[Shoreline evaluations, 1990].

MA-01 – MU-900

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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)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6U Recreation: Tent sites (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: Charles E. Hoene DATE: 4/8/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 72 m: No Oil 830 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

RECOMMENDATIONS:
_____ No Treatment Recommended  _____ Snare/Absorbent Booms
X 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 manual pick up of debris (pom poms, bucket, etc.)
Work should be conducted between 5/15 and 6/10 based on salmon and set
net constraints and with approval from ADF&G and USFWS regarding eagle
nests.

TAG COMMENTS:_________________________________________

TAG APPROVAL DATE: 4/8/90
ADEC Art Weiner DATE: 4/12/90
EXXON A. Wind DATE:
NOAA A. Wind DATE:
USCG A. Rene DATE:
FOSC: ______________________________________ DATE: 4-22-90
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 unooled 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)
    Finfish harvesting
7HH  Deer harvesting (8/15 to 2/28)
7I  Invertebrate harvesting
    For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
USCG NAME: David S. Thomas signature: [signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS: Removal of oil/Trash Recommended.

ADEC NAME: Clara S. Crosby signature: [signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS: Suggest cleanup of oil/diesel debris. No specific techniques recommended for oiling.

Bags unavailable for debris pickup today. Prep will be done for following surveys.

LAND MANAGER NAME: Marsha Martin signature: [signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS: Shore Fishery SSE between pit 4 and light to North East. Bedrock/shale between rock outcrops in area of pit 6 is significant.
SHORELINE OILING SUMMARY

OG: Rick Gillie  USCG BM-1 Thomas  SEGNENT STR MA-01
BIO: Dave Lohr  LAND REP: Marsha Martin  SUBDIVISION A-1051
EXXON: Frank Dry  ADEC: Carl Crosby  (ABNE)  TIME 14:45 to 15:45
TEAM NO.: 19  TIDE LEVEL: +4 10 14  DATE 04/06/90

EST. SUBDIVISION LENGTH: 1/250m 2535  [Sun]  [Clouds]  [Fog]  [Rain]  [Snow]
UPLANDS DESCRIPTION:  [Grass]  [Forest]  [Rock]  [Some Snow in Subdivision]
SURVEYED FROM:  [Foot]  [Boat]  [Helo]  WORKING DIRECTION:  N  to  S
SURFACE SEDIMENTS:  R 20%  B 20%  C 30%  P 20%  G 0%  S 0%  M 0%  V 0%  SLOPE:  Lang 40%  Hang 30%  Vert 20%
OIL CATEGORY LENGTH:  W 0 m  M 0 m  N 0 m  V 11 m  NO 1739 m

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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<tr>
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<td>X</td>
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<tr>
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<td>X</td>
<td>X</td>
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PAVEMENT:  H  F  S  a/b m by 0 cm
PATTIES/TARBALLS  0  BAGS
NEAR SHORE SHEEN?  [NO]  BR  RW  SL  TL

OILED DEBRIS    AMOUNT
Logs
Vegetation
Trash  X
Debris
DEBRIS COLLECTED  YES  NO
TYPE  0
#BAGS  0

Photographs:
Roll No.  ST-13-3
Frames  1-4

SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
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<th>PIT ZONE</th>
<th>ANA</th>
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COMMENTS
1. RARE TARBALLS AND SPLATTER COAT, ALSO RARE
2. SOME OILED TRASH (POM-POM, ROPE, BUCKET OF MO OIL) TO BE REMOVED.

Page 1 of

REVIEWED  JW  DATE  4/7/90
Sketch Map

Legend:
1 A Pit - No Subsurface Oil
2 A Pit - Subsurface Oil
CT/C Continuous Distribution
CT/B Broken Distribution
CT/P Patchy Distribution
CT/3 Splattered Distribution
Oiled Vegetation
1 Photo location, direction, and number

Oil Character Length (m): AP, PO, CV, CT 10, ST, MS, PT, TB, FL, NO 1739

Unsurveyed

Rock

Oiled pom-pom
tarball in subsurface

Trash (oiled pom-pom, 2" dia line)
(yogal, paid of oil)

Pocket Beaches (Cobble/Dobbie)

Cobble Beach (zoom long)
over wave-cut platform

CT/S (<1%)

Cobble Beach

CT/S
SEGMENT 3 ST/MA-01

- UNSURVEYED PORTION
- PREVIOUS SURVEY (ADEC SEPT/OCT-1082) INDICATED NO OIL.

MA-1
XXX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

ADEC Segment Length: 2535m

Map Key: PWS-542a
Name: R. Gillie
Date: 4/4/70

Data Entered:
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST / MA 061 Subdivision A Date (mo / day / yr) 4-6-90

Time (24 hr) 14:45 Biologist David Loh

(A) Substrate type and % of segments:
1. Bedrock (20)
2. Boulder (30)
3. Cobble (30)
4. Pebble (20)
5. Sand (15)
6. Silt (10)

(B) Overall % cover of biota (% of segment): Dense 15 Moderate 35 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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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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<td>1L</td>
<td>2</td>
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</table>

Wildlife Observations/ General Comments:
1. Low intertidal not sampled
2. Present in mid intertidal; Sculpins, corallina algae, Scyphoora, Peyurus, Anthoidea
Ecological Considerations: 3. Many tide pools in high intertidal; gastropods (Littorina) dense in many of them

In part of segment previously molled no oil. Buried under snow.

1K, 1L - no comment
ST - none observed
GU - no comment
**ARCHAEOLOGICAL STANDARD CONSTRAINT**

If cultural resources are uncovered, PHONE 564-3274.

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Activity</th>
<th>Details</th>
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<tr>
<td>1A,1B</td>
<td>Salmon Stream</td>
<td>ADF&amp;G catalogued stream (225-10-15000) is present in segment. No constraint to manual pickup.</td>
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<tr>
<td>1E</td>
<td>Main Bay Hatchery Release</td>
<td>No constraint to manual pickup.</td>
</tr>
<tr>
<td>1I</td>
<td>Gill Net Area</td>
<td>No constraint to manual pickup.</td>
</tr>
<tr>
<td>1K</td>
<td>Purse Seine Area</td>
<td>No constraint to manual pickup.</td>
</tr>
<tr>
<td>1L</td>
<td>Set Net Sites</td>
<td>No constraint to manual pickup.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>Closed to manual pickup. USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates an active nest within 400m of the work area.</td>
</tr>
</tbody>
</table>

**OTHER ECOLOGICAL CONSIDERATIONS**

If eagle nest constraint is removed, other ecological considerations will apply.
SHORELINE EVALUATION

SEGMENT ST/ MA-02 SUBDIVISION A (1 OF 1) DATE 4/6/90

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 All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6U Recreation: Tent sites (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 uncoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/6/90

OILING CATEGORIZATION:
Wide 28 m: Medium 52 m: Narrow 66 m: V.Light 141 m: No Oil 195 m
Subsurface Oil Observed: Yes X No___ Maximum Depth 15 cm

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

COMMENTS: Recommend manual removal of tarmats and bioremediation of areas shown on attached sketch map. Work should be conducted between 5/11 and 6/10 based on hatchery and set net constraints and with approval from ADF&G and USFWS regarding eagle nests.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC [Signature] DATE: 4-25-90
EXXON [Signature] NOAA [Signature]
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 bio remediation 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 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 (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 (6/15 to 2/28)
7JJ  Invertebrate harvesting
   For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT #1 MA-02 SUBDIVISION: A-15f1 DATE 04/06/93

USCG NAME: David S. Thomas SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS:

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

SUGGESTED TREATMENT: Manual removal of asphalt. All Islands.

BIOREMEDIATION is a possibility at Sites on Island #3. No other specific techniques recommended for cleanup of other islands.

LAND MANAGER NAME: MARSHA MARTIN/ DNR SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

STATE REP. CLARA CROSBY COVERED THIS SEGMENT AS I COVERED MA-03.
**SHORELINE OILING SUMMARY**

**OIL**

- **Character**: Distribution
- **Oil/Film Color**: Impact Zones
- **Asphalt Pavement**: O X X
- **Pooled**: O X X
- **Cover**: O X X
- **Coat**: O X X
- **Stain**: O X X
- **Mouse**: O X X
- **Patties**: O X X
- **Tarballs**: O X X
- **Film**: O X X
- **No Oil**: O X X

**SURFACE OIL**

- **Character**: Distribution
- **Oil/Film Color**: Impact Zones
- **Asphalt Pavement**: O X X
- **Pooled**: O X X
- **Cover**: O X X
- **Coat**: O X X
- **Stain**: O X X
- **Mouse**: O X X
- **Patties**: O X X
- **Tarballs**: O X X
- **Film**: O X X
- **No Oil**: O X X

**Pavement**: H F S 40 sq. m by 3 cm

**Patties/Tarballs**: 0 Bags

**Near Shore Sheen?**: No

**Subsurface Oils**

<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>
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**Comments**

- Photographs:
  - Roll No.: J-13-3
  - Frames: 5-9

**Reviewed**

- **Tw**
- **Date**: 4/9/90
## Subsurface Oil (Continued)

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<th>PIT NO</th>
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<td>2 - 15</td>
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### Comments

**Reviewed:** [signature]  **Date:** 4/9/90
SKETCH MAP

ISLAND #1 (NORTH ISLAND)

LEGEND

1 Δ
--- No Subsurface Oil

2 Δ
--- Subsurface Oil

CT/C Continuous Distribution

CT/B Broken Distribution

CT/IP Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

Δ Fishing net at hull.

CTR UE 10x20m
CTR PE R-AP/S
AP/P EX

DATE 04/06/90

CHECKLIST

H Arrow
Approach, Scale
Seg/Sub Boundry
Oil Dist.
Wash
Length
% Cover
Substrate Character
Est. H/W/L/WL
SSL
Profile Location(s)
Profile(s)
Pic Location(s)
Photo Location(s)

SEGMENT ST
MA-02

SUBDIVISION A-10f1

RICK TILLIE
SHORELINE ECOLOGICAL SUMMARY

Segment ST MA 02 Subdivision A Date (mo/day/yr) 4-6-90

Time (24 hr) 16:00 Biologist Danila Loban

(A) Substrate type and % of segments:
(1) Bedrock 40% (2) Boulder 10% (3) Cobble 25% (4) Pebble 15% (5) Sand 10% (6) Silt

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 40 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 (O)

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

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

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

Wildlife Observations/General Comments:

Ecological Considerations:

(1) 64 - no comment
(2) 2 mature and one immature bald eagle fledged, nest also observed, marked by Forest Service (?) marker

See page 2
Wildlife Observations/General Comments


Low intertidal: Halosaccion (dense in spots), Ulva, coralline algae, Zonaria (?), Scytosiphon, Enteromorpha, Tetralic.

2. 1 raven, 6 otters spotted in area.
3. Deer tracks, and lynx or wolverine tracks observed c. above high tide line.
4. Bear scat found above high tide line.
XXX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

Map Key: PWS-545
Name: R GILLIE
Date: 4/6/90
Date Entered:

ADEC Segment Length: 2093m

ISLAND 1

ISLAND 2

ISLAND 3
# ADDENDUM: SUBDIVISION CONSTRAINTS

## SEGMENT MA-2 SUBDIVISION A (1 of 1)

### WORK WINDOW

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<tr>
<td>Bioremediation/Manual Tilling Less Than 400m From Nests</td>
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<td>Bioremediation/Manual Tilling More Than 400m From Nests</td>
<td>WORK 6/4 - 6/7</td>
</tr>
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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 tarmat removal. Subdivision open to bioremediation and manual tilling 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 and manual tilling after 6/15.

1I Gill Net Area

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

1L Set Net Sites

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

5T Bald Eagle Nest

USFWS bald eagle Impact assessment completed on 5/22/90 by Mike Lockhart indicates 2 active nests within 400m of the work area. Closed to tarmat removal, bioremediation and manual pickup less than 400m from active nests. No constraint to tarmat removal, bioremediation and manual pickup more than 400m from nests.

### 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. From 6/11 to 7/25, when set net sites are present, restrict beach operations to essential minimum. Avoid any unnecessary disturbance or damage to unloved biota and substrate.
Incorporates information from USFWS bald eagle survey 5/28/90.
SHORELINE EVALUATION

SEGMENT ST/ MA-03 SUBDIVISION A (1 OF 1) DATE 4/6/90

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 Set net sites (6/11 to 7/25)
5T All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 406 m: No Oil 3801 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

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
___ Tarmat: ___ Breakup ___ Beach Cleaner
___ Removal ___ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of oiled debris. Work should be conducted after approval by ADF&G and USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC [Signature] FOSC: [Signature] DATE: 9-25-70
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
Salmon stream mouth - fry out-migration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)

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

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

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

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

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

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

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)

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.

SR
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/ MA-03  SUBDIVISION: A-10f1  DATE 04/06/96

USCG NAME: David S. Thomas  SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS: Removal of oiled debris suggested.

ADEC NAME: Clara I. Crosby  SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS: In an attempt to complete segments assigned within time frame—Agency rep. Marsha Martin covered this portion of Fig. 11. Designation—A covered MA 02 —

LAND MANAGER NAME: Marsha Martin / DNR  SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS: Collected small sea urchin near cabin; Northern portion lagoon. TRASH should be removed. Code...
### SURFACE OIL

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Pavement: H F S NA sq. m by 0 cm
Patties / Tarballs: NA 0 Bags
Near shore sheen? No BR RW SL TL

### SUBSURFACE OIL

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COMMENTS
SHORELINE ECOLOGICAL SUMMARY

Segment ST__MA 023__Subdivision__A______Date (mo / day / yr)___4-6-90____

Time (24 hr)___19:00____Biologist__David Cohen____

(A) Substrate type and % of segments:
   (1) Bedrock___30___(2) Boulder___10___(3) Cobble___10___(4) Pebble___10___(5) Sand___10___(6) Silt___10___

(B) Overall % cover of biota (% of segment): Dense___50___Moderate___45___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 (9)

Photographs:
   Roll No. __ST-13-3____
   Frames ___10___

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Wildlife Observations/General Comments:

See page 2

Ecological Considerations:

- 2 streams located in segment. No oil found near the noncontainment stream. The second was in part of segment previously marked no-oil.

1E, 1L, 6U - no comment.

ST - 1 mature and 1 immature bald eagle killed in area.
Shoreline Ecological Summary
Segment ST-MA-003  Subdivision A
4-6-90

Legist: David "D"

Wildlife Observation/Notes: General Comments

1. Low intertidal not sampled


3. 1 seal spotted in area

4. Patches of byssal threads located mid-intertidal bedro
ST/MA-03
SUBDIVISION A
MAP 4

MA-5

WIDE

/ / / / Medium

---- Narrow

TTTT Very Light

0 100 200 300

MA-3

Map Key: PWS-471b
Name: R GILLIE
Date: 4/6/90
Date Entered:
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream  ADF&G catalogued anadromous streams (225-10-15003 and 225-10-15010) are in Subdivision A. No constraint to manual pickup.

1E Main Bay Hatchery  No constraint to manual pickup.

1L Set Net Sites  No constraint to manual pickup.

5T Bald Eagle Nest  USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup within 400m of active nest. No constraint to manual pickup more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEGMENT ST/ MA-04 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1L Set net sites (6/11 to 7/25)
5T-1 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. Do not trample or otherwise damage mussel beds.

SHPO SIGNATURE: [Signature] DATE: 4/6/90

OILING CATEGORIZATION:
Wide 24 m: Medium 88 m: Narrow 0 m: V.Light 1565 m: No Oil 483 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 10 cm

RECOMMENDATIONS:
X 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: Removal ___ Beach Cleaner
___ Other (see comments)

COMMENTS: Recommended treatment includes 1) removal of tarmat in high energy areas (see attached sketch map), 2) bioremediation in areas shown on map and, 3) manual pick up of absorbent boom at location on map. Work should be conducted prior to 6/11 or after 7/25 based on above set net constraint and with approval from USFWS regarding eagle nests.

TAG COMMENTS: ____________________________________________

TAG APPROVAL DATE: 4/6/90
ADEC Art Weiner DATE: 4/6/90
EXXON [Signature] DATE: 5/3/90
NOAA [Signature] DATE: 5/3/90
USCG [Signature]
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

1C  Salmon fry nursery area (4/31 to 7/31)
1D  Ester Hatchery release (4/15 to 6/1)
1E  Main Bay Hatchery release (4/20 to 5/10)
1F  Sewmill Bay Hatchery release (4/15 to 6/1)
1G  Cannery Creek Hatchery release (4/21 to 6/1)
1H  Remote release site
1I  Gill net area (6/7 to 8/31)
1J  Purse seine area (7/20 to 9/30)
1K  Purse seine hook-off (7/20 to 9/30)
1L  Set net sites (6/11 to 7/25)
   For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M  Herring spawning (4/1 to 6/15)
   Restrict boat traffic to essential minimum. Avoid damage to uncleared intertidal and subtidal algae and seagrasses.
   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 haulouts.

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

5T  All Bald Eagle nests (3/1 to 6/1)
   Active Bald Eagle nests (3/1 to 9/1)
   Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 8/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

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

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

☐ NO TREATMENT RECOMMENDED
☒ TREATMENT SUGGESTED

COMMENTS
Manual removal of Asphalt - Boom (stuck in ice)
Moderate area of O/B - in MI (see sketch map) in area of rock platforms of S3 Subtidal reefs - would be difficult to clean mechanically due to limited access.
No other specific technique for cleaning recommended.

LAND MANAGER
NAME Marsha Martin
SIGNATURE Marsha Martin

☐ NO TREATMENT RECOMMENDED
☒ TREATMENT SUGGESTED

COMMENTS
SHOREFISHERY LSE boundary indicated in S3, E3A portion segment.
**SHORELINE OILING SUMMARY**

**OG Rick Gillie**  USCG 6/1 Thomas  **SEGMENT ST/ MA-04**
**Dane Ithier**  LAND REP  **Marsha Martin**  **SUBDIVISION R-104**

**ON FRANK ORY**  ADEC Clara Croaky  **(ARR) TIME 07:30 to 10:00**

**TEAM NO.: 15**  **TIDE LEVEL: 42 in + G**  **DATE 04/07/90**

**EST. SUBDIVISION LENGTH: 2,639 m**  
**SUN**  **Clouds**  **Fog**  **Rain**  **Snow**

**SURFACE DESCRIPTION:**  
- **Grass**  
- **Forest**  
- **Rock**  
- **Rocky**  
- **Dirt**  
- **Foul**  

**SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G 0 % S 0 % M 0 % V 0 %**

**SLOPE:**  
- **Lang**  
- **Hill**  
- **Vert**  

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

**OIL CATEGORY LENGTH:**  
- **W 30 m M 30 m N 30 m V 1,700 m NO 729 m**

### SURFACE OIL

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**PAVEMENT: H F $100 sq. m by 5 cm**

**PATTIES / TAR BALLS:** 0.1 ____ BAGS

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

**PHOTOGRAPHS:**  
- **Roll No. 51-13-3**  
- **frames 11-13**

### SUBSURFACE OIL

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**COMMENTS:**

1. Oil predominantly in surface of fine shale and in thin (<10 cm) layer of sediment above an upper Mi of reef.
2. Shoreline predominantly very wide (100 m) intertidal rock platform with sub tidal reef.

**Reviewed ___________ Date ___________**
SHORELINE ECOLOGICAL SUMMARY

Segment ST / MA 004 Subdivision A Date (mo / day / yr) 4-7-90

Time (24 hr) 7:15 Biologist Dan J. Loeb

(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 30 (3) Cobble 20 (4) Pebble 10 (5) Sand (6) Silt

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

(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:

See page 2

Ecological Considerations:

11, 624 - no comment

As in mid-intertidal cobble near pts 5 (see 06 mp) would be susceptible to disturbance/foot traffic.

Dense Fuc in mid-intertidal bedrock near pts 3 and 4 (see 06 mp) would be susceptible to disturbance/foot traffic.
Wildlife Observations/General Comments

1. Present in low intertidal: Helosarcia, Ulva, coralline algae, Anthopleura, Sertularia, unidentified red "bark" type alga

2. May dear tracks spotted at high tide line. Also found set of tracks of an unknown small animal (fox?)

3. One seal, one otter, many shorebirds/waterfowl, many seals in one

4. Patches of byssal threads found on mid-intertidal kelpae and boulders

5. In some areas of low intertidal total algal cover reached 90%

6. On high intertidal boulders barnacle mortality reached up to 80%, while on high intertidal boulder barnacle mortality reached 50%

7. Mussel mortality in mid-intertidal cobbles was < 25%

8. One otter skeleton and some fur found above high tide line, no oil was observed

9. 3 mature bald eagles spotted in area

10. One running stream found in segment, no oil observed. No information given on any ecologically sensitive streams in this segment
SEGMENT ST: A-101

DATE: 07.07.90

CHECKLIST:
- N Anom
- Approx. Scale
- Seg/Sub Entry
- Oil Data
- Width
- Length
- % Cover
- Substrate Character
- EWL, HWL, WL
- SSL
- Profile Location(s)
- Profile(s)
- Piket Location(s)
- Photo Location(s)

LEGEND:
1 ▲ Ph - No Subsurface Oil
2 ▲ Ph - Subsurface Oil

APR/B

CT/S on Bedrock

Shallow Subsurface Oil on Bedrock (5x10m)

CT/S (<1%)

CT/P 1x5m

AP/S No oil in stream pits

PT/S (<1%)

AP/S (<1%)

CT/13, 5x5m

CT/S (<1%)

3 m section of absorbent boom at top of boom

Oil Character Length (m): AP_30 _PO_0 _CV_0 _CT_50 _ST_0 _MS_0 _PT_1 _TB_0 _FL_0 _N_O_2_52_8
ST/MA-04
SUBDIVISION A - 10FL
North Part

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

Map Key: PWS-472b
Name: 
Date: 
Date Entered:
SHORELINE EVALUATION

SEGMENT ST/MA-05 SUBDIVISION A (1 OF 1) DATE 4/8/90

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)
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: ______________ DATE: 6/23/90

OILING CATEGORIZATION:
Wide 0_m: Medium 73_m: Narrow 0_m: V.Light 767_m: No Oil 358_m
Subsurface Oil Observed: Yes X No Maximum Depth 20+ cm

RECOMMENDATIONS:
X No Treatment Recommended
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
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommend manual removal of debris and tarmat and bioremediation of areas shown on sketch map. Work should be conducted after 5/10 due to hatchery release constraint and before 6/11 due to set net constraints.

TAG COMMENTS: ________________________________

TAG APPROVAL DATE: 4/21/90
ADEC
EXXON
NOAA
USCG

TAG AP
FOSC: __________________ DATE: 9-17-90
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  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 unooled 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)
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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 designated

7Z  Subsistence area:  Salmon harvesting  (5/1 to 9/30)
7H  Furfish harvesting
7I  Deer harvesting  (8/15 to 2/28)
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 ST: MA-05
SUBDIVISION: A-101
DATE: 04/08/9

USCG
NAME: David J. Thomas
SIGNATURE:

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Comments: (An attempt was made to recover tarballs in Segment from where it
Manual Removal of Asphalt: Tarballs &
Siltant Boom: - Tombo: - subsurface testing omitted.
Strong smell: - Ammonia? Low energy area?
Spilashes off CT throughout Segment. Very sporadic
Eastern end of Segment: Tarballs easily recovered.

LAND MANAGER
NAME: Marsha Martin/DNR SIGNATURE: Marsha Martin

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Oiled log at supratidal -
possibly creosote soaked in Very Light near beginning
or East portion Segment.
Stress treatment

Medium PREM.
# SHORELINE OILING SUMMARY

**OG:** Rick Gillie  
**BIO:** Dave Clark  
**LAND REP:** Martha Martin  
**EXXON:** Frank Dry  
**ADEC:** Clare Crothy  
**TIME:** 16:30 to 18:30  
**DATE:** 04/08/90

**TEAM NO.:** 18  
**EST. SUBDIVISION LENGTH:** 1508 m  
**SURVEYED FROM:** Foot  
**SURFACE SEDIMENTS:** R 40% B 10% C 30% P 20% G 0% S 0% M 0% V 0%  
**SLOPE:** Long 50% Hang 30% Vert 20%  
**OIL CATEGORY LENGTH:** W 0 m M 50 m N 0 m VL 1000 m NO 458 m

## SURFACE OIL

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**PAVEMENT:** H F 6 sq. m by 5 cm  
**PATTIES / TARBALLS:** 1 BAGS  
**NEAR SHORE SHEEN:** NO  
**BR RW SL TL**

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

**DEBRIS COLLECTED:** YES

**PHOTOGRAPHS:**  
- Roll No.: 5T-13-03  
- Frames: 23-26

## SUBSURFACE OIL

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**COMMENTS**

**REVIEWED**  
**DATE**
### SHORELINE OILING SUMMARY

**SEGMENT ST: WA-05 SUBDIVISION A-10**

#### SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL FILM COLOR</th>
<th>PIT ZONE</th>
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<td>P.C.</td>
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#### COMMENTS

- [Optional comments can be added here.]

**REVIEWED __________ DATE __________**
SHORELINE ECOLOGICAL SUMMARY

Segment ST, MA 005, Subdivision A

Date (mo/day/yr) 4-8-90

Time (24 hr) 16:30

Biologist: David John

(A) Substrate type and % of segments:
   (1) Bedrock 40 (2) Boulder 10 (3) Cobble 30 (4) Pebble 20 (5) Sand 15 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 15 Moderate 40 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)

BARNACLES

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Wildlife Observations/General Comments:

See page 2

Ecological Considerations:

- 4, 6U - no comment

- 3T - one mature bald eagle sighted in the area. No nest was sighted.
Shoreline Ecological Summary

Segment ST-MA005 Subdivision A 4-18-90

Scientist: David Lohr

Wildlife Observations/General Comments

1. Present in mid-intertidal: Ulva, Enteromorpha, Scytosiphon, Nudella, Sculpins, Nudella egg cases

2. Low intertidal not sampled

3. Two running streams located in segment. No oil was found near either one. No information was supplied on the presence of ecologically sensitive streams in this segment.

4. Mortality of mussels in mid-intertidal cobble reached up to 80%. Many water foul/shorebirds and ravens spotted in area.
Pebble Beaches
- Debris (drums, Krutai) from seasonal fish camp.

Island with Tumulo
- See detailed sketch map

---

LEGEND
1 △ P1 - No Subsurface Oil
2 △ P1 - Subsurface Oil

CT/C Continuous Distribution
CT/B Broken Distribution
CT/P Patchy Distribution
CT/S Spread Distribution

Oil Vegetation
• oo Photo location, direction, and number

Oil Character Length (m): AP 30, PO 0, CV, CT 30, ST 0, MS 0, PT 10, TB 10, FL 2, NO 1426
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MA-5 SUBDIVISION A (1 of 1)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>1E</td>
<td>Main Bay Hatchery Release Area</td>
<td>No constraint to manual pickup and tarmat removal. Subdivision open to bio remediation 6/4 to 6/8 per verbal authorization from Larry Pelcz/ADF&amp;G to Tom Monihan/Exxon on 5/24/90. No constraint to bio remediation after 6/15.</td>
</tr>
<tr>
<td>11</td>
<td>Gill Net Area</td>
<td>No constraint to manual pickup and tarmat removal; closed to bio remediation after 6/7.</td>
</tr>
<tr>
<td>1L</td>
<td>Set Net Sites</td>
<td>No constraint to manual pickup and tarmat removal; closed to bio remediation after 6/11.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>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.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 6/7. After 6/11, when set net sites are present, restrict beach operations to essential minimum. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

TAG ADDENDUM DATE: 6/4/90

Prepared by: [Signature]

Date: 6/2/90
ECOLOGY MAP 61
SEGMENT MA-5

SUBDIVISION A. (1/1 of 1/1)

EXXON Company, USA
Map Key: PMS-MA-5
May 11, 1990

Seabird Colony
Eagle Nest

Scales
0 300 750
1 inch = 1290 feet

Incorporates information from
USFWS bald eagle survey 5/30/90
SHORELINE EVALUATION

SEGMENT ST/MA-06  SUBDIVISION A (1 OF 1)  DATE  4/8/90

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-1 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:  5/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 412 m: No Oil 1767 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
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS:  Manual Pickup of Tarballs + Loosed Oil

TAG COMMENTS:

TAG APPROVAL DATE:  4/23/90
ADEC  ART WEAVER  DATE:  5/12/90
EXXON  JAMES THOMAS  DATE:  5/12/90
NOAA  SHARON C. TALEC  DATE:  5/12/90
USCG  KENNETH KRAUS  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)

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

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

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

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

Remote release site

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

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

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

Set net sites (6/11 to 7/25)

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

Herring spawning (4/1 to 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 (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

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

Recreation:
Tent sites (6/1 to 9/15)
Anchorage sites (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 (5/15 to 2/28)
Invertebrate harvesting

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

SEGMENT ST/MA - 06  
SUBDIVISION: A 1 of 1  
DATE 04/08/90

USCG NAME David S. Thomas  
SIGNATURE

☐ NO TREATMENT RECOMMENDED  
☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  
☒ TREATMENT SUGGESTED

ADEC NAME Clara J. Crosby  
SIGNATURE Clara J. Crosby

☐ NO TREATMENT RECOMMENDED  
☒ TREATMENT SUGGESTED

Comments:

Due to sensitivity (ecological) of segment.  Suggest manual removal of Salicola & pooled oil.  Segment contains N. oiling.  (Unable to recover oiling (Salicola) due to linear constraints.)

LAND MANAGER NAME Martha Martin/DEP  
SIGNATURE Martha Martin

☐ NO TREATMENT RECOMMENDED  
☒ TREATMENT SUGGESTED

COMMENTS
SHORELINE OILING SUMMARY

OG: Rick Gillie  
BIO: Dave Cole  
EXXON: Frank Day  
ADEC: Clare Crosby  

USCG  
LAND REP: Martha Martin  
SUBDIVISION: A - 1041  
TEAM NO.: 19  
TIDE LEVEL: +2 10 +0  
DATE: 04/1 08/90  

EST. SUBDIVISION LENGTH: 2,657 m  
SUN □ CLOUDS □ FOG □ RAIN □ SNOW  
GRASS □ FOREST □ ROCK □ SNOW  
SURVEYED FROM: □ Foot □ Boat □ Helo  
WORKING DIRECTION: E to W  
SLOPE: Lang 30% Hang 60% Vera 20%  
WAVE EXPOSURE: Low □ Med □ High  
OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 600 m NO 0.037 m  

SURFACE OIL

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PAVEMENT: H □ F □ S N/A % sq. m by cm.  
PATTIES / TARBALLS: 0.5 bags  
NEAR SHORE SHEEN? □ BR RW SL TL  

OILED DEBRIS AMOUNT  
Logs □ Vegetation □ Trash □ Debris □  
DEBRIS COLLECTED □ YES □ NO  
OIL / FILM COLOR PIT ZONE SUBSURFACE SEDIMENTS  

SUBSURFACE OIL

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PHOTOGRAPHS:

Roll No. 37-13-03  
Frames 27-28

COMMENTS
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST / **MA006** Subdivision **A** Date (mo / day / yr.) **4-8-90**

Time (24 hr.) **13:00** Biologist **David Koh**

(A) Substrate type and % of segments:
- (1) Bedrock **60**
- (2) Boulder **10**
- (3) Cobble **10**
- (4) Pebble **10**
- (5) Sand **10**
- (6) Silt **10**

(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 (3)

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- Photographs:
  - Roll No. **ST-D-3**
  - Frames **27, 28**

**GASTROPODS**

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- Photographs:
  - Roll No. **ST-D-3**
  - Frames **27, 28**

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Wildlife Observations / General Comments:

**See page 7**

Ecological Considerations:

**1E, 1L, 6Y - no comment**
**Shoreline Ecological Summary**

**Segment ST-MA 006  Subdivision A  4-8-90**

**Biologist:** David Lohe

**Wildlife observations/General comments**

1. present in low intertidal: Nuella egg cases, Enteromorpha, Halosaccion, coralline algae, Scytozophyllum, Anthopleura

2. mid intertidal: Cladophora, Anthopleura, coralline algae, Enteromorpha, Endocladium, Nuella, Sculpin, Scytozophyllum, Halosaccion

3. deer spotted wandering in intertidal zone

4. Running streams located within this segment. Streams 1, 2, 4 (2000 m) had no oil present, Stream #3 had no oil present in the immediate vicinity of the stream mouth, but there were some splatters on high intertidal bedrock ~40 m away. No inshore oil was supplied on the presence of ecologically sensitive streams in this segment.

5. Total algal cover reached 96% in some areas on low intertidal bedrock.

6. Patches of byssal threads were observed on mid-intertidal bedrock.

7. A white, powdery substance of unknown origin was found in a line along the high tide level of one portion of this segment. It spanned unbroken across bedrock, boulders, and cobbles. It土豪江
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 225-20-15020
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 unoiiled biota and substrate.

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

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 32 m: No Oil 4616 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended
Treatment Recommended
Manual Pickup
Bioremediation
Tarmat: Breakup
Removal

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/26/90
ADEC [Signature] DATE: 4-26-90
EXXON
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 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 uncolonized intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

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

Harbor seal and sea lion molting (6/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

Seabird colony (5/1 to 9/1)

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

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

Restrict all activity to essential minimum, especially air traffic.

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

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

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

Recreation:

Tent sites (5/1 to 9/15)

Anchorage (6/1 to 9/15)

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

Lodge (5/1 to 9/15)

Special use destination

Subsistence area:

Salmon harvesting (5/1 to 9/30)

Finfish harvesting

Deer harvesting (8/15 to 2/25)

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 / MA-07  SUBDIVISION: A-10f1  DATE 09/09/90

USCG
NAME David S. White  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

ADEC
NAME Clara J. Crosby  SIGNATURE Clara J. Crosby

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Oiling observed was not or removed by survey crew.

LAND MANAGER
NAME Marsha Martin  SIGNATURE Marsha Martin

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Lotto
**SHORELINE OILING SUMMARY**

OG: Rick Gillie
BIO: Dave Lohm
LAND REP: Martha Martin
EXXON: Frank Dwy
ADEC: Clare Crothy (ADNR)

TEAM NO.: 15
TIDE LEVEL: 0 + 4
DATE: 07/01

EST. SUBDIVISION LENGTH: 4,909 m

SURVEYED FROM: Fog

UPLANDS DESCRIPTION:
- Grass
- Forest
- Rock
- Snow

SURFACE SEDIMENTS:
- R 60 %
- B 20 %
- C 10 %
- P 10 %
- G 10 %
- S 0 %
- M 0 %
- V 0 %

SLOPE:
- Lang 10 %
- Hang 60 %
- Vert 30 %

WAVE EXPOSURE:
- Low
- Med
- High

OIL CATEGORY LENGTH:
- W 0 m
- M 0 m
- N 0 m
- VL 4,904 m

## SURFACE OIL

<table>
<thead>
<tr>
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PVEMENT: H F S N/A sq. m by N/A cm

PATTIES / TARBALLS N/A

BAGS N/A

NEAR SHORE SHEEN? NO

BR RW SL TL

OILED DEBRIS AMOUNT
- Logs
- Vegetation
- Trash
- Debris

DEBRIS COLLECTED
- YES
- NO

TYPE N/A

#BAGS N/A

Photographs:
- Roll No. ST-13-3
- Frames

## SUBSURFACE OIL

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**COMMENTS**
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/MA 003  Subdivision  G  Date (mo/day/yr)  4-9-90

- **Time (24 hr)**: 8:00
- **Biologist**: Biologist

(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 15  Moderate 40  Low 35

(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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**GASTROPODS**

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- **Wildlife Observations/General Comments**: See page 2
- **Ecological Considerations**: 1L, 6Y - no comment
Shoreline Ecological Summary

Segment ST-MA007 Subdivision A 4-9-90

Engineer: David Lehr

Wildlife Observations/General Comments

1. present in low intertidal: Enteromorpha, Pychopodium, coralline algae, Sargassum, Halosaccion, Ulva, Ectocarpus, Anthopleura

mid intertidal - Leptasterias, Anthopleura

2. otter, seal, and many shore birds/lounts foul seen in the area

3. extensive patches of byssal threads found on mid-intertidal bedrock

4. Total algal cover on low intertidal bedrock reached up to 80% in some areas

5. interomorpha dense in spots on low intertidal boulders/cobble

6. Mussel mortality reached up to 70% on mid-intertidal cobble

7. Two running streams located in segment. No oil present

8. Female cypids found on mid-intertidal cobble in one area. Settlement density would be characterized as sparse in this area, rare for the overall segment.
ST/MA-07
SUBDIVISION A - 1 of 1

XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

Mek Key: PWS-475b
Name:
Date:
Data Entered:

ADEC Segment Length: 4648m
SHORELINE EVALUATION

SEGMENT ST/ MA-09 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADFG Anadromous stream no. 225-20-15044
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:  [Signature]  DATE: 4/21/90

OILING CATEGORIZATION:

Wide 85 m: Medium 133 m: Narrow 0 m: V.Light 952 m: No Oil 1394 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 Removal  ___ Beach Cleaner
___ Other (see comments)

COMMENTS: Recommended treatment activities include 1) remove oiled debris, 2) remove tarmat and 3) bioremediate areas indicated on map. Work should be conducted between 5/16 and 7/9 due to above listed constraints.

TAG COMMENTS: MONITOR TO ACCESS SUITZ

TAG APPROVAL DATE: 4/26/90
ADEC [Signature]  DATE: 5/9/90
EXXON [Signature]  FOSC: [Signature]  DATE: 5/9/90
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)

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

Main Bay Hatchery release (4/20 to 5/10) (4/15)

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

Cannery Creek Hatchery release (4/21 to 8/1)

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

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

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

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

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

All Bald Eagle nests (3/1 to 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.

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 (3/15 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: MA-09 SUBDIVISION: A-1of1 DATE 04/07/92

USCG NAME: David S. Thomas SIGNATURE: [Signature]

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

COMMENTS

ADEC NAME: Clara Crosby SIGNATURE: Clara I. Crosby

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

COMMENTS

Superficial wrack observed, due to strong wave energy. Heavy storm wave prevented through view of OL in some pocket beaches. (High energy) - The South Eastern beach of heavy coverage, Staking will be only partially immediate. Suggest manual picking of AP. debris.

LAND MANAGER NAME: MARSHA MARTIN DNR SIGNATURE: Marsha Martin

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

COMMENTS

Show Fishery Lease AICL 32881 located at South East portion segment, Roll 1, photo 21 of oiling under rock on bedrock.
**SHORELINE OILING SUMMARY**

**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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<tr>
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<tr>
<td>Mousse</td>
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<td>Patties</td>
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<td>Tarballs</td>
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<td>Film</td>
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**SUBSURFACE OIL**

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**COMMENTS**

**PAVEMENT:** H F $20$ sq. m by $5$ cm

**PATTERNS/TARBALLS:** 01 BAGS

**NEAR SHORE SHEEN:** NO

**BAGS:** N/A

**OIL AMOUNT:**
- Small (SM)
- Medium (MD)
- Large (LG)

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

**OIL CATEGORY LENGTH:** W, $50$ m M, $80$ m N, $30$ m V, $1200$ m NO, $1400$ m

**SLOPE:** Lang $40\%$ Hang $20\%$ Ven $30\%$

**SURFACE SEDIMENTS:**
- Grass
- Forest
- Rock
- Snow

**TIDE LEVEL:** +5 m

**DATE:** 04/07/90

**TIME:** 16:10 to 18:55

**LOCATION:** DAY: OSM, TM 180 coordination

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

**SURFACE OILING SUMMARY**

**SEGMENT:** MA-07

**DATE:** 04/07/90

**TIME:** 16:10 to 18:55

**DATE:** 04/07/90

**TIME:** 16:10 to 18:55

**DATE:** 04/07/90

**TIME:** 16:10 to 18:55

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COMMENTS

REVIEWED ___________ DATE ___________
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST / MA-009 Subdivision _A_ Date (mo / day / yr) _4-7-90_

Time (24 hr) _15:30_ Biologist _Dawn Cohn_

(A): Substrate type and % of segments:
- (1) Bedrock _50_
- (2) Boulder _20_ (3) Cobble _70_ (4) Pebble _20_ (5) Sand _10_ (6) Edges

(B): Overall % cover of biota (% of segment): Dense _30_ Moderate _30_ 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 (G))

### BARNACLES

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Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

1E, 1L, 6Y - no comment

1B-5 running streams located in segment. All 5 were covered with snow above high tide line. Streams 1-4 had no oil in intertidal region. Stream the easternmost stream (close to border with MA-010) had oil present in intertidal area.
Shoreline Ecological Summary

Loc: 2

Bolinger ST-MA 009 Subdivision A 4-7-90

Bolinger: David Koh

Wildlife Observations / Green Cormorants

1. Present in low intertidal: Halosaccion, coralline algae, Asterina, Enteromorpha, Systosiphon

mid intertidal: Enteromorpha, Ulva, Systosiphon, coralline algae, Halosaccion, Ecklonia, Scul, Pagonia, undistinguishable "branch", Zostera? (mid intertidal pods)

2. 1 mature bald eagle spotted

3. Bear and deer tracks spotted above high tide line

4. Bald eagle tracks and tracks of small animal found together at high tide line. Both sets of tracks converged on one area where the sand was greatly disturbed.

5. Mortality of mussels in mid-intertidal pebbles ranged from 35-90%.

6. One freshly dead squid found washed up on high intertidal bedrock

7. There were many high intertidal tide pools. Enteromorpha and gastropods (mostly Littorine) were most common in these pools.

8. Enteromorpha dense in some areas on low intertidal cobble and boulders
**Sketch Map**

- **Refuse Debris**
  - Location: CT/P, 3x10m
- **Resept Asphalt + Bio**
- **Pan-pom plastic debris (not oiled)**
  - Location: AP/P, 1x5m, AP/P, 1x5m
- **Remove Asphalt + Bio**
- **Oil-affected landward of bedrock outcrop**
- **CT/S, CV/S, AP/B**
- **FL/S, PT/5**

**Legend**

- **1 Δ**
  - Pt: No Subsurface Oil
  - Pt: Subsurface Oil
  - CT/C: Continuous Distribution
  - CT/B: Broken Distribution
  - CT/P: Patchy Distribution
  - CT/S: Splattered Distribution
  - CVD: Vegetation
- **Oil Character Length (m):** AP 0 CV 2 CT 39 ST 0 M0 0 PT 2 TB 0 FL 5 NO 1
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MA-9 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
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<th>Manual Pickup Tarmat Removal</th>
<th>OPEN</th>
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<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK 6/4 to 6/7</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

1A,1B Salmon Stream

No constraint. ADF&G catalogued anadromous stream (225-20-15044) is more than 100m from recommended treatment areas.

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 Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to manual pickup and tarmat removal.

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.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 6/4/90
ADEC
EXXON
NOAA
USCG
Prepared by: Andrew Meyer  
Date: 6/4/90
SHORELINE EVALUATION

SEGMENT ST/ MA-10  SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1E Main Bay Hatchery release (4/20 to 6/10)
1L Set net sites (6/11 to 7/25)
5T-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. One bald eagle nest (see ecology map).

SHPO SIGNATURE: __________________________ DATE: 4/28/90

OILING CATEGORIZATION:
Wide 0 m: Medium 89 m: Narrow 0 m: V. Light 76 m: No Oil 936 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)
X Manual Pickup ____ Absorbents (pads, rolls, etc)
X Bioremediation ____ Spot Washing: __ Wands
X Tarmat: Removal ____ Beach Cleaner
____ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pick up of oiled trash and absorbent boom, 2) tarmat removal and 3) bioremediation of subsurface oil in areas indicated on sketch map. Work should be conducted after 6/1 due to eagle nest constraint and with the approval of USFWS. MANUALLY RAKE IN AREA OF PIT PRIOR TO BU.

TAG COMMENTS: ____________________________________________

TAG APPROVAL DATE: 4/28/90
ADEC JON FARMER FOSC: __________ DATE: __________
EXXON: __________________________ NOAA: __________________________
USCG: __________________________
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

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

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

Main Bay Hatchery release (4/20 to 6/10)

Seward 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 unooled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/11)
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 300m horizontal and 300m vertical distance from haulouts.

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

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

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

Recreation:

Tent sites (5/1 to 9/15)

Anchorage (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

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

SEGMENT ST: MA-10  SUBDIVISION: A 1of1  DATE: 04/08/90

USCG
NAME: David S. Thomas  SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

ADEC
NAME: Clara S. Crosby  SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:

Full evaluation of biding chafing by snow in JU. Relatively light area I area previously designated (ADEC Supt.) concentrations of oil were surveyed as well as possible (high energy segment-Hiway Burn in C Bunch). Suggest manual removal of asphalt. Bioremediation of coatings.

LAND MANAGER
NAME: Marsha Martin  DNR  SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS: [Blank]
**SHORELINE OILING SUMMARY**

OG: Rick Gillie USCG 601 Thomas SEGMENT ST: MA-10
BIO: Dave Tiberi LAND REP: Martha Marta SUBDIVISION: A-15
EXXON: Frank Day ADEC Clara Croshy (ADME) TIME 07:30 to 09:00
TEAM NO.: 15 TIDE LEVEL: +0 to +3 DATE 01/08/90
EST. SUBDIVISION LENGTH: 1000 m
UPLANDS DESCRIPTION: Grass Forest Rock
SURVEYED FROM: Foot Boat Heli WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 40% B 30% C 20% P 10% G 0% S 0% M 0% V 0%
SLOPE: Lang 20% Hang 30% Var 40% WAVE EXPOSURE: Low Med High
OIL CATEGORY LENGTH: W 0 m M 25 m N 0 m VL 30 m NO 945 m

## SURFACE OIL

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- PAVEMENT: H F 500 sq. m by 2 cm
- PATTTIES/TARBALLS | 0 | BAGS
- NEAR SHORE SHEEN? NO BR RW SL TL

**OILED DEBRIS**

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Photographs:

- Roll No.: ST-13-3
- Frames: 18-22

## SUBSURFACE OIL

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**COMMENTS**

Page 1 of___

REVIEWED: [Signature] DATE: 16 Apr 90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST / MA 2.0 Subdivision A Date (mo / day / yr ) 4-8-90

Time ( 24 hr ) 7:15 Biologist Daniel E. Joy

(A ) Substrate type and % of segments:

1) Bedrock 40( 2) Boulder 30 ( 3) Cobble 20 ( 4) Pebble 10 ( 5) Sand 10 ( 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 ( 3 )

Photographs: Roll No. ST-13-3

Frames 18-22

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**Wildlife Observations/ General Comments:**

See page 2

**Ecological Considerations:**

E 1L - no comment
Shoelie Ecological Summary

Segment ST-MA 010  Subdivision A  4-8-90

Biologist: David Cohen

Wildlife Observations / General Comments

1. present in low intertidal: Scolosiphon, Halosaccus, coralline algae, Enteromorpha, Pissada ochraceus, Pycnopodia, Chondophora, unidentified red algal "blok"


   high intertidal: Enteromorpha

2. Patches of brown threads found on mid-intertidal bedrock

   Seal spotted in area

4. Otter carcass found at/above high tide line. No oil observed

5. Otter seen above high tide line

6. Enteromorpha was moderate-dense and gastropods (Littorina) moderate in high intertidal tide pools.
SKETCH MAP

(Notes, Previous surveys indicated No oil)

CT/S (<1%)

AP/P (1 m²)

AP/C 5x10m

FL/RW

Bioremediated

Remove Tarmat Breakup

- Oil in rock crevices 1 m on bedrock platform

Falls Bay

Oil Character Length (m): AP... 20 PO CV 5 CT 20 ST 0 MS 0 PT 0 TB 0 FL 10 NO 945
ST/MA-10
SUBDIVISION A

Not mined (previously No Oil)

Ecology Map

MA-

Map Key: PWS-468
Name: ___________________________
Date: ___________________________
Data Entered: ____________________

ADEC Segment Length: 1457m

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

METERS
### ADDENDUM: SUBDIVISION CONSTRAINTS

#### SEGMENT MA-10 SUBDIVISION A (1 of 1)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
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<tbody>
<tr>
<td><strong>Manual Pickup</strong></td>
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<tr>
<td><strong>Tarmat Removal</strong></td>
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<tr>
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<tr>
<td><strong>Bioremediation</strong></td>
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<td><strong>Manual Raking</strong></td>
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<tr>
<td><strong>WORK 6/4 - 6/7</strong></td>
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#### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Activity</th>
<th>Details</th>
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<tbody>
<tr>
<td>1L</td>
<td>Gill Net Area</td>
<td>No constraint to manual pickup and tarmat removal. Closed to bioremediation and manual raking after 6/7.</td>
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<tr>
<td>1L</td>
<td>Set Net Sites</td>
<td>No constraint to manual pickup and tarmat removal. Closed to bioremediation and manual raking from 6/11 to 7/25.</td>
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<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. USFWS bald eagle impact assessments completed on 5/10/90 and 5/22/90 by Mike Lockhart indicates no active nests within 400m of the work area.</td>
</tr>
</tbody>
</table>

#### OTHER ECOLOGICAL CONSIDERATIONS

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

---

Prepared by Andrew Meyer  Date 5/29/90
Incorporates information from USFWS Bald Eagle survey 3/14/23.

ECOLOGY MAP
SEGMENT MA-10
SUBLISSION A (.). (of .)

1 inch = 1220 feet

Seabird Colony
Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ MN-91 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17570

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 6/10)
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 ZOOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. If bioremediation is recommended, use with caution due to above 1A, 1B, and 2M constraints and abundant intertidal biota.

SHPO SIGNATURE: ___________________________ DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 50 m: Narrow 0 m: V.Light 2105 m: No Oil 2839 m
Subsurface Oil Observed: Yes __ No X Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of oiled rope and pom pom in area indicated on sketch map #1, and 2) manual removal of pooled oil and fine sediments found in cracks of shale located in area indicated on sketch map #1. Work should be conducted with approval of USFWS due to eagle nest.

TAG COMMENTS: ____________________________________________________________

TAG APPROVAL DATE: 4/30/90
ADEC ____________ Date: ____________
EXXON ____________ Date: ____________
NOAA ____________ Date: ____________
USCG ____________ Date: ____________

FOSC: ____________ DATE: 5/9-90
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/17 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage
No bioirradiation or other chemical application within 100 meter 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)
Seward 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 unoffiled 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 400 meter horizontal and 300 meter vertical distance from haulouts.

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

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

All Bald Eagle nests (3/1 to 8/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400 meter 3/1 to 8/1. Air approach and takeoff from and to seaward only, maintain 800 meter horizontal, 300 meter 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)

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
NO TREATMENT RECOMMENDED  ✗ TREATMENT SUGGESTED

**ADEC**

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

I concur with OG's map and comments.

Cooled oil in interstices of vertical shale bedrock can be removed manually (i.e. Pick & shovel). Field tested on site proved effective.

Note: As sun warmed boulders with tarry coat, cracks formed in surface of coat and black shiny viscous oil appeared to migrate outward.

Might be good site for bio remediation following hand removal.

Note: Beware of major herring spawn area.

**LAND MANAGER**

NAME: Jon Courthoul (End)  SIGNATURE: Jon Courthoul

Cooled oil shown on OG sketch map was turning liquid as sun continued to heat rocks & oil. Some of this coat was thick likewise. Softening in mid intertidal & will sheen. Cold or wet away is high tide. Recommend removal of cooled oil with travel or shovel. Recoverable oil would amount to about 3 bags. Inaccessible by landing craft because of long, shallow boulder beach. Considerable splashes of coat on beach as shown on site map. Heavy oil of herring eggs on face of gulls & rocks below. Mix along 80% of beach. Numerous gulls, 15-20 eagles. Bear & deer.
**SHOVELINE OILING SUMMARY**

**SEGMENT ST** / MN-1

**TEAM NO.** 2

**TIDE LEVEL:** +6.0 to +3.0

**DATE:** 5/20/90

**EST. SUBDIVISION LENGTH:** 5,050 m

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

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

**WORKING DIRECTION:**
- W
- E

**SURFACE SEDIMENTS:**
- R 30%
- B 30%
- A 20%
- C 10%
- P 10%
- G 5%
- S 5%
- O 5%
- M 5%
- V 5%

**SLOPE:**
- Land 75%
- Hang 20%
- Van 5%

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

**OIL CATEGORY LENGTH:**
- W 60 m
- M 50 m
- N or m
- V 3150 m
- NO 2850 m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### PAVEMENT H F S

- M 20 sq. m by 0 cm

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

**DID YOU COLLECT DEBRIS?**
- Yes

<table>
<thead>
<tr>
<th>DEBRIS TYPE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td></td>
</tr>
<tr>
<td>Trash</td>
<td></td>
</tr>
<tr>
<td>Debris</td>
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**Photographs:**
- Roll No. ST-1-4
- Frames 7-20

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>OILED SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERNAL</th>
<th>OILED CONIFERAL</th>
<th>OILED CONIFERAL</th>
<th>OILED CONIFERAL</th>
<th>OILED CONIFERAL</th>
<th>OILED CONIFERAL</th>
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<td>X</td>
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</tr>
<tr>
<td>3</td>
<td>260</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>250</td>
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<tr>
<td>5</td>
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<td></td>
</tr>
<tr>
<td>6</td>
<td>260</td>
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<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

Most of the segment consists of a boulder beach overlying shale bedrock. The bedrock is shallow and at times exposed. The majority of the beach is not oiled or very lightly oiled (spotty coat). Due to the shallow bedrock and light oiling, subsurface oiling is not present. There is only one-50 m length of beach were oiling is moderately heavy (see sector map). This is mainly due to oil pooling in the interstices of the shelly bedrock.

**REVIEWED**

饮水

**DATE:** 4/24/90

**PIT No.: 1-6
**PIT DEPT (cm): 160-250
**OILED SUBSURFACE OIL CHARACTER: X
**OILED INTERNAL: X
**OILED CONIFERAL: X

**OILED CONIFERAL:** X

**OILED CONIFERAL:** X

**OILED CONIFERAL:** X

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**OILED CONIFERAL:** X

**OILED CONIFERAL:** X

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**SHOVELINE OILING SUMMARY**

**SEGMENT ST** / MN-1

**TEAM NO.** 2

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<th>OILED CONIFERAL</th>
<th>OILED CONIFERAL</th>
<th>OILED CONIFERAL</th>
</tr>
</thead>
</table>
## Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below Oil / Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Basis (of)</th>
<th>Surface Subsurface Sediment</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>30</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>C/G</td>
</tr>
</tbody>
</table>

**Comments**

Reviewed: 7 W  Date: 4/21/90
Exposed bedrock
- SSL where significantly different than HWL

Legend:
- 1 △ Pt: No Subsurface Oil
- 2 △ Pt: Subsurface Oil
- CT/C: Contaminant Distribution
- CT/O: Oiled Vegetation
- Sketch
- Sketch 2

On the map:
- Boulders
- Forest
- Oiled Zone Shaded
- Slope
- Profile
- Isolated gravel on boulders with occasional oiled gravels between boulders
- Forest
- Boulders on shallow bedrock

Checklist:
- N Area
- Appar, Scale
- Surf/Sub Burry
- Oil Div.
- Week
- Length
- % Cover
- Substrate Character
- Est HML/A
- SSL Location
- Profile Location
- Pit Location
- Photo Location

Date 4/19/00

Map Scale: 1:1000
SHORELINE ECOLOGICAL SUMMARY

Segment ST/MN-01 Subdivision A Date (mo/day/yr) 1/28/90

Time (24 hr) 1:35-19:53 Scientist S. Schroeder Tide Range: 3.71

(A) Substrate type and % of segments:
   (1) Bedrock 70 (2) Boulder 70 (3) Cobble 8 (4) Pebble 2 (5) Sand 8 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 23 Moderate 19 Low 58

(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)

Wildlife Observations/General Comments: Sensitive Turtles 1A, 6; 1E; 7II; 2M;
   2-3 Bald Eagles seen daily ST-3 (3.w/in segment)
   (20-30 sea otter around 4-5 immature); Horse eggs in 1/2 5-6 in diam.

Ecological Considerations: This segment had large areas of densely populated
   headlands & broader pockets barren in the Pitz & Litz. About 70-80%
   of shore line was colonized with dense concentrations of horse eggs in
   the Pitz. Horse eggs were abundant on bedrock outcrops which
   commanded 3/4 of the segment. Bedrock & boulders had pockets barren
   with few other Components. Rod clumps, Dungeness & crabs were minimal
   in the Pitz & mid Litz. There were composed of 10-15% +
   structure. Few sound holes in substrate & Litz along 60-70% of segment.
<table>
<thead>
<tr>
<th>Species</th>
<th>UTZ</th>
<th>MITZ</th>
<th>LITZ</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLORA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BOSSIELLA CORALLINA</strong></td>
<td></td>
<td></td>
<td></td>
<td>In Pools</td>
</tr>
<tr>
<td><strong>CALLIARACHNION/ CORALLINA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CLADOPHORA SPP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COSTARIA SPP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ENDOGLADIA MURICATA</strong></td>
<td>1,2</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FILAMENTOUS GREENS</strong></td>
<td>1,2</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>FILAMENTOUS REDS</strong></td>
<td>1,3</td>
<td>1,3</td>
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<tr>
<td><strong>GLOIOSPELTS FURCATA</strong></td>
<td></td>
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<tr>
<td><strong>HALOSACCAON GLANDIFORME</strong></td>
<td>1,3</td>
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<tr>
<td><strong>LAMINARIA SPP</strong></td>
<td></td>
<td></td>
<td>1,2</td>
<td>1 instance in Pools</td>
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<tr>
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<td><strong>NEROCYSTIS SPP</strong></td>
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<td><strong>RHODOMELA LABRIS</strong></td>
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<td><strong>RHOMENIA PALMA</strong></td>
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<td><strong>SCYTOPHON SPP</strong></td>
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<td><strong>ULVA SPP</strong></td>
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<td></td>
</tr>
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<td><strong>ZOSTERA MARINA</strong></td>
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<td></td>
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<td><strong>ENTOROMORPHA</strong></td>
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<tr>
<td><em>P. Scouler (algae grass)</em></td>
<td>1,2</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flerovia sp.</td>
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<td></td>
<td></td>
<td>In shallow substrate</td>
</tr>
<tr>
<td><strong>FAUNA</strong></td>
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<td><strong>ANTHOPLEURA SPP</strong></td>
<td>1</td>
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<td>Cedricantis, artemisia</td>
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<tr>
<td><strong>(SEM) BALANUS CARIOUSUS</strong></td>
<td></td>
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<td>on hard sands</td>
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<tr>
<td><strong>B. GLANDULA</strong></td>
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</tr>
<tr>
<td><strong>CHITONS (other than K. TUNICATA)</strong></td>
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<tr>
<td><strong>CLAMS</strong></td>
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<tr>
<td><strong>CRABS</strong></td>
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<tr>
<td><strong>DERMASTERIAS IMBRICATA</strong></td>
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<td></td>
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<td>Not Seen</td>
</tr>
<tr>
<td><strong>KATHARINA TUNICATA</strong></td>
<td>1,2</td>
<td></td>
<td></td>
<td>recruits seen</td>
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<tr>
<td><strong>LEPTASTERIAS HEXACTIS</strong></td>
<td>1,2</td>
<td></td>
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<tr>
<td><strong>LIMPETS</strong></td>
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<tr>
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<td></td>
<td>4 recruits seen</td>
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<td><strong>NUCELLA SPP</strong></td>
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<td><strong>PAEGERUS SPP</strong></td>
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<tr>
<td><strong>PISASTER OCHRACEUS</strong></td>
<td>1,2</td>
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</tr>
<tr>
<td><strong>POLYCHASTES</strong></td>
<td></td>
<td></td>
<td></td>
<td>Not Seen</td>
</tr>
<tr>
<td><strong>PYCNOPODIA HELIANTHOIDES</strong></td>
<td></td>
<td></td>
<td></td>
<td>mainly under buttocks</td>
</tr>
<tr>
<td><strong>SEARLESSIA DIRA</strong></td>
<td>1,2</td>
<td></td>
<td></td>
<td>Not Seen</td>
</tr>
<tr>
<td><strong>SERPULIDAE</strong></td>
<td></td>
<td></td>
<td></td>
<td>Cossi around, not seen</td>
</tr>
<tr>
<td><strong>SIPHONARIA THERSITES</strong></td>
<td></td>
<td></td>
<td></td>
<td>2 seen</td>
</tr>
<tr>
<td><strong>TEARIA</strong></td>
<td>1</td>
<td></td>
<td></td>
<td>Abundant in butten fell with fin</td>
</tr>
<tr>
<td><strong>FUCITARIS</strong></td>
<td>1,2</td>
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<td></td>
</tr>
<tr>
<td><strong>Volulthropa SPP</strong></td>
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</tbody>
</table>
Several of the salient ecological features on MN-01A were: (1) dense concentrations of herring eggs in the MITZ and the upper LITZ along about 50% of the segment. The herring eggs were found on bedrock, boulders and cobbles, eelgrass, and most species of algae in the MITZ (e.g. Fucus, Phyllospadix, Codium, Ulva). Egg concentrations were highest on bedrock headlands, although they were found on boulder and cobble pocket beaches, sometimes in dense aggregations. Herring eggs were absent from pocket beaches through which fresh water ran. (2) An anadromous stream about 1 km NE from the southern end of the segment; and (3) large numbers of adult and immature bald eagles.

The segment can be divided into 4 main kinds of shorelines: (1) bedrock headlands (34%), (2) boulder and cobble pocket beaches (27%), (3) cobble and pebble pocket beaches (16%), and (4) boulder/cobble/gravel pocket beaches with large amounts of freshwater runoff at low tides (23%).

Shoreline (4) was notable in having high densities of barnacles (almost all B. glabrula), mussels, and gastropods (littorines and Nassarius rotundus, melolontha, and Zolothia) throughout the MITZ and in the upper LITZ. Recruitment of barnacles and gastropods was moderate to dense in these areas, and recruitment of mussels was sparse. With the exception of several occurrences of B. ochraceus and Exaculors the stars on the segment were all Leptasterias hexactis. These occurred
under 20% of 66 boulders turned in the MITZ along the segment. None of them were brooding eggs.

On the rocky headlands, barnacles were sparse to rare and consisted mainly of adult S. cariosus with rare recruits. Mussels were rare and consisted mainly of small (< 3cm) individuals. The rocky headlands had moderate to high densities of Eucnus in the MITZ and lower LITZ, as well as sparse to moderate densities of Phyllospadix acouleri in pools in the MITZ. Leptasterias were found beneath boulders on the bedrock.

Eucnus occurred in sparse to moderate densities in the LITZ and in the subtidal. Phyllospadix acouleri beds occurred along about 80% of the segment in shallow subtidal. Herring eggs were on the Eucnus and eel grass in the shallow subtidal.

Sea lions were abundant and feeding on (presumably) herring along the entire segment. Sea gulls numbered in the thousands per kilometer of shoreline, and 2 or 3 bald eagles were seen on every 500 meter stretch of shoreline. Sea otters were only seen twice, as were oyster catchers.
MN-1

ADEC Segment Length: 5049m

B. Berglund 9/30/90

= Tan bull/splash. Very isolated splash on boulder. < 0.5% cover. Splash 2-3 cm² and 0.5-1 cm thick. Black & Hard. Very weathered. < 1 bag total.
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream
ADF&G catalogued anadromous stream (227-20-17570) is more than 100m from work site. No constraint to manual pickup.

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

2M Herring Spawning
No constraint to manual pickup.

5T Bald Eagle Nest
USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup within 400m of active nest. No constraint to manual pickup more than 400m from active nest.

711 Subsistence: Deer Harvesting
No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 227-20-17570) FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC
Date 6/3/90

Prepared by J.P. Phillips
Date 6/12/90
**ARCHAEOLOGICAL STANDARD CONSTRAINT**

If cultural resources are uncovered, PHONE 564-3274.

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

<table>
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<tr>
<th>Segment</th>
<th>Constraint</th>
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</thead>
<tbody>
<tr>
<td>1A,1B</td>
<td>Salmon Stream, no ADF&amp;G catalogued anadromous streams are present in this subdivision. No constraint to manual pickup, tarmat removal, and bioremediation.</td>
</tr>
<tr>
<td>2M</td>
<td>Herring Spawning, no constraint to manual pickup and tarmat removal. Closed to bioremediation prior to 6/15.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest, NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting, no constraint to manual pickup and tarmat removal. Closed to bioremediation after 8/15.</td>
</tr>
</tbody>
</table>

**OTHER ECOLOGICAL CONSIDERATIONS**

Restrict boat traffic and beach disturbance to essential minimum after 8/15. Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unaltered substrate and biota especially intertidal and subtidal algae and seagrass.
SHORELINE EVALUATION

SEGMENT ST/ MN-03 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-10-17130 (P, 12/88) and 227-10-17120 (P, 12/88)

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
2M Herring spawning (4/1 to 6/15)
5T-1 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)
9FF Deer habitat

See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: __________________________ DATE: 5/3/90

OILING CATEGORIZATION:

Wide 12 m: Medium 0 m: Narrow 0 m: V.Light 3964 m: No Oil 3900 m

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

_____ No Treatment Recommended
_____ Treatment Recommended
_____ Manual Pickup
_____ Bioremediation
_____ Tarmat Removal

_____ Snare/Absorbent Booms
_____ Oil Snare (pom poms)
_____ Absorbents (pads, rolls, etc)
_____ Spot Washing: Wands
_____ Beach Cleaner
_____ Other (see comments)

COMMENTS: Manually remove asphalt pavement as shown on sketch map. Work should be conducted after 6/1 with USFWS approval based on eagle nest constraints.

TAG COMMENTS: Manual Pickup of Tar Particles

TAG APPROVAL DATE: 5/3/90

ADEC _________________ DATE: 5-8-90
ADEN
EXXON _________________ FOSC: _________________ DATE: 5-8-90
NOAA
USCG _________________
Salmon stream mouth - fry outmigration (3/1 to 5/15)

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inipool application, prior to July 31 unless authorized by ADF&G. Treatment which will 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 Morfson 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 inipool 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

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

Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inipool application, prior to July 31 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 for confirmation and authorization.

AGENCY CONTACT PERSON: 1G ADF&G Larry Peltz 424-3214

AGENCY CONTACT PERSON: PWS, SEWARD AND HOMER AGENCY CONTACT PERSON: 11 ADF&G Evelyn Biggs 424-3235

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 without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inipool 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 John Morfson 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 inipool 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

AGENCY CONTACT PERSON: PWS, SEWARD AND HOMER AGENCY CONTACT PERSON: 11 ADF&G Evelyn Biggs 424-3235

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

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

Purse seine hook-on (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 (11) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or inipool 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

Harvesting 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 uncollected intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or inipool 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 inipool 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 Jill Parlett 786-3377

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: USFWS Jill Parlett 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parlett 786-3377

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: USFWS Jill Parlett 786-3377

Recreation:

Tent sites (5/1 to 9/15)

Anchorage (5/1 to 9/15)

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

Lodge (6/1 to 9/15)

Special use destination

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

Purse seine fishing

Set net sites (6/15 to 2/28)

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 inipool 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 Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT #1: MN003  SUBDIVISION: ___________________________  DATE: ___________________________

NAME: Robert Jensen  SIGNATURE: ___________________________

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
The only area that needs to be treated is a pavement area (AP/P) NE of Regulatory Sign marker (see sketch). Area is 1085 m² in SUZ 60%.

NAME: Rowann T. Hudnall  SIGNATURE: ___________________________

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
AP/P needs to be removed. 1 area in long segment needs treatment. 1 asphalt patch in SUZ. Right above this patch there is oil on the sedge area that should be removed by shovel also.

LAND MANAGER
NAME: ___________________________  SIGNATURE: ___________________________

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:
- NONE

REVISION NO: 00/1/00  15/27
**SHORELINE OILING SUMMARY**

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<th>TEAM NO.</th>
<th>DATE</th>
<th>SEGMENT ST.</th>
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<th>TIME</th>
<th>EST. SUBDIVISION LENGTH</th>
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**SURFACE OIL**

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**SUBSURFACE OIL**

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<th>OIL CHARACTER</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<th>ANA SHEEN (Y/N)</th>
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**COMMENTS**

**PHOTOGRAPHS:**

Roll No.: ST-2-201
Frames: FR 15-22

**DID YOU COLLECT DEBRIS?**

YES ☑ NO ☐

**TYPE TB:**

#BAGS 1

**REVIEWED:**

DATE: 4-25-90
SUMMARY OF OILING OBSERVATIONS

for MN-002A

This is a long segment located immediately to the north of Manning Bay on Montague Is.

A complete lack of identifiable features on most of the GIS map sheets means that there could be as much as +/- 1% error in the positioning of oiling categories within the central part of the segment; however, the total proportion of oiling categories are believed to be accurate within +/- 10%.

The dominant morphology of the shore zone is a hummocky bedrock ramp with a veneer of cobbles, boulders and some pebbles in the LITZ, MITZ and UITZ, a rock ramp with cobble/boulder veneer in the SUTZ often with either a "sedge" grass cover or a pebble granular berm. The immediate backshore of much of the segment consisted of a 50-100m wide area of sedge grasses and alder backed by a relic erosional scarp (pre-1984 earthquake). Exceptions to this general picture included: a complete cobble/boulder cover in the place of the bedrock ramp, small pebble/sand deltas at the mouths of some of the larger streams and the development of a very large cuspatte foreland near the south end of the segment (the cape immediately to the north of Cape Bazil). Much of the intertidal cobble and boulder material is very angular and immature as a result of recent uplift associated with the 1984 earthquake. Longshore sediment transport, as indicated by drift of delta sediments and displacement of the cuspatte foreland, is to the southwest.

Oiling within the segment is relatively uniform with a discontinuous band of "tarry" splashes in the UITZ and sometimes in the SUTZ; band width is typically 10m with <1% cover. At one location, asphalt pavement had formed in the SUTZ and there is a discontinuous line of mouse patties near the HML. Near the south end of the segment, the tarry splats that were noted were extremely hard and glassy inside when broken; it is believed that these splats are unrelated to the EXON VALDEZ oil although they are included on the oil maps.

4/27
BOULDER, COBBLE VEINING
OVER BEDROCK

BOULDER VEIN (20%) OVER DEBRIS PLATFORM
(SEE FRAME 16)

CUTPLATE FORELAND
PRIMARILY COBBLE PEBBLE

PIT 1
0-20 C/S,P,G N.0
UTZ

THE LARGE PARTIES COLLABORATE

Oil Character Length (m): AP 10 PO CV 1824 CT 2194 ST MB PT 180 TB FL NO 4620
SHORELINE ECOLOGICAL SUMMARY

Segment ST / MN-03 Subdivision A Date (mo / day / yr) 04/23/90

Time (24 hr) 11-1754 Biologist John Dixon

(A) Substrate type and % of segments:
   (1) Bedrock 25 (2) Boulder 39 (3) Cobble 51 (4) Pebble 15 (5) Sand 2 (6) Silt 0

(B) Overall % cover of benthos % of segment: Dense 10 Moderate 30 Low 60

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

BARNACLES

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MYTILUS

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GASTROPODS

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Wildlife Observations/ General Comments:
   Waterline during survey is 8-9 + 9.0
   10 harbor seals off N. end.
   Many oyster catchers, eagles.
   No regular sea bird sighting.

Ecological Considerations:
2 instnl conditions given.
The shoreline along this 8 km segment is generally wide and gently sloping. About 60 percent of the segment is made up of broken rock platforms or ramps with a veneer of boulders and cobbles. The remaining 40 percent or so is comprised of boulder/cobble beaches which tend to be narrower, somewhat steeper, and often terraced. Where streams discharge onto the beach there is often a small sand/pebble delta. Three of the streams are probably used by anadromous fish - two are listed.

Although the cover of sessile organisms was reasonably high in areas of rock outcrop in the middle and lower intertidal, diversity tended to be low. Much of the highest zone had very low cover of sessile organisms, perhaps because the upper parts of the wide platforms do not get wetted much by swash or spray. The biota on the rock ramps and platforms was relatively uniform. There was about 75% algal cover in the low intertidal, contributed mostly by Fucus, Ulva, Rhodomela, Palmaria and Alaria. Fissaster ochraceous and Evasterias were both abundant. No Fycnopodia were observed. Most of the middle and upper intertidal was on benches. Fucus, Rhodomela, Endocladia, Balanus glandula, Mytilus, Littorines and limpets were the most abundant organisms. The majority of the mussels occurred in the angular pebble matrix that formed a veneer over the bedrock in many areas. Phyllospadix occurred in slowly draining areas. The fauna under rocks generally consisted of hermit crabs, Idotea, Notoxoa scutum, and pricklebacks. Leptasterias was rare. The nudibranch Lamellidens was abundant under rocks on a platform in the southern part of the segment.

The boulder/cobble beaches were quite variable in biotic cover. An exposed beach at a point in the southwest portion of the segment consisted of terraced cobble before a steep term, and was nearly sterile. Only a few amphipods were observed. At the other extreme were protected boulders in areas of freshwater runoff. In such areas Balanus glandula was abundant, and Littorina sitkana and L. scutulata were moderate to dense.
V.L. = 1,020
No = 398

DISCLAIMER

Due to total lack of "correlatable" features between the chart/map and GIS maps, there is a potential +/-1 km error in positioning oil categories on the GIS map sheets.

J. Harper
23 Apr 90

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

CV/5 = 1020

1020 x 20 m

Estimated position of regulatory marker sign

4.6m

ADAPRIMOUS STREAM

227-10-17126
P, 12/88

Ecker

3 of 8

Map Key: PWS-480
Name: J. Harper
Date: 23 Apr 90
Data Entered: 7/27
LOCATION OF ASHALF AREA IS 250m NE OF REGULATORY SIGN MARKER - STICK AND FLOAT PUT AT SITE

DISCLAIMER

DUE TO TOTAL LACK OF "CORRELATABLE" FEATURES BETWEEN THE CHART/MAP AND GIS MAPS, THERE IS A POTENTIAL +/- 1km ERROR IN POSITIONING OIL CATEGORIES ON THE GIS MAP SHEETS.

S. HARPER
23 APR 90
DISCLAIMER

DUE TO TOTAL LACK OF "CORRELATABLE" FEATURES BETWEEN THE CHART/MAP AND GIS MAPS, THERE IS A POTENTIAL +/- 1 KM ERROR IN POSITIONING OIL CATEGORIES ON THE GIS MAP SHEETS.

JHAAPR 90

VL = 612
NO = 480

CT = 562
CV = 60

Map Key: PWS-480m
Name: JHAAPR 90
Date: 23 Apr 90
Date Entered: 9/21
VL = 426

CT/S = 426

06 MAP END

MN-3

Wide

/ / / / Medium

---- Narrow

TTTT Very Light

0000 No Oil

ADEC Segment Length: 7875m

Map Key: PWS-4501

Name: HARPER

Date: 23 Apr 90

Data Entered: 12/23
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream
Two ADF&G anadromous Streams (227-10-17120 and 227-10-17130) are present in Subdivision A. No constraint to tarmat removal.

2M Herring Spawning
No constraint to tarmat removal.

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
No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 227-10-17120) FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC 6/10/90
Prepared by 6/10/90
SHORELINE EVALUATION

SEGMENT ST/ MN-04 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
5T-4 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)
9FF Deer habitat
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: [Signature] DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 74 m: Narrow 39 m: V.Light 2003 m: No Oil 1975 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth __________

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

COMMENTS: _______________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS: ____________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: 5-9-90
ADEC Art Weimer [Signature] DATE: 5-9-90
EXXON [Signature] DATE: 5-9-90
NOAA [Signature] DATE: 5-9-90
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 bio remediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior
to treatment for permits.

1C  Salmon fry nursery area (4/31 to 7/31)
1D  Easter Hatchery release (4/15 to 6/1)
1E  Main Bay Hatchery release (4/20 to 5/10)
1F  Sawmill Bay Hatchery release (4/15 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.

1M  Herring spawning (4/1 to 6/15)
    Restrict boat traffic to essential minimum. Avoid damage to unoffed intertidal and subtidal algaes 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 8/15)
    Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m
    horizontal and 300m vertical distance from haulouts.

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.

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

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

7Z  Subsistence area:
    Salmon harvesting (5/1 to 9/30)
7HH  Finfish harvesting
7JJ  Deer harvesting (8/15 to 2/20)

7JJ  Invertebrate harvesting
    For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
NO TREATMENT RECOMMENDED

COMMENTS

Most of oil described zoom NE along segment (see sketch map) described as C/T 30% & C/B 60% is weathered. Abundant wildlife in area (Eagles, seagulls, & herring roe).

NO TREATMENT RECOMMENDED

COMMENTS

Small spot of cover on long segment.

Well weathered oil on boulders. Bathtub ring on rocky outcrop could be spot washed. High wildlife area - eagles, sea lions, seagulls, herring roe abundant.

AND MANAGER

COMMENTS

NONE
SHORELINE OILING SUMMARY

**SEGMENT MT/ MIN-004**

**TEAM NO.** 2  
**DATE** 1/09

**EST. SUBDIVISION LENGTH:** 9.240 m  
**SURVEYED FROM:**  
**SLOPE:** Long 10%  
**OIL CATEGORY LENGTH:** W 0 m M 160 m N 30 m VL 2040 m NOZ 110 m

**UPLANDS DESCRIPTION:**  
**SURFACESEDIMENTS:** R 34% 8 29% 0.29% K % G 0% S 0% M 0% V 0%  
**WORKING DIRECTION:** SE to NW

### 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>TARBALLS</td>
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**PAVEMENT H F 3.0 m by 4 m**

**NEAR SHORE SHEEN? NO**

**PHOTOGRAPHS:**
- Roll No. 57-2-201
- Frames 31-34
- 1-8

### SUBSURFACE OIL

**NO PITS DUE TO type OF OILING**

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
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<th>PIT ZONE</th>
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<th>SHEEN (Y/M)</th>
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**COMMENTS:**

This segment consists of a series of bedrock headlands and eroded shoreline pocket beaches. A rock platform extends much of the LIT and has a patchy veneer of talus and boulders.

The general pattern of oiling is discontinuous splashes of oil in this LIT; the oil was obviously well weathered by the time it reached this segment and most of the observed oil could be classified as tar sludge. Two areas have a slightly greener color of oiling as noted on the detail map.

**REVIEWED** 7W  
**DATE** 4/23/90
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST1 MN-D4**  
**Subdivision** A  
**Date (mo / day / yr)** 04/20/90

**Time (24 hr)** 1600-1800  
**Biologist** Dr. Dixon

(A) **Substrate type and % of segments:**  
1. Bedrock 34%  
2. Boulder 27%  
3. Cobble 20%  
4. Pebble 8%  
5. Sand 5%  
6. Silt 0%

(B) **Overall % cover of biota (% of segment):**  
- Dense 15%  
- Moderate 30%  
- Low 55%

(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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### FUCUS

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**Wildlife Observations/General Comments:**  
- **Waterline during survey:** +1.7 - +6.3
- **Many gull & cormorant overhead**

**Ecological Considerations:**  
- **Nest sites:** Fucus & rocks in sheltered areas of the middle intertidal zone. No eagle nests seen, but adult & immature bald eagles common.
The western half of this 6.2 km segment is a series of bedrock headlands interspersed with boulder/cobble pocket beaches. In the pocket beaches the boulders and cobbles are rounded and scoured and form a series of small terraces on the wider beaches. The eastern half is similar but with extensive areas of bedrock platform in the intertidal zone with a patchy veneer of boulders and cobbles. The platforms are cut by surge channels and contain many shallow pools.

The scoured boulders and cobbles in the pocket beaches were relatively depauperate. On the mid shore, rocks were patchily covered with a thin film of filamentous green algae. In the middle and upper intertidal zones, barnacles (B. glandula) and rockweeds (Fucus) were very sparse and mussels (Mytilus) essentially absent. Snails were sparse and mostly Littorina sitkana. There were very few new recruits (1-3 mm). Littorina egg masses were present under larger boulders along with a few amphipods.

The boulders and cobbles overlaying rock platforms supported a greater diversity. Sparse populations of B. glandula and Fucus were often present and occasionally small patches of Mytilus. Littorina sitkana were locally very abundant, especially in surge channels. Nucella lamellosa and N. lima were common to abundant on rock platforms and headlands throughout the segment. Mytilus were most abundant among pebbles overlaying the large platform at the east end of the segment. Under the boulders, amphipods, isopods, pricklebacks, yellow sponges, hermit crabs, and the sea star Leptasterias hexactis were often found. Few of the Leptasterias were brooding eggs. Littorina egg masses were under about 25% of the boulders.

Pools were often covered with encrusting coralline algae, probably Lithothamnion. Anemones were very abundant, particularly Anthopleura artemisia and Epiactis sp. However, A. xanthogrammica, Tealia crassicornis, and Metridium senile were also occasionally seen. Phyllospadix grew in many of the pools and chitons (Tonicella lineata & Katherine tunicata) were common.

Most areas of bedrock outcrop were irregular platforms or ramps rather than vertical faces and the biota was less obviously zoned and more patchy than on cliff faces. Fucus and Rhodomelalarix were the dominant algae, although Endocladia & Porphyra were common. Balanus glandula occurred throughout the upper and middle intertidal, but B. cariosus was confined to the lower mid-shore where overall cover of sessile species was about 75%.

Herring eggs were present throughout the segment, but were only abundant in the middle intertidal in a few sheltered locations. Within surge channels, the water was often milky with loose eggs, and in one such area above the waterline the herring eggs formed a mat about 10 cm deep.
XXX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

MN-4

Map Key: PWS-481d
Name: HARPER
Date: 20-21/4/90
Data Entered:

No=150m
SHORELINE EVALUATION

SEGMENT ST/ MN-05 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-5 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 ECOCLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

SHPO SIGNATURE: ___________________ DATE: 4/9/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 241 m: No Oil 1460 m
Subsurface Oil Observed: Yes ____ No X__ Maximum Depth ______

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

COMMENTS: __________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

TAG COMMENTS: _______________________________________________________

____________________________________________________________________

____________________________________________________________________

TAG APPROVAL DATE: 4/24/90
ADEC: Art White Art White
EXXON: _______ _____
NOAA: _______ _____
USCG: _______ _____
FOSC: _______ _____ DATE: 5-3-90
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 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)

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 unoi led intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

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

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

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

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

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

Subsistence area:
Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (9/15 to 2/28)
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  MN-05 SUBDIVISION: _______ DATE 4/9/10

SCG NAME: Robert G. Jensen SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Obs. only a few splashes.

ADEC NAME: Rowann T. Huddell SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Occasional splashes in middle of island.

LAND MANAGER

NAME: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Few widely scattered splatter/drops in center of island

Continue Natural Treatment.
**SHORELINE OILING SUMMARY**

**SEGMENT ST/ MN: 5**

**TEAM NO.:**

**TIDE LEVEL:**

**DATE:**

**EST. SUBDIVISION LENGTH:**

**UPLANDS DESCRIPTION:**

**SURVEYED FROM:**

**WORKING DIRECTION:**

**SURFACE SEDIMENTS:**

**SLOPE:**

**OIL CATEGORY LENGTH:**

**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>FILM</td>
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</tr>
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</table>

**PAVEMENT:**

**PATTIES / TARBALLS:**

**NEAR SHORE SHEEN?**

**OILED DEBRIS**

**AMOUNT**

**DEBRIS COLLECTED**

**TYPE**

**Photographs:**

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (CMA-CMB)</th>
<th>BELOW OIL / FILM COLOR</th>
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<th>SUBSURFACE SEDIMENTS</th>
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</tbody>
</table>

**COMMENTS**

**REVIEWED**

**DATE**
CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HWL/WL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 △
- Pit - No Subsurface Oil

2 △
- Pit - Subsurface Oil

- Continuous Distribution
- Broken Distribution
- Patchy Distribution
- Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

Oil Character Length (m): AP PO CV CT ST MS PT TB FL NO 3627

REVISION: 9/24/09
Montague Island, MN-05, April 8, 1990

Segment MN-05 makes up the shoreline of an intertidal island located near the northeastern tip of Montague Island. The shore is exposed to a long fetch to the north and east, and it is sheltered in other directions.

The island is composed of boulders, cobbles and pebbles over its western half and bedrock ramp and low bedrock outcrops over its northern half. The bedrock area has a very irregular surface, a consequence of the steep to vertical dip of the metamorphic rocks (strike about S.E.). Where sediments are present, they appear to increase in size towards the northeast and also, at any given location, towards the upper part of the island.

A few stains and coats of splatters were found within a band 50 m wide by 250 m long over the north central part of the island. The small splatters are very dispersed and cover much less than 1% of the area over which they occur.
SHORELINE ECOLOGICAL SUMMARY

Segment ST / MN-05  Subdivision N/A  Date (mo/day/yr) 04/07/90

Time (24 hr) 17:15  Biologist John Dixon

Substrate type and % of segments:
1) Bedrock 50  2) Boulder 25  3) Cobble 20  4) Pebble 5  5) Sand 5  6) Silt

(B) Overall % cover of biota (% of segment): Dense 30  Moderate 40  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 (G)

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<tr>
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<tr>
<td>Mytilus</td>
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<tr>
<td>Fucus</td>
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</tbody>
</table>

Wildlife Observational General Comments:
Water line -5' to 2' during period of observations. No sea otters, several harbor seals, small pool of porpoises, many oyster scallops, bald eagle overhead.

Photographs:
Roll No. ST-2-1
Frames 26-30

(This entire rock is present only at the highest high tides. It supports a remarkable rich intertidal biota, including...
This low lying island is mostly intertidal. The entire island is probably submerged during the highest high tides. The south east 1/3 of the island is comprised of a central circle of boulders and cobbles, with a smaller bedrock outcrop to the east. The north east 1/3 is on a bedrock base with an overhang of boulders and cobbles. The size of boulders and the vertical relief of the outcrop increases toward the N.E. end.

This is an extremely rich intertidal especially on the upper 1/3. There is an obvious discontinuity where the bedrock base near the surface begins + the diversity of benthos on boulders increases by several orders of magnitude over a distance of a few meters.

In the bedrock areas there is a great diversity of algae in the lowest middle intertidal. Ulva, Enteromorpha, Phyllospadix, Porphyra, Cladophora, Ulva lactuca, red coralline, and Ulvaria are all abundant. Phylogenetic is diverse = Peaks.

Laminaria is more abundant than at any preceding intertidal zone. There is also a high diversity of seaweeds. Porioceros, Osmundacea, Enterocladiaceae, and Bryozoa are all common.
The pulmonate limpet, 
Aglaia, occurs in
moderate densities on
boulders in the
west-facing shingle
beach under boulders
peculiar

Many others, some wrens or their chestnut-backed seeds to small pods of Johnny's
offshore. Frequently bed seaweed the seabed
Bold eagle overhead. A day or more
again, either into it.
MN-5

ADEC Segment Length: 1700m

Map Key: PWS-482
Name: Jane Doe
Date: April 9, 1992

Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ MN-06 SUBDIVISION A (1 OF 1) DATE 4/23/90

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)
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.

SHPO SIGNATURE: DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 893 m: No Oil 1766 m
Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:

___ No Treatment Recommended
_X Treatment Recommended
_X 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 pickup of debris. Work should be conducted after 6/1 and with USFWS approval based on eagle nest constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/3/90
ADEC ART WENGER
EXXON
NOAA
USCG

FOSC: DATE: 5/8/90
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 without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in-op 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 in-op 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 Petz 424-3214

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sewall 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 in-op 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 Petz 424-3214

1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or in-op 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 uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or in-op 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

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. No application of in-op 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

ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 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

ADF&G Tom Rothy 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 786-3377

6U Recreation:
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 (6/1 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-op 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

SUBDIVISION: TST/MN006                  DATE 4/23/90

NAME: James C. Goodwin                  SIGNATURE: James C. Goodwin

NO TREATMENT RECOMMENDED                  TREATMENT SUGGESTED

COMMENTS: Natural cleansing.

Note: There's some more boom and other such oiled debris that need to be picked up from UIIZ. Also the eastern end of MN006 needs to be seen because there was some oiling evidence already to show up. This area is a low exposure beach. The bay name is Henning Bay.

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

TREATMENT RECOMMENDED                  TREATