Forest, Rock
Surveyed From: Foot

Surface Sediments: R 20% B 40% P 30% G 7% S 3% M %
Slope: Lang 95% Hang 5% Vert
Wave Exposure: Low Med High

Oil Category Length: W 30 m M 70 m N 350 m V 160 m

Surf ace Oil

Character Distribution Oil / Film Color Impacted Zones

Asphalt Paved

Pooled

Cover

Coat

Stain

Mousse

Patties

Tarballs

Film

No Oil

Subsurface Oil

Pit No. Pit Depth Oil Interval Oil / Film Color Pit Zone Anal Subsurface Sediments

Comments Pebbles and boulders on beach are rounded.
Storm berm covered with snow.
### SUBSURFACE OIL (CONTINUED)

<table>
<thead>
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<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>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
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**COMMENTS**
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST1657 Subdivision B Date (mo/day/yr) 03/30/90

Time (24 hr) 0830 - 1035 Biologist Crank Tide Height: -1 to -2 ft Length - 252 m

(A) Substrate type and % of segments:
   (1) Bedrock 5 (2) Boulder 20 (3) Cobble 35 (4) Pebble 30 (5) Sand 10 (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

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### MYTILUS

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Wildlife Observations/ General Comments:
- Sitka deer femur
- Deer and Bear tracks
- Gull - Flying
- Rar - Flying
- Rock outcrop only in MITZ; U1TZ
- See attached sheet

Ecological Considerations:
- Deer harvesting
- Herring spawn
- Tent Sites
- Special Area Destination
Additional Biota:
Rock Outcrop - Tidepools included

MITZ: Enteromorpha Nucella
Cladophora Halosaccion
Filamentous greens
Fucus stipes in heavy concentrations
Syosiphon

LITZ: Encrusting coralline
Opuntiella
Articulating coralline
Polychaete worm, unidentified
Anemones
Tidepool Sculpin
Serpulid
Urchin test
Odrothalia?

Cobble Beach -

LITZ - Drift Nereocystis with Lepas pacifica

MITZ - Clam shells
 Sepunculid worm
 Black-tip (?) Crab - juv.
 Pynopodia
 Salt H2O Eel - juv.
 Urchin Test
 Sea Star Exoskeleton
 Nucella

General Comments:
- Subsection consists of cobble/pebble beach with 2 major rock outcroppings.
- Rock outcropping had several small tidepools.
- Tidepools had dense biota concentration.
- Fucus stipes although sparse throughout segment were in heavy concentrations along outcrops.
- Recruitment is high on outcrops for Balanus, Mytilus; Moderate for Fucus.
Wide void of cover with subsurface oil in supratidal zone.

Rocks

Wave-cut rock with cliffs

Medium

Boulders

Pebble cobble beach

Vertical rock

Boulder cobble beach

Map Key: PWS-141
Name: James Sprung
Date: 04/01/90
Date Entered:

EL-58

1999

ADEC Segment Length: 4445m

Wide Wide

Medium

Narrow

Very Light

0 100 200 300 400

0 100 200 300 400
SHORELINE EVALUATION

SEGMENT ST/EL-58 SUBDIVISION C (3 OF 4) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unaltered substrate and biota. Avoid dense mussel beds.

SHPO SIGNATURE: [Signature] DATE: 4/8/90

OILING CATEGORIZATION:

Wide 32 m: Medium 38 m: Narrow 477 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of tar balls and oil spill related debris. Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/15 based on constraints.

TAG / MANUALLY TILL IN AREA OF PITS AS INDICATED ON SKETCH PRIOR TO BIOREMEDIATION WHERE PECULABLE.

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90
ADEC JOHN BAUER [Signature] DATE: 4-22-90
EXXON [Signature] [Signature] FOSC: [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. Contact ADF&G Habitat Division prior
to treatment for permits.
1C Salmon fry nursery area (4/31 to 7/31)
1D Estherr 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 unciled 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)
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)
7HH Finfish harvesting
7II Deer harvesting (9/15 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/ EL 5%  SUBDIVISION: C  DATE 03/30/90

USCG
NAME AEC Vandepels  SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
I suggest cleaning 4m band on pebble/boulder beach by hand and wiping and turning rocks carefully due to large concentration of mussels.

ADEC
NAME Michele Brev  SIGNATURE [signature]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
The R headlands can be cleaned by manual scrubbing/scraping from a skiff. Hot water washing may be used in combination with the scrubbing for areas of heavy coating (i.e. cracks & crevices). A wide band of focus spotting inhabits the MITZ and should be considered in the selection process. On the B, C, & D beach the B should be hand wiped the upper oiled layer removed and the underlying sediment bioremediated. Filling is recommended, however the 30' scree line of the beach may limit this option, oiled logs should be burned.

LAND MANAGER
NAME Dan Logan  SIGNATURE [signature]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
1) Manual scrape tar from rock face where indicated on sketch map
2) Pebble/boulder beach treat 4m wide oil band by turning/tilling in hand tools (large concentration of mussels limit machinery) then apply fertilizer.

SUPRA TIDAL WAS NOT SURVEYED DUE TO SNOW
SHORELINE OILING SUMMARY

EST. SEGMENT STI: EL 576

DATE: 03/30/90

TIME: 10:35 to 11:35

TEAM NO.: 5

TIDE LEVEL: -1' to +1'

EST. SUBDIVISION LENGTH: 529 m

UPLANDS DESCRIPTION: □ Grass □ Forest □ Rock

SURVEYED FROM: □ Foot □ Boat □ Helo

WORKING DIRECTION: S to N

SURFACE OIL

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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PAVEMENT: H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? NO BR (RW) SL TL

OILED

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DEBRIS COLLECTED

YES □ NO □

TYPE Plastic bag

#BAGS 1

Photographs:

Roll No. S7-5-1
Frames 14, 15, 23

SUBSURFACE OIL

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PIT ZONE

AP: CP

SUBSURFACE SEDIMENTS

CP

PGSM

COMMENTS

Pit 1 - Brown Sheen on groundwater

David C

REVIEWED MHT DATE 4/3/90
SEGMENT ST/CL-5

SUBDIVISION C

DATE 03/13/60

CHECKLIST
- N Avens
- Approx. Scale
- Seg/Sub Boundary
- Oil Dis.
- Wells
- Liens
- % Cover
- Subsoil Character
- Est. HW/LWL
- BBL
- Profile Location(s)
- Photo(s)
- Plot Location(s)
- Pit - Proto

LEGEND
1
- No Subsurface Oil

2
- 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

LEGEND

Oil Character Length (m): AP PO CV OT 706 ST MS PT TO FL NO 223

Rake/Hard Till

Picnic Site/Maximum 800

Rake Face

Drainage

306
SHORELINE ECOLOGICAL SUMMARY

Segment ST 1 EL 5
Subdivision C
Date (mo/day/yr) 3/30/90
Time (24 hr) 1030 - 1130
Biologist C

(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 15 (3) Cobble 5 (4) Pebble 0 (5) Sand 0 (6) Silt 0

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

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Wildlife Observations/ General Comments:
Gull

Ecological Considerations:
7 11 - Deer Harvesting
2 M - Herring spawn
6 U - Tent Sites
6 Y - Special Area Destination
Date: 3/30/90  
Length: 173m  
Time: 1035 - 1130  
Tide Height: -1.5 ft

Additional Biota

Rock:
MIT2 - Filamentous Algae cover on barnacles  
     Sytiosiphon
LIT2 - Laminaria  
     Enteromorpha  
     Several bladed reds  
     Pycnopodia  
     Dermasteria  
     Sepulid  
     Evasteria

Boulder/Cobble Beach:

MIT2 - Nucella - Adults and egg cases  
     Littorina egg masses

LIT2 - Pycnopodia    Clam Shells  
     Dermasteria  
     Nucella  
     Reproductive filamentous red - Odonthalia?

General Comments -

- Greatest concentrations of mussels located near outlet stream
- High adult barnacle mortality
- Balanus scarring present
- Vertical Rock surveyed by boat - Gastropod concentrations may be reported lower than on land
- Cobble beach foot surveyed
Wide paid of cover with subsurface oil in supratidal Zone.

Vertical rock

Rocks

Wave-cut rock with cliffs

Boulders

Pebble, cobble beach

Medium

XXX Wide

/ / / / Medium

---- Narrow

TTTT Very Light

0000 No Oil
ASA FOLLOWUP RECOMMENDATIONS

Conditions Observed: Anaerobic sediments down to 35 cm+. Sediment profile indicates fine-grained material protected by heavy boulder armor. Several pits were dug, revealing heavy "or" and mobile oil. It appears that the boulder armor protected location and fine sediments are interacting to maintain a reservoir of subsurface oil that is not weathering. This oil would be resistant to bioremediation because of its concentration and low subsurface oil concentration.

Followup Recommendations:
1. Decision Tree Calls for TAG Evaluation.
2. Define extent and depth of subsurface reservoir.
3. Strip away armor, excise and remove oiled sediments w/ adequate containment.
4. Treat area with custom blend.
5. Replace armor.

Completed by Pickup Crew: 

Priority for Addressing in 1990: □ High    □ Mod.    □ Low

ADEC Wesley Ghormley Wesley Ghormley (signature)

USCG PSI Leo Bersono Leo Bersono (signature)

NOAA Act Werner Act Werner (signature)

Land Rep. John Ebel John Ebel (signature)

Comments:

Condition of subsurface oil is a great concern to ADEC. Highly recommend excavation of beach in 1990. Protect it from being exposed to a high-energy environment.

If any work is to be done on this site, it should first be reviewed by TAG - keeping in mind the location of the oil to be removed. Because of its inaccessibility, this should not be a high priority.

High tide mark did not reveal a serious spill.
ASAP TAG REVIEW SHEET

Segment: EL 58  Subd: C  Site: 1  Date: PRE-Review 11/26/90

Priority For Addressing In 1990

___ HIGH  ___ MEDIUM  ___ LOW  ___ NTR

Treatment Recommended: NTR — Based on Avail Info.

NO O & S SHEET / NO SKETCH

Priority Site For Reassessment In 1991

YES NO  YES NO  YES NO  YES NO
CG  NO  ADEC  NO  EXXON  NO  LAND MGR  NO

TAG 13/AV/90

NTR

4 m x 30 ft aromatic oil tank
High pressure next spring
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/FL-58  SUBDIVISION:  C  SITE:  1  DATE 8-6-90

USCG/NOAA P51 Leo Barsalona  Leo Barsalona
NAME  Art Weiner  SIGNATURE  Art Weiner

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
SUBSTANTIAL AMOUNT OF SUBSURFACE OIL IN ANAEROBIC ENVIRONMENT.
Physical conditions conducive to persistence.

ADEC
NAME  Wesley Gironley  SIGNATURE  Wesley Gironley

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Excavation of sub-surface anaerobic environment is
recommended for 1990. Reassessment necessary to evaluate
site after work is completed. Also, heavy black band 9 ft. x 60
up to 3m in width is very noticeable throughout to the
Eastern portion of site. Reassess this area to observe
Conditions after winter storm activity.

LAND MANAGER
NAME  Aldo Elde  SIGNATURE  Aldo Elde

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Evaluate marshland and beach profile after restoration techniques to
remove oil.

EIXXON
NAME  Roy Suttle  SIGNATURE  Roy Suttle

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Recommend the reassessment of the site in '91.
<table>
<thead>
<tr>
<th>SURFACE OIL</th>
<th>SITE 1</th>
<th></th>
<th>SITE 2</th>
<th></th>
<th>SITE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARACTER</td>
<td>DISTRIBUTION</td>
<td>OILED ZONES</td>
<td>DISTRIBUTION</td>
<td>OILED ZONES</td>
<td>DISTRIBUTION</td>
</tr>
<tr>
<td>ASPHALT</td>
<td>/C /B /P /S</td>
<td>SU UI MI LI</td>
<td>/C /B /P /S</td>
<td>SU UI MI LI</td>
<td>/C /B /P /S</td>
</tr>
<tr>
<td>S.O.R.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></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>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EST. SITE LENGTH</td>
<td>30 m</td>
<td></td>
<td></td>
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<td></td>
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</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>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

This pit had a pungent aroma. Several team members indicated that it was hydrogen sulfide and suspected anaerobic conditions. Several other "informal" pits were dug which did not have the same smell. It is probable that the condition is localized. No custombim was observed at this site.
SHORELINE EVALUATION

SEGMENT ST/ EL-58 SUBDIVISION D (4 OF 4) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
6Y Recreation: Special use destination
7III 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 biota and substrate.

SHPO SIGNATURE: Date: 4/18/90

OILING CATEGORIZATION:

- 47 m: Medium
- 0 m: Narrow
- 284 m: V.Light
- 0 m: No Oil
- 0 m: No Subsurface Oil
- Observed: Yes X No
- Maximum Depth: 30+ cm

RECOMMENDATIONS:

____ No Treatment Recommended
X Treatment Recommended

Snare/Absorbent Booms
Oil Snare (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommend manual pick up of tarballs and oil spill related debris. Bioremediate area shown on attached sketch map. Work should be conducted after 6/15 based on above herring constraints.

TAG COMMENTS: MONITORS TO ASSSS SUITABILITY DURING TREATMENT

TAG APPROVAL: 4/18/90
ADEC Date: 4/21/90
SFO Date: 4/21/90
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 uncolored 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 all traffic to essential minimum. No personnel within 400m 3/1 to 6/1. All 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 2/28)

Invertebrate harvesting

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

MENT ST / E L 58 SUBDIVISION: D DATE 03/30/90

USCG
NAME AEC Vandepeels SIGNATURE AEC Vandepeels

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
Suggest cleaning 15x25 m area around pit 3 by manually removing pebbles and wiping boulders.

ADEC
NAME Michele Baer SIGNATURE M Baer

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
A narrow 1 m band of stain exists on the R headland. Most of the problem area lies on the plateau following the headland. In this area, I recommend manual pick-up of AP, TB, and PT's, hand-wiping of the B's, and removal of the heavily saturated surface lying adjacent to the supratidal region. The remaining B's is 2F and should be bioremediated. During cleanup operations, caution should be used with the heavily populated band of fucus sporlings covering the front of the plateau.

LAND MANAGER
NAME Dan Logan SIGNATURE J. Logan

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
AT PIT 3 SITE REMOVE SMALL COBBLES AND SMALLER BY HANNA THEN HANNA WIPE BOULDERS AND LARGEST LEFT BEHIND. ALL WORK SHOULD BE DONE BY SMALL (710) SIZE CREW, ACCESS SHOULD BE SOUTH ONLY POINT TO AVOID GROWING IN IMMEDIATE AREA.

SUPRA TIDAL AREA NOT SURVEYED DUE TO SNOW

REV. NO. 04/21/90
**SHORELINE OILING SUMMARY**

**OG J. Springer** USCG, R. Vandepels SEGMENT 2/1230
**BIO P. Crand** LAND REP, D. Logan SUBDIVISION D

**TEAM NO.: 120  TIDE LEVEL: $+2' to +6'$**
**ST. SUBDIVISION LENGTH: 258.13'**
**UPLANDS DESCRIPTION: Grass, Forest, Rock**

**SURVEYED FROM:** Foot, Boat, Helo
**WORKING DIRECTION:** To

**SLOPE:** Lang 15%, Hang 40%, Vert 45%
**WAVE EXPOSURE:** Low, Med, High

**OIL CATEGORY LENGTH:** W 78.0 m M 10.0 m N 240.0 m V 0.0 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>
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</tr>
<tr>
<td>Pooled</td>
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</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
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<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 0 sq. m by 0 cm
**PATTIES / TARBALLS:** 4 BAGS

**NEAR SHORE SHEEN?** No
**BR RW SL TL**

**OILED SHEEN**

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

**DEBRIS COLLECTED** Yes / No

**TYPE**

**Photographs:**

Roll No. 53 - 5 - 1
Frames 1 - 2 - 21, 22

**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 OIL / FILM COLOR</th>
<th>OILED INTERVAL</th>
<th>OILED OIL / FILM COLOR</th>
<th>PIT ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>X</td>
<td>O 0.15</td>
<td>X</td>
<td></td>
<td></td>
<td>BCP</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>X</td>
<td>O 0.30</td>
<td>X</td>
<td></td>
<td></td>
<td>BCP</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>X</td>
<td>50.7</td>
<td>X</td>
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<td></td>
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<tr>
<td>4</td>
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<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BCP</td>
</tr>
</tbody>
</table>

**COMMENTS**

Pit 5 - Rainbow sheen on groundwater

**REVIEWED** 04/17 **DATE** 4/3/80
Segment ST / EL 524 Subdivision D

Date (mo/day/yr) 3/30/90

Time (24 hr) 1200 - 1330 Biologist Crank

Tide Height: + 2 to + 7

Length: 180 m

(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 30 Moderate 30 Low 40

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

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedrock</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Boulder</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cobble</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Pebble</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sand</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Silt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photographs:
Roll No. 55-5-1
Frames 14, 17, 21, 22

Wildlife Observations/General Comments:
Blackcap Chickadee
Harbor Seal - Adult
Raven
Bald Eagle - Adult

LITZ covered by tide observations made through H2O

Ecological Considerations:

7 11 - Deer harvesting
2 M - Herring spawn
6 U - Tent Sites
6 Y - Special Area Destination
Date: 3/30/90
Time: 1200-1330
Tide Height: +2 to +7

Additional Biota:

HITZ: Lithorina
Limpets

MITZ: Dense cover of Filamentous Greens
Enteromorpha
Polychaete Worm

LITZ: Alaria
Laminaria
Costoria
Odentia
Pyramia

Comments:
- Filamentous greens can include several species including Enteromorpha, Diatoms, Blue greens and/or other species
- On rock plateau in MITZ dense Fucus sides and sporlings, sparse naked phae
- All of LITZ and most of MITZ on northern most vertical rock wall to end of segment were covered by tide. Boat survey.
ADDENDUM: SUBDIVISION CONSTRAINTS
- SEGMENT EL-58 SUBDIVISION D (4 of 4)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup Inside Active Eagle Nest Buffer Zone</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Manual Pickup Outside Active Eagle Nest Buffer Zone</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation Inside Active Eagle Nest Buffer Zone</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Bioremediation Outside Active Eagle Nest Buffer Zone</td>
<td>OPEN</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.
>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Constraint</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
<td>NO CONSTRAINT.</td>
<td>Authorized by Claudia Slater/ADF&amp;G on 5/10/90 to Exxon/Tom Kelley.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>USFWS 6/1/90 map indicates an active nest in Subdivision D. Closed to bioremediation and manual pickup within 400m of active nest.</td>
<td></td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>Closed to bioremediation after 8/15. No constraint to manual pickup.</td>
<td></td>
</tr>
</tbody>
</table>

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

FOSC L DATE 6-10-90

Prepared By: W. Kelley Date 6/9/90
ECOLOGY MAP
SEGMENT EL-58

SUBDIVISION D (4 of 4)

METERS

EXxon

Exxon Company, USA
Map Key: PWS-EL-58

☆ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest

Eagle Nest Buffer Zone
Work Area

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest
ASAP FOLLOWUP RECOMMENDATIONS


Followup Recommendations: APPLY CUSTOM BLEND TO AREA AROUND PIT AND AREA OF SOR ADJACENT TO FRESHWATER DRAINAGE.

Completed by Pickup Crew: Wesley Gherinley

Priority for Addressing in 1990: High

Comments: If sub-surface oil in the form of OP remains in 1991 then removal will be requested by ADEC.

USCG

NOAA

Comments:

Land Resp. John Ziel

Comments: More work has been typically been done recently (21 days) monitoring the sediments and removal of oil.
ASAP TAG REVIEW SHEET

Segment: EL58 Subd: D Site: 1 Date PRE-Review 4AUG90

Priority For Addressing In 1990

HIGH __ MEDIUM ____ LOW ____ NTR

Treatment
Recommended: MANUAL REMOVE (Med/Head) SOR. + BIO

Priority Site For Reassessment In 1991

YES NO YES NO YES NO YES NO

CG X ADEC X EXXON X LAND MGR __

13AUG90 TAG

Apply Custom Blend

reassess next year
FIELD SHORELINE COMMENT SHEET

SEGMENT AS / EL 58 SUBDIVISION: D SITE: 1 DATE 8-6-90

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

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Assess custom blend treatment of both surface & subsurface oil.

ADEC
NAME Wesley G. Howley
SIGNATURE Wesley G. Howley

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: To assess condition of oiling after winter activities & observe the progress of remediation.

LAND MANAGER
NAME John Bel
SIGNATURE John Bel

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: To evaluate reparation and pursue additional treatment if necessary.

EXXON
NAME Ray Smith
SIGNATURE Ray Smith

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: If this site is assessed in '91, it should not be a priority site.
**Surface Oil**

<table>
<thead>
<tr>
<th>Character</th>
<th>Site 1 (Distribution)</th>
<th>Site 2 (Distribution)</th>
<th>Site 3 (Distribution)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>/C /B /P /S</td>
<td>/C /B /P /S</td>
<td>/C /B /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>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>
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<tr>
<td>Patties/T.B.</td>
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<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>55</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 (Y/N)</th>
<th>Subsurface Oil Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>25</td>
<td>X</td>
<td>Y</td>
<td>PCB-PCB</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>15</td>
<td>X</td>
<td>N</td>
<td>BCP-BCP</td>
</tr>
</tbody>
</table>

**Comments**

Manual removal was conducted at this location. Majority of oiled sediment may have been removed however SOR and PCB were left in place. This location is behind a bedrock outcrop which seems to block most of the wave energy which would otherwise reach this oiled area. Custom liner was still evident.
ASAP #2
CHANYEY
AUG 6 1970
MAP FROM SSAT

GENERAL OILING TRENDS
INDICATED ON ORIGINAL
SSAT SURVEY STILL GENERALLY
VALID.

SKETCH MAP

CUSTHOMBLN WAS FOUND
ON THIS SIDE OF THE CONE

NO CUSTOMABLEN THIS SIDE

NORTHWEST BAY

ROCK 60%
BOULDER 30%
PEBBLE 10%

COBBLE 60%
BOULDER 40%

LOW-BEDROCK
OUTCROP

SHEEN NEAR SHORE

LOW-FACE

2CM SIOE COB

RAINBOW SHEEN IN POOLS

GENERAL CONDITION
CTIBIU

OILED SURFACE 10%

TRANSLUCENT SHEEN ON
TIDAL POOLS

IN WAVE CT/S ON COBBLE BEACH

SOR 10X30 Meters
SOR/R UNDER
BOULDER
CV & CT/14

STORAGE AND
USE PAILS

150m

X

CV 25 OR 37H... VS TB FT NO150
ONCE SITES WERE LOCATED WHICH CORRESPONDED TO SKETCH MAPS, NO FURTHER ATTEMPT WAS MADE TO INVESTIGATE SITES DENOTED ON COMPUTER MAP.

IMPORTANT NOTE:
ACTUAL SITE LOCATIONS WERE FOUND TO BE DIFFERENT THAN NOTED ON THE COMPUTER MAP.

THESE LOCATIONS WERE AGREED UPON BY ALL ASAP TEAM MEMBERS AND THE SKIFF DRIVER BASED ON SKETCH MAPS.

ASAP #2
GREG CHANEY
AUG 6 1990

SEGMENT EL-58
Segment Location Map
Map Key: KNEEL-58
July 10, 1990
1:33 PM
SHORELINE EVALUATION

SEGMENT ST/EL-100 SUBDIVISION A (1 OF 1) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
6Y Recreation: Special use destination (6/1 to 9/15)
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 biota and substrate.

SHPO SIGNATURE ______________________ DATE: 4/13/90

OILING CATEGORIZATION:

0.0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 556 m:
Subsurface Oil Observed: Yes X No Maximum Depth 40 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: 4/11/90

AGCO A.R. Warden, ARCO
FOSC: _______ DATE: 4/22/90

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
treatment for permits.
1C  Salmon fry nursery area (4/31 to 7/31)
1D  Esther Hatchery releases (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 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)
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)
7HH  Fishish 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 1   EL 100    SUBDIVISION: A (1OF1)    DATE 03/31/90

USCG    NAME AFC. Vanderpol    SIGNATURE AFC Vanderpol

☑ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

Lots (1000s x 10) of mussels & snails present on all areas.

☐ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

NAME Michele Baer    SIGNATURE M.B.

COMMENTS

EL 100 was quite prolific in littorine, mytilus, balanus and fused beds. Like segment 101, this area has high exposure and is a high energy beach. Oil was found on the SE furthest SE beach (B,c) in the SU T2 beginning at 25 cm and extending below 70 cm. The SU T2 of this beach showed no oil at 30 cm. An area of 1m x 1m of surf lies in the back crevice of the beach. In addition a faint, broken, dark stain tapers from 3 cm to 3 cm across the beach. Due to the low level oiling and high exposure of this area I would recommend leaving the treatment to the high wave in the area.

LAND MANAGER

NAME Dan Logan    SIGNATURE D. Logan

☑ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

I concur with ADEC; the two beaches have potential as recreation camp sites.
**SURFACE OIL**

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

**PAVEMENT:** H F S __sq. m by __c

**PATTIES / TARBALLS:** __O BAGS

**NEAR SHORE SHEEN?:** NO BR RW SL TL

**OILED DEBRIS AMOUNT:**
- Logs
- Vegetation
- Trash
- Debris

**DEBRIS COLLECTED:**
- YES
- NO

**TYPE:**
- Oiled Debris
- Debris

**PHOTOGRAPHS:**
- Roll No.
- Frames

**SUBSURFACE OIL**

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**COMMENTS**

* Net consensus. May be off color.*

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Page 1 of ___

REVIEWED YH DATE 4-7-90
SKE MAP

LEGEND
1 △
2 △
3 △
4 △

CHECKLIST
1 Arrows
2 Approx. Scale
3 San/San Boundary
4 Oil/Dis.
5 Well
6 Length
7 % Cover
8 Geology Character
9 SWL/HLWL
10 Profile Location(s)
11 Profile(s)
12 Profile Location(s)

SUBDIVISION A
DATE 03/31/00

REVISED 4/6/90

YEAR LENGTH (m): AP PO CV CT ST MS PT TB FL NO 632
SHORELINE ECOLOGICAL SUMMARY

Segment ST1  EL150 Subdivision A Date (mo/day/yr) 3/31/90

Time (24 hr) 0100 - 1200 Biologist C. Rank

Tide Height: -1 > 0.5 ft
Segment Length: 0.32 m

(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 (□)

**BARNACLES**

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Photographs:
Roll No. 37, 41
Frames 2 8, 2 2

Wildlife Observations/General Comments:
Crow
Sitka black-tailed deer on beach
Magpie

Ecological Considerations:
711 - Deer Harvesting
2RM - Herring Spawning
6Y - Special Use Destination
Species List

**HITZ**
- Fucus
- Enteromorpha
- hapalina
- Cladophora
- Filamentous Red.

**MITZ**
- Hicksonia
- Lithothamnion
- Linnea
- Sympilon
- Fucus

**MITZ**
- Bladed reds
- Enteromorpha
- Alaria
- Heteromorphosa
- Bassiella
- Rhodomela larix
- Ulva fenestrata
- Filamentous reds

**Flora**
- Nucella
- Lithorina
- Limpets
- Nucella
- Limpets

**Fauna**
- Tomiaella
- Lithorina
- Limpets
- Anthocidaris cristarea
- Gramma
- A. artemisa
- Pisaster
- K. tunicata
- Serpulids
- Bryozoan
- Nucella
- Limpets
- Barnacles

**Comments**
- Barnacle scarring in LITZ cobble
- Kathrina tunicata $< 6 / m^2$
- Dense Lithorina spad in H1TZ bedrock
- Drift Neurotheecis in SUPRA
- Laminaria in drift line
- Dense biotic cover on bedrock and vertical faces
- Moderate $\rightarrow$ sparse biotic cover on boulders
- Sparse $\rightarrow$ none biotic cover on cobble/pebble/sand due to high exp
Comm. (cont.)
- Vertical Rock faces were surveyed from skiff.
- High recruitment seen.
- Tidpools in brown: 1472, 2172.
- Densi. Fucus m. in... 
- Filamentous algae is being a. Why dense species are not in higher cond.?
SHORELINE EVALUATION

SEGMENT ST/ EL-101 SUBDIVISION A (1 OF 1) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
6Y Recreation: Special use destination
7II Deer harvesting (8/15 to 2/28)

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(2M) Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

SHPO SIGNATURE: [Signature] DATE: 7/1/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 21 m: No Oil 187 m
Subsurface Oil Observed: Yes X No Maximum Depth 60+ cm

RECOMMENDATIONS:
X No Treatment Recommended
____Treatment Recommended
____Manual Pickup
____Bioremediation
____Tarmat:____Breakup
____Removal

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 6/17/90
ADEC [Signature] EXXON [Signature] NOAA [Signature] USCG [Signature]
FOSC: [Signature] DATE: 4/21/90
SEGMENT ST  EL101  SUBDIVISION: A  DATE 03-31-90

USCG
NAME AEC Vandegrift  SIGNATURE AEC Vandegrift

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS
I recommend no cleaning just due to the amounts of mussels, snails, fucus, barnicals and algae present.

ADEC
NAME Michele Baer  SIGNATURE Ms. Baer

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS
This high energy segment appears to have successfully benefitted from the natural cleaning process. A healthy bank of mussels and balanids exists throughout the segment on the R headlands. I would suggest treatment to the NE, C, P, & G beach (approx. 50 M in length) by tilling in the LITZ to expose the underlying soil layer begins at 45° and goes beyond 60 cm.

LAND MANAGER
NAME Dan Logan (NPS)  SIGNATURE Dan Logan

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS
I recommend tilling by hand the lower intertidal slope to expose oiled zone to natural cleaning.
SHORELINE OILING SUMMARY

OIL: J. Springer USCG, R. Vandepels SEGMENT ST/EL 101
BIO: B. CrastK LAND REP: D. Logar SUBDIVISION A (10+1)
EXXON: N. Temblin ADC M. Baez TIME 09:00 to 10:00
TEAM NO.: 5 TIDE LEVEL: 0" to -1" DATE 03/1/90
EST. SUBDIVISION LENGTH: 3/3 m WORKING DIRECTION: N to S
UPLANDS DESCRIPTION: □ Grass □ Forest □ Rock
SURVEYED FROM: □ Foot □ Boat □ Helo WAVE EXPOSURE: □ Low □ Med □ High
SURFACE DESCRIPTION: □ Grass □ Forest □ Rock
SURFACE SEDIMENTS: R 65% B 10% C 15% P □ G 2 □ S □ M □ V □ %
SLOPE: Lang 20% Hang 40% Vert 40% WAVE EXPOSURE: □ Low □ Med □ High
OIL CATEGORY LENGTH: W □ M □ C □ N □ D □ M NP 31/3 m

SURFACE OIL

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PAVEMENT: H F S □ sq. m by □ cm
PATTIES / TARBALLS □ BAGS
NEAR SHORE SHEEN? (□) BR RW SL TL

OILED DEBRIS AMOUNT
Loggs SM MD LG
Vegetation
Trash
Debris

Photographs:
Roll No. ST-5-1 Frames 21, 22

SUBSURFACE OIL

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COMMENTS *Oil noted in subsurface of lower intertidal zone.

Page 1 of 8

REVIEWED: /M/ DATE 4-5-91
SHORELINE ECOLOGICAL SUMMARY

Segment ST 1 Un. Subdivision A Date (m/d/yr) 3/31/91
Time (24 hr) 0900 Biologist Crank Tide Height: 0 > 1 ft
Seg Length: 3/3 m

(A) Substrate type and % of segments:
1 Bedrock 65% 2 Boulder 10% 3 Cobble 15% 4 Pebble 8% 5 Sand 2% 6 Silt

(B) Overall % cover of biota (% of segment): Dense 40% Moderate 20% Low 20%

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

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Wildlife Observations/General Comments:
2 Birds est. H2O no ID 1 Raven Flying
1 Pigeon cutliment/ Flying
1 Crow/ Flying

Ecological Considerations:
7 11 - Deer Harvesting
2 M - Herring Spawning
4 Y - Special Use Destination
Species List (incomplete)

**Flora**  

**HITZ**
- Syntosiphon
- Green filamentous

**MITZ**
- Odonalalia sp.
- Huessaarten
- Rosphasia
- Enteromorpha
- Lithothamnium
- Porphyra
- Enteromorpha
- Bussiella
- Filamentous Greens
- Filamentous Reds
  - May include polysiphonia
  - and phyllophorales

**Fauna**

**HITZ**
- Balanos glandula
- Mytilus

**MITZ**
- Katinka limicola
- Searlesia aida
- Sipho mariae
- Sipho mariae petraeae
- Mytilus

**LITZ**
- Enteromorpha
- Ulva fenestra
- Small bleached rocks
- Lithothamnium
- Alaria
- Lepadophora
- Fucus

**Comments:**

- Green filamentous algae may be impeding recruitment on boulders
- Many tidepools in bedrock at MITZ and LITZ
- Dense *Katharinea fuscesca* a 6 m²
- Small bleached rocks constitute major percentage of LITZ cover
- Flora and fauna in this segment appear healthy
- High energy cobble beach, low biota due to moving (rolling) cobble
- Snowpack runoff following contour of southern headland
SHORELINE EVALUATION

SEGMENT ST/ EL-102 SUBDIVISION A (1 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5T-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 unoiled biota and substrate.

SHPO SIGNATURE:  DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 40 m: Narrow 392 m: V.Light 0 m: No Oil 146 m
Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:
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
Removal

COMMENTS: Recommend manual pick up of mousse as indicated on sketch map. Work should be conducted between 6/16 and 8/14 with ADF&G and USFWS approval regarding eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90
ADEC ART WEINER DATE: 4/27-90
EXXON PSU
NOAA
USCG
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  EL 102  SUBDIVISION:  A  DATE 03/31/90

USCG NAME: AEC Zadegels  SIGNATURE: AEC Zadegels

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment for this area.

ADEC NAME: Michele Baker  SIGNATURE: Michele Baker

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

Sub-segment A is a high energy beach with optimum conditions for natural cleaning to occur. A 1 m band of mytilus beds extends throughout the segment. There are patchy distributions of oil behind large boulders of the oil lying in the upper 3 c. This area is of such high energy, I would recommend either manual removal or the patchy or no treatment. This should be considered low priority for treatment.

LAND MANAGER
NAME: Dan Logan  SIGNATURE: Dan Logan

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

I recommend concur with ADEC. I recommend manual removal of small boulders and smaller located between the large rocks referenced on sketch map as this area will clean naturally. I consider this area medium - poor camping potential.
**SURFACE OIL**

<table>
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<tr>
<th>CHARACTER</th>
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**PAVEMENT:** H F S _ sq. m by_ or

**PATTIES / TARBALLS:** _ bags

**NEAR SHORE SHEEN?** _ (no) BR RW SL TL

**OILED DEBRIS**

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<td>_ yes _</td>
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**DEBRIS COLLECTED**

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Photographs:

Roll No. _ | _ frames _ |

**SUBSURFACE OIL**

<table>
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<th>PIT NO.</th>
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**COMMENTS**

* Pit 3 Surface (+0.5 cm) mousse or soft asphalt.

35

**REVIEWED** 

[Signature]  
**DATE**  
4-7-90
**SHORELINE ECOLOGICAL SUMMARY**

<table>
<thead>
<tr>
<th>Segment ST</th>
<th>E1</th>
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<th>F1</th>
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(A) Substrate type and % of segments:
- (1) Bedrock 40%
- (2) Boulder 7%
- (3) Cobble 10%
- (4) Pebble 3%
- (5) Sand 7%
- (6) Silt

(B) Overall % cover of biota (% of segment):
- Dense 40%
- Moderate 20%
- 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)

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Wildlife Observations/General Comments:
1 Harbor Seal - Adult
2 Seals - Adult
1 Seals - on ice

Ecological Considerations:
- Deer Harvesting
- Herring spawning
- Bald Eagle Nest
Segment: EL 102 B
Time: 1430-1530
Tide Height: +6.7+8

Species List

**Flora**

- HITZ
  - Filamentous green
  - Fucus
- MITZ
  - Enteromorpha
  - Filamentous greens
  - Filamentous reds
  - Glaiopeletis
  - Endocladia
  - Fucus

**Fauna**

- Balanus
- Litorina
- Mytilus

Comments
- HITZ not observed -> covered by tide
- Most of MITZ not directly observed -> covered by tide
- Runoff flowing under cobble
- Eagle Nests reported -> did not see
- Vertical rock face surveyed from shiff
- Recruitment is high
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EL-102 SUBDIVISION A (1 of 2)

WORK WINDOW

Manual Pickup CLOSED

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- **2M** Herring Spawning
  - NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

- **5T** Bald Eagle Nest
  - USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to manual pickup within 400m of active nest.

- **7ii** Subsistence: Deer Harvesting
  - No time constraint.

OTHER ECOLOGICAL CONSIDERATIONS
If eagle nest constraint is removed, other ecological considerations will apply.

TAG APPROVAL DATE
ADEC
EXXON
NOAA
USCG

Prepared By: [Signature] Date 6/11/90

FOSC [Signature] Date 7/June 1990
SHORELINE EVALUATION

SEGMENT ST/ EL-102  SUBDIVISION B (2 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M  Herring spawning (4/1 to 6/15)
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 unoiled biota and substrate.

SHPO SIGNATURE:  DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 21 m: Narrow 169 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes ___ No ___ Maximum Depth 30+ cm

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
____ Absorbents
____ Spot Washing: Wands
____ Other (see comments)

COMMENTS: Recommend tarmat removal and bioremediation of continuous cover and broken coat areas (see sketch map for location). Work should be conducted between 6/16 and 8/14 with approval of ADF&G and USFWS regarding eagle nest constraint. Manual rate is area of arts 1-4 prior to bioremediation.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC  ART WEAVER  DATE:
EXXON  ROY ADAMS  DATE:
NOAA  RAY WEERKOFF  DATE:
USCG  KENNETH WOOD  DATE: 4-27-90
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 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 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.

2M Herring spawning (4/1 to 6/15)
   Restrict boat traffic to essential minimum. Avoid damage to unrolled 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 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.
6F All 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)
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)
7HH Finfish harvesting
7II Deer harvesting (8/16 to 9/30)
7JJ Invertebrates harvesting
   For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
SEGMENT ST 1 EL 102 SUBDIVISION: B DATE 3/31/90

NO TREATMENT RECOMMENDED  TREATMENT SUGGESTED
C

NAME AEC Vandegrift

COMMENTS
I suggest hand cleaning of 25x2 M band on south end of Sub B. Till + bio. of 50 M cobble beach near south end of sub B. Remove, by hand, pebbles among boulders and hand wipe boulders at North end of sub B. Maybe bio.

NAME Michelle Baer

COMMENTS
The first B.C beach requires manual removal of mouse patches and hand wiping/scrubbing of the BS. The second beach (B.C) requires more intensive cleaning. The patches of that can be seen 60 cm down between the BS on the far side of the beach require manual scrubbing, pits and/or bioremediation utilizing the rain that hits the area. In further the process, pits all the way down the beach reveal a 5 cm layer of OP that begins at 8 cm and is clean underneath. To remove this layer, filling of the beach is required then bioremediation during high tide allowing the fertilizer to migrate into the down tidal zone.

NAME Dan Logan

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED
C

COMMENTS
I recommend manual scrubbing of rock face where tar exists as indicated on sketch map. The 4M x 30M patch should be treated by removing boulders/cobble/moss and manually cleaning remaining rock. Fertilizer could be applied to this patch.
**SURFACE OIL**

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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**PAVEMENT:** H 200 sq. m by 3 cm

**PATTIES / TARBALLS**

**NEAR SHORE SHEEN?** NO

**OILED DEBRIS**

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**OILED DEBRIS TYPE**

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**PHOTOGRAPHS:**

- Roll No. 57 - 5 - 1
- Frames 36 - 36

**SUBSURFACE OIL**

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**COMMENTS:** Lower intertidal zone is gone.

**REVIEWED:** [Signature] **DATE:** 4-8-90
SHORELINE ECOLOGICAL SUMMARY

Segment STI 216 12 Subdivision B Date (mo/day/yr) 3/31/90

Time (24 hr) 14:30-15:30 Biologist Crank Tide Height +6 ft +8

Length: 278 ft

(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 30 Low 30

(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 (9)

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Wildlife Observations/General Comments:
4 - Bald Eagles - Adults
Offer Scat

Ecological Considerations:
7 11 - Deer Harvesting
2 M - Herring Spawning
5 T-2 - Bald Eagle Nest
Species List

Flora

HITZ
- Fucus
- Green Encrusted (Blue Green?)

MITZ
- Fucus
- Endocladia
- Spongyomorpha
- Halosaccion
- Cladophora
- Lithothamnion
- Petreclus

LITZ
- Bladed reds - small
- Lithothamnion
- Ulva
- Endocladia

Fauna

Littorina
- Balanus glandula

Mytilus
- Litorina
- Limpets
- Amphipods
- Searlesia diva
- Anthopleura sp.
- Leptastarias sp.
- Katharina tunicata
- Searlesia
- Katharina tunicata

Round worm - unidentified

Comments
- Unable to make direct observation of LITZ (Tide Height)
- Dense Searlesia population - absence of Nucella
- High energy flow biota on cobble/pebble
- Fresh H2O runoff flowing under cobble
- Round worm in Supra found at 40 cm depth.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-102 SUBDIVISION B (2 of 2)

WORK WINDOW

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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M  Herring Spawning

5T  Bald Eagle Nest

7II Subsistence: Deer Harvesting

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to tarmat removal, manual raking and bioremediation within 400m of active nest.

Closed to bioremediation and manual raking after 8/15. No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

Prepared By: ____________________________ Date: __________

FOSC ___________________________ Date: 6/10/90
SHORELINE EVALUATION

SEGMENT ST/ EL-103  SUBDIVISION A (1 OF 1)  DATE  3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Herring spawning (2M) - 4/1 to 6/15; Active bald eagle nests (5T-3) - 3/1 to 9/1; Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(2M) Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations. (5T) Restrict air traffic to an essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums.

SHPO SIGNATURE: Charles J. Freeman  DATE: 4/1/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 720 m: V.Light 0 m: No Oil 588 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: 4/16/90
ADEC  EXXON  FOSC  NOAA  USCG

DATE: 4-20-90
FIELD SHORELINE COMMENT SHEET

GMENT ST: E4103  SUBDIVISION:  A  DATE  4/1/90

USCG
NAME  AFC Vandepol  SIGNATURE  AFC Vandepol

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
I recommend no treatment.

ADEC
NAME  Michele Bae  SIGNATURE  Bae

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
A broken stain, varying from 2 m wide to a 3cm line, runs along the R headlands & B beach. The stain is across some Balau beds. The degree of staining is light. Therefore, I would recommend no treatment.

LAND MANAGER
NAME  Dan Logan  SIGNATURE  Logan

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
SHORELINE OILING SUMMARY

OG T. Springer USCG R. Vandegrift SEGMENT ST EL 103
BID B. Cress LAND REP D. Lmcr ADMIN SUBDIVISION A (1A1)
EXXON T. Tomblin ADEC M. Baer TIME 12:00 to 12:30
TEAM NO. 5 TIDE LEVEL 0 to +1 DATE 03/31/90
EST. SUBDIVISION LENGTH 1414 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION ☐ Grass ☐ Forest ☐ Rock SURVEYED FROM ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION S to N
SURFACE SEDIMENTS R 50% 20% C ☐ P ☐ G ☐ S ☐ M ☐ V ☐ ☐ SLOPE Lang 20% Hang 40% Vane 50% WAVE EXPOSURE ☐ Low ☐ Med ☐ High
OIL CATEGORY LENGTH W D M D M N 700 m V M m

SURFACE OIL

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PAVEMENT: H F S 0 sq. m by 0 cm
PATTIES / TARBAUS 0 BAGS
NEAR SHORE SHEEN? NO BR RW SL TL
OILED DEBRIS AMOUNT
Logs ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐...(Continued on next page)
### Shoreline Ecological Summary

**Segment ST/EL 103**  
Subdivision **A**  
Date (mo/day/yr) **3/31/90**  
Tide Height: **+0.5**  
Length: **41.4**

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

#### Barnacles

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</table>

### Wildlife Observations / General Comments:

- **2 Harbor Seal - Adult**  
- **2 Land Otter - Adult**  
- **1 Bald Eagle - Adult**  
- **1 Brown Creeper**

### Ecological Considerations:

- **5T-2** - Bald Eagle Nest
- **2 M** - Herring Spawning
- **7 11** - Limpet Harvesting
Seg: EL 103 A
Time: 1200-1230
Le Height: +0.5 to +2 ft

Species List

I-ITZ
- Halosaccion
- Endocladia
- Polychaeta
- Coelenterata in Littorina
- Fucus
- Bladed reds
- filamentous reds
- Alaria
- Laminaria
- Plocamium
- Enteromorpha
- Rhodomela larix
- Botssella

MITZ

LITZ

Flora

- Endocladia
- Polychaeta
- Coelenterata in Littorina
- Fucus

Fauna

- Littorina
- Limpets
- Balanus sp.
- Plaster
- Sepulid worm
- Bryozoa
- Littorina
- Limpets
- Mytilus
- Littorina
- Limpets
- Dermasterias

Comments
- Did not see Eagle Nest
- Segment surveyed from skiff, vertical rock face and large, steep bowl
- Upper sub-tidal dense Laminaria
- Fucus stipes in LITZ
- Unable to make Mytilus spat determination from skiff
- Moderate barnacle scarring in MITZ
- Area appears healthy
SEGMENT ST/ EL-104 SUBDIVISION A (1 OF 4) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M  Herring spawning (4/1 to 6/15)
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y  Recreation: Special use destination
7HH Subsistence area: Finfish harvesting
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: ________________

OILING CATEGORIZATION:
Wide 0 m: Medium 14 m: Narrow 0 m: V.Light 0 m: No Oil 233 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended ___ Snare/Absorbent Booms
- Treatment Recommended ___ Oil Snare (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: 4/26/90
ADEC _________________ FOSC: _________________ DATE: 5-12-90
EXXON _________________
NOAA _________________
USCG _________________
# 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 6/1)

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

**1H**  
Remote release site

**4L**  
 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 uncilled 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 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 nests.

**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 9/1)  
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)  
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)

**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 ST 1 444 SUBDIVISION: A DATE 04/04/90

USCG
NAME AEC Vandepel SIGNATURE AEC Vandepel

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

I suggest bio. if this beach is accessible.

ADEC
NAME Michele Baer SIGNATURE V Baer

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

Most of the segments 104 and 105 consist of patches that require fertilizer application. I would recommend a 1-2 man operation cover these areas applying fertilizer in the areas indicated on the maps.

This beach had a 5m x 10m CT/P. The coat was lite on the C, B beach. Bioremediation is recommended. (Refer to photos #9 x #10).

LAND MANAGER
NAME Dan Logan SIGNATURE

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

I recommend fertilizer application to the 5m x 10m patch CT/P.
SHORELINE OILING SUMMARY

OG: J. Spring USCG: R. Vandepel SEGMENT ST: EL 104
BIO: P. Clark LAND REP: D. Logar SUBDIVISION A (194)
EXXON T. Threeill M. Baer TIME: 15:00 to 15:20
TEAM NO: 5 TIDE LEVEL: +3 to +2 DATE: 04/14/90
EST. SUBDIVISION LENGTH: 310 m

UPLANDS DESCRIPTION:
- Grass
- Forest
- Rock
- Pillow Lava

SURVEYED FROM:
- Foot
- Boat
- Helo

WORKING DIRECTION: SW to NE

OIL CATEGORY LENGTH:
- UPLANDS
- SUBSURFACE

SURFACE OIL

<table>
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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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PAVEMENT: H F S 8 sq m by cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS AMOUNT
- Legs
- Vegetation
- Trash
- Debris

DEBRIS COLLECTED
- YES, NO

TYPE

Photographs:
- Roll No. ST.3-3
- Frames 9-11

SUBSURFACE OIL

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<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
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COMMENTS
No test pits - boulders.

12
SHORELINE ECOLOGICAL SUMMARY

Segment ST 104 Subdivision A
Date (mo/day/yr) 4/4/90
Length 310 m

Time (24 hr) 1500-1540  Biologist Crank
Tide Height +2.5 +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 20 Moderate 32 Low 50

(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

Dense Moderate Sparse Rare
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6

MYTILUS

Dense Moderate Sparse Rare
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6

GASTROPODS

Dense Moderate Sparse Rare
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6

FUCUS

Dense Moderate Sparse Rare
1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6

Photographs:
Roll No. ST-53
Frames 1, 3

Wildlife Observations/General Comments:
Bald Eagle - Adult LITZ - unexposed
Snail/landed Shorebird

Ecological Considerations:
6Y Special Use Destination
2M - Herring Spawning
ST-2 - Bald Eagle Nest - not observed
711 - Deer Harvesting
7111 - Finfish Harvesting
772 - Salmon Harvesting
**SPECIES** | **UNIT** | **UNIT** | **UNIT** | **COMMENTS**
--- | --- | --- | --- | ---
**FLORA:**
BOSSTELLA CORALLINA | 12.3 | 12.3 | 2 |
CALLIARHON CORALLINA | | | |
CLADOPHORA SPP | | | |
COLOSTIA SPP | | | |
ENDOCLADIA MURICATA | | | |
FILAMENTOUS GREENS | 12.3 | 12.3 | 2 |
FILAMENTOUS REDS | | | |
GLOKOPETIS FURCATA | | | |
HALOBIACON GLANDIFORME | 1 | | Tekpel |
LAMINARIA SPP | | | |
LITHOTHAMNION | | | |
NEROCEYSTIS SPP | | | |
PORPHYRA SPP | 12 | 12 | |
MALPHA HILDENBRANDIA | 2 | | |
RHODOMELA LARIX | | | |
RHODOMENIA PALMATA | | | |
BOYTOSEPHON SPP | 2 | 1 | |
ULVA SPP | | 1 | |
ZOSTERA MARINA | | 1 | |
Coelentera | 2 | 1 | |
**FAUNA:**
ANTHOPLURA SPP | | | |
(SHM) BALUNUS CARIOSUS | | | |
B. GLANDULA | | | |
BRYOZOA | 2 | | |
CHITONS (OTHER THAN K. TUNICATU) | | | |
CLAMS | | | |
CRABS | | | |
DERMINTERIAS RUGOSA | | | |
KATHARINA TUNICATA | | | |
LEPTASTERIAS HEXACTIB | | | |
LIMPETS | | | |
LITTORINA SPP | 1.2 3 | | |
NUCELLA SPP | | | |
PAGURUS SPP | 3 | | |
PEISSER OLIVACEUS | | | |
POLYCHAETES | | | |
PYXODONIA RELIANTHODES | | | |
BURSULA DRA | | | |
SCHMID | | | |
SIPHONARIA THERSEIDES | | | |
SHORELINE EVALUATION

SEGMENT ST/ EL-104 SUBDIVISION B (2 OF 4) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M  Herring spawning (4/1 to 6/15)
5T-2 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y  Recreation: Special use destination
7HH Subsistence area: Finfish harvesting
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: 4/29/90

OILING CATEGORIZATION:

Wide 0 m: Medium 20 m: Narrow 35 m: V. Light 0 m: No Oil 154 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  Absorbsents (pads, rolls, etc)
____ Bioremediation  Spot Washing: Wands
____ Tarmat: Removal  Beach Cleaner
____ Other (see comments)

COMMENTS:

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

TAG COMMENTS:

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

TAG APPROVAL DATE: 5/26/90
ADEC John Bauer
EXXON  
NOAA  
USCG

FOSC: ___ DATE: 5/12/90
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 8/1)

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 8/1)

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 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 (5/15 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 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.

6U
Rec: Tent sites (8/1 to 9/15)

6V
Anchorages (5/1 to 9/15)

6W
Forest Service cabins (8/1 to 9/15)

6X
Lodge (8/1 to 9/15)

6Y
Special use destination

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

7HH
Finfish harvesting

7H
Deer harvesting (5/15 to 2/25)

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 STI    EL01    SUBDIVISION: B    DATE 4-4-90

USCG
NAME _______________________________ SIGNATURE ____________________________

☒ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment.

☐ NO TREATMENT RECOMMENDED    ☒ TREATMENT SUGGESTED

COMMENTS

An area of debris (7 x 5 m) is trapped behind the upper b's in the H112. The beach is a V-notch and is difficult to access. Burning is unrealistic for this area due to the inability to control where the burning oil flows to below. Manual removal of the debris and the upper surface layer if/when would be the best option. Please refer to photos #12 and #13 prior to deciding on sending people into this area.

LAND MANAGER
NAME DAN LOGAN    SIGNATURE ____________________________

☒ NO TREATMENT RECOMMENDED    ☒ TREATMENT SUGGESTED

COMMENTS

This is a very high energy beach and difficult/dangerous to access on anything other than a flat calm day. The oiled debris is not visible from the water, the oiled debris could be removed on a high tide with good weather. This is a low priority.
**SHORELINE OILING SUMMARY**

**DATE:** 04/04/90

**TIME:** 15:16

**TEAM NO.:** 5

**EXT. SUBDIVISION LENGTH:** 145 m

**UPLANDS DESCRIPTION:** Grass, Forest, Rock, Pillow lava

**SURVEYED FROM:** Foot, Boat, Helo

**WORKING DIRECTION:** S to N

**SURFACE SEDIMENTS:** R 85% B 10% C 5% P 0% G 0% S 0% M 0% V 0%

**SLOPE:** Lang 5% Hang 10% Ven 85%

**WAVE EXPOSURE:** Low Med High

**OIL CATEGORY LENGTH:** W 0 m M 7 m N 40 m V 0 m

**SURFACE OIL**

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

**PATTIES/TAR BALLS:** 0 bags

**NEAR SHORE SHEEN?** No

**OILED DEBRIS:**
- Logs
- Vegetation
- Trash
- Debris

**DEBRIS COLLECTED:** Yes

**TYPE:** 6

**BAGS:** 0

**Photographs:**
- Roll No.: 5T-5-3
- Frames: 12, 13

**SUBSURFACE OIL**

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW OIL / FILM COLOR</th>
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**COMMENTS**
# SHORELINE ECOLOGICAL SUMMARY

**Segment ST 104 Subdivision B**

**Date (mo/day/yr)** 04/10

**Time (24 hr)** 1540 - 1640 **Biologist** C. Rank

**Tide Height** 2.3 ft

**Length** 1.5 m

(A) Substrate type and % of segments:

1. Bedrock (SS)
2. Boulder (L)
3. Cobble (S)
4. Pebble (P)
5. Sand (S)
6. Silt (S)

(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:

- **Barnacles**
  - **Dense**
  - **Sparse**
  - **Rare**

- **Mytilus**
  - **Dense**
  - **Sparse**
  - **Rare**

- **Gastropods**
  - **Dense**
  - **Sparse**
  - **Rare**

- **Fucus**
  - **Dense**
  - **Sparse**
  - **Rare**

**Photographs:** No photos

**Wildlife Observations/ General Comments:**

- Debris collection present for drift logs.
- 50% WITZ barnacle mortality on bedrock faces in oil band.
- Difficult human access area.

**Ecological Considerations:**

- 711: Deer Harvesting
- 712: Salmon Harvesting
- 713: Finfish Harvesting
- 57: Bald Eagle Nest - unable to locate
- 2M: Herring Spawning
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| CRABS | 1 | | | |
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| SARLESIA DIRA | 1 | | | |
| SERPULIDS | 1 | | | |
| SIPHONARIA THERSITES | 1 | | | |
| TEALIA | 1 | | | |
SHORELINE EVALUATION

SEGMENT ST/ EL-104 SUBDIVISION C (3 OF 4) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5T-2 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
7HH Subsistence area: Finfish harvesting
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. Do not trample or otherwise damage mussel beds.

SHPO SIGNATURE: ______________ DATE: 4/29/90

OILING CATEGORIZATION:
Wide 0 m: Medium 6 m: Narrow 0 m: V. Light 0 m: No Oil 523 m
Subsurface Oil Observed: Yes X No No Maximum Depth 20+ cm

RECOMMENDATIONS:
_____ No Treatment Recommended
X Treatment Recommended
_____ Manual Pickup
_____ Spot Washing:
X Bioremediation
_____ Tarmat: Removal
_____ Oil Snares (pom poms)
_____ Absorbents (pads, rolls, etc)
_____ Spot Washing:
_____ Oil Snares (pom poms)
_____ Absorbents (pads, rolls, etc)
_____ Absorbents (pads, rolls, etc)
_____ Other (see comments)

COMMENTS: Recommended treatment includes 1) bioremediation of the east end area of subdivision EL-104-C. Work should be conducted after 6/15 based on herring constraints after consulting with USFWS and ADF&G regarding eagle nest and CVC regarding subsistence harvesting times.

TAG COMMENTS:

TAG APPROVAL DATE: 4/26/90
ADEC John Brown
EXXON
NOAA
USCG

FOSC: W L DATE: 5/12/90
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)
Net set 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 unoined 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 all activity 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 (8/15 to 2/28)
- 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 1 EL 104  SUBDIVISION: C  DATE 4-4-90

USCG NAME  AEC Vandegeels SIGNATURE  AEC Vandegeels

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

I suggest bio.

ADEC NAME  Michele Beer SIGNATURE  Michele Beer

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

A 10m x 7m CT/B mix in the second pocket C, B, P, G beach. The pit in this section revealed OR down to 20 cm, with the UV. The large B's make it difficult to pickar the patch up, therefore an initial application of fertilizer followed with a 2nd application in August would help penetrate into the surface layer (underlying the B's). If possible, removal of the larger B's and pickar of the underlying area would be even better.

LAND MANAGER

NAME Dan Reck SIGNATURE  Dan Reck

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

I recommend hand tilling and fertilizer application to the 10m x 7m CT/B patch.
## SURFACE OIL

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**SURFACE OIL SUMMARY**

- **Pavement:** H F S 0 sq. m by 0
- **Patties/Tarballs:** 0 bags
- **Near Shore Sheen?** No
- **Oiled Debris Amount:**
  - Logs
  - Vegetation
  - Trash
  - Debris
- **Debris Collect:** Yes
- **Type:** 0
- **Photographs:** Roll No. 57-5-3
- **Frames:** 14, 15

## SUBSURFACE OIL

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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm)</th>
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**COMMENTS**

- 7

**Reviewed:** J W 4/10/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST Subdivision Date (mo/day/yr) Length
104 C 4/4/90 350m

Time (24 hr) 00/0-1700 Biologist Tidal Height

(A) Substrate type and % of segments:
(1) Bedrock 10(2) Boulder 20 (3) Cobble 10 (4) Pebble 7 (5) Sand 3 (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 L:
juveniles/adults (X) , new settlement (3)

BARNACLES

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Wildlife Observations/General Comments:
1 Eagle - Adult · Harbor Seal
8 Cormorants · 1 Magpie

Ecological Considerations:
2 M - Herring Spawning
711 - Deer Harvesting
72 - Salmon Harvesting
731 - Finfish Harvesting
57 - Eagle Nest - not observed.
**DIVISION: 5/4**  
**SUBDIVISION: 5/5**  
**LENGTH: 552**  
**BIOL. CODE:**  

**DATE: 4/4/80**  
**TIME: 1410**  
**TIDE HEIGHT: +1.5**

1 = BEDROCK  2 = BOULDER  3 = COBBLE  4 = PEBBLE  5 = SAND  6 = SILT

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<td><strong>ZOSTERA MARINA</strong></td>
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<td><strong>Filifera marina</strong></td>
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<td><strong>Floride</strong></td>
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### FAUNA:

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<tr>
<td><strong>(SEMI) BALANUS CANGUS</strong></td>
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<td><strong>B. GLANDULA</strong></td>
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<td><strong>CHITONS (OTHER THAN K. TONEI)</strong></td>
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<td><strong>CHIANS</strong></td>
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<td><strong>LEPTASTERIA HEMACTIS</strong></td>
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<td>I</td>
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<td><strong>Ecal. juvenilis</strong></td>
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</table>
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-104 SUBDIVISION C (3 of 4)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M</td>
<td>Herring Spawning</td>
<td>NO CONSTRAINT. Authorized by Claudia Slater/ADF&amp;G on 5/10/90 to Exxon/Tom Kelley.</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 C work site.</td>
</tr>
<tr>
<td>7HH</td>
<td>Subsistence: Finfish Harvesting</td>
<td>Closed to bioremediation after 7/1</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>Closed to bioremediation after 8/15.</td>
</tr>
<tr>
<td>7Z</td>
<td>Subsistence: Salmon Harvesting</td>
<td>Closed to bioremediation after 7/1.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and beach disturbance to essential minimum. 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. Avoid any unnecessary disturbance or damage to unolled biota and substrate.

FOSC

Date 6-10-90

Prepared by UT Kelley

Date 6/9/90
ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/EL-104 Subd.: C Site: 1 Date: 8/8/90 1990

Conditions Observed: Bedrock / Boulders / Gravelly beach. OR/OP Section present 0-10 cm in a 20 cm pit. Area is located at the UIT. All observations made to believe there was a breach there. Just the UIT.

Followup Recommendations: Manually remove heavy SOR / OP Sediments. Manually TILL area and add custom blend.

Completed by Pickup Crew: ☑ YES ☐ NO Priority for Addressing in 1990: ☑ High ☐ Mod. ☐ Low

AESC Wesley Colby

Comments: The above recommendation is followed will put the beach back in fairly good shape. A follow up reassessment should follow in 1991.

Exxon Ray Sotelo

Comments: Pick up heavily wired sediments and apply custom blend.

USCG PSI (LED) BERSOLAN

NOAA Art Weiner

Comments: Remove accessible heavy SOR. Reapply custom blend. This is a moderate priority problem for 1990.

Land Rep. John E. R.

Comments: I concur with recommendation. Remove all spill debris from site. Recommend to roll boulders / cobbles - small evenish - 12' site (Basketball or smaller) to scrape covers exposure sediments to custom blend + to weather.
ASAP TAG REVIEW SHEET

Segment: EL 104  Subd:  C  Site:  1  Date PRE-Review: 14 Aug 90

Priority For Addressing In 1990

[X] HIGH  MEDIUM  LOW  [X] NTR

Treatment Recommended:  NTR

ONLY Partial Sol.

0-15 cm  "Same as Sol.?"

0-10 cm

Priority Site For Reassessment In 1991

YES  NO  YES  NO  YES  NO  YES  NO

-- CG  X  -- ADEC  X  -- EXXON  X  -- LAND MGR

TAG  15 Aug 90

B10  + reassess 91
SEGMENT AS/ELLO SUBDIVISION: C SITE: 1 DATE 8-8-90
USCG/NOAA PS1 Leo Berzelius Lew Berzelius
NAME Art Weiner SIGNATURE Art Weiner
□ YES □ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Small amount of remaining oil.

ADEC
NAME Wesley Shoremley SIGNATURE Wesley Shoremley
□ YES □ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
To assess the effectiveness of custom blend on subsurface oil.

LAND MANAGER
NAME John Ebel SIGNATURE John Ebel
□ YES □ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
To evaluate the effectiveness of bio treatment.

EXXON
NAME Roy Sotelo SIGNATURE Roy Sotelo
□ YES □ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
No reassessment should be necessary on this site in '91.
### Surface Oil

<table>
<thead>
<tr>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
</tr>
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<tbody>
<tr>
<td><strong>Character</strong></td>
<td><strong>DISTRIBUTION</strong></td>
<td><strong>OILED ZONES</strong></td>
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<tr>
<td>Asphalt</td>
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<tr>
<td>S.O.R.</td>
<td>X</td>
<td></td>
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<tr>
<td>POOLED</td>
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<td>X</td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
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<td>COAT</td>
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<tr>
<td>MOUSSE</td>
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<tr>
<td>PATTIES/T.B.</td>
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<tr>
<td>FILM</td>
<td></td>
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<tr>
<td>NO OIL</td>
<td>X</td>
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**EST. SITE LENGTH:** 12

### 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>
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<tr>
<td>1</td>
<td>1</td>
<td>15</td>
<td>X</td>
<td>0-15</td>
<td>V</td>
<td>BCG-BCG</td>
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<tr>
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<td>2</td>
<td>20</td>
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<td>0-10</td>
<td>Y</td>
<td>BCG-BCG</td>
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<tr>
<td>1</td>
<td>3</td>
<td>20</td>
<td>X</td>
<td>Y</td>
<td>X</td>
<td>P-PR</td>
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</table>

**Surveys:** Reviewed 11/40

**Comments:**

Custombien is present. This is a very small site and is difficult to locate from offshore due to the barrier rocks offshore. Large boulders shield most of the site. More oil may be present under these boulders. Very little oil was observed in the region which was supposed to have 50% cover. It seems unlikely that the...
SEGME: EL-104
SUBDIVISION: C SITES 1-2
DATE: 6/18/90

CHECKLIST:
- Field Inspection
- Soil Type
- Oil Spill
- Water Quality

LEGEND:
- No Oil
- Site 1
- Site 2
- 2 1/2 meter band on rock wall
- SOR/ft²

NOTE: THIS COVER IS DIFFICULT TO SEE FROM OFFSHORE. IT IS THE MIDDLE ONE OF THREE.

ASAP PHOTOS 03-33, 34

ASAP #2
AUG 8 1990
CHANEY
FROM BATMAN
There is no doubt that the site is located in the EL 104B subdivision. The sketch map is detailed and fits the site perfectly.
There is no doubt that the site is located in the EL 104b subdivision. The sketch map is detailed and fits the site perfectly.
SHORELINE EVALUATION

SEGMENT ST/ EL-104 SUBDIVISION D (4 OF 4) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5T-2 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
7HH Subsistence area: Finfish harvesting
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 ECOCLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unooled biota and substrate. 2 bald eagle nests in unsurveyed coastline between subdivisions C and D.

SHPO SIGNATURE: [Signature] DATE: 4/26/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 15 m: V.Light 0 m: No Oil 284 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: Removal Beach Cleaner
____ Other (see comments)

COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS:

________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: 4/26/90
ADEC JOHN BAUMER
EXXON ANN TAYLOR
NOAA GARY PETTIE
USCG

FOSC: ______ DATE: 5-9-90
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 areas (6/7 to 8/31)
Purse seine areas (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 uncoiled intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

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

Seabird/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. Aircraft approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for information on dates.

Recruitment: 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.
USCG
NAME AEC Vandepoele
SIGNATURE AEC Vandepoele

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

I recommend no treatment.

ADEC
NAME Michelle Brown
SIGNATURE Brown

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

Elliot D is a headland with occasional large Bs. This is a high energy area and I would recommend no treatment on the 2m x 20m ST/B/DBR.

LAND MANAGER
NAME Dan Hogan
SIGNATURE Dan Hogan

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

I concur with ADEC
**SHORELINE OILING SUMMARY**

**OG J. Springer** USCG R. VondrepelS SEGMENT ST E1104

**BIO** R. Craig LAND REP T. Dodson SUBDIVISION D (Vet4)

**EXXON T. Fanklin ADEC M. Bjer TIME 17:00 to 17:10**

**TEAM NO.** 5 TIDE LEVEL: +1/4 to +1/4 DATE 04/24/1990

**EST. SUBDIVISION LENGTH:** 540 m

**UPLANDS DESCRIPTION:** ☑ Grass ☑ Rock ☑ Pillow Low

**SURVEYED FROM:** ☑ Foot ☑ Boat ☑ Helo Working Direction: NW to SE

**SURFACE SEDIMENTS:** R 90% B 10% C 0% P 0% G 0% S 0% M 0% V 0% S

**SLOPE:** Long 0% Hang 80% Ven 20% WAVE EXPOSURE: ☑ Low ☑ Med ☐ High

**OIL CATEGORY LENGTH:** W 0 m M 0 m N 20 m V 0 m Total 20 m

---

**SURFACE OIL**

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<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>NO OIL</td>
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**PAVEMENT:** H F 8 sq. m by 0 or

**PATTIES / TARBALLS** 0 BAGS

**NEAR SHORE SHEEN?** NO BR RW ST TL

**OILED DEBRIS AMOUNT** SM MD LG

**DEBRIS COLLECTED** ☑ YES ☑ NO TYPE 0

**Photographs:** No photos

**Roll No.**

**Frames**

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**SUBSURFACE OIL**

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<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED DEBRIS</th>
<th>OILED OIL</th>
<th>OILED GAS</th>
<th>OILED OIL / FILM COLOR</th>
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**COMMENTS** No test pits. All rock and boulder.
SEGMENT ST/EL 104

SUBDIVISION D

DATE 04/04/00

CHECKLIST

- N Amur
- Approx. Scale
- Bgr/Sub History
- Oil Date
- Width
- Length
- % Cover
- Subsoil Character
- Est. HM/LWL
- SK
- Profile Location(s)
- Profile(s)
- Pt Location(s)
- Info Profile Location(s)

LEGEND

1 A
Pt - No Subsurface Oil

2 A
Pt - Subsurface Oil

CT/C
Constituent Distribution

CT/B
Base Distribution

CT/P
Poddy Distribution

CT/V
Splashed Distribution

Oil Vegetation

Plow location, direction, and number

Paint Character Length (in): AP 0.00 PD 0.00 CV 0.00 CT 0.00 ST 20.00 MS 0.00 PT 0.00 TB 0.00 FL 0.00 NO 280
SHORELINE ECOLOGICAL SUMMARY

Segment ST/EL 104
Subdivision D

Date (mo/day/yr) 4/4/70

Time (24 hr) 1700-1720 biologist Crank

Length 300 m Tide Height 9.5

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

(B) Overall % cover of biota (% of segment):
Density: 70 Moderate: 15 Low: 15

(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

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MYTILUS

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Wildlife Observations/General Comments:
- Barrows Goldeneye
- Total subdivision surveyed by skiff
- Unable to determine gastropod concentrations
- Barnacle Scarring in U12

Ecological Considerations:
- ST - Eagle Nest (not observed)
- TL - Deer Harvesting
- T2 - Salmon Harvesting
- TH - Finfish Harvesting
- 2M - Herring Spawn
XXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

Map Key: PWS-124
Name: S. Springer
Date: 04/04/70

EL-104

ADEC Segment Length: 4400

METERS

b pws 124b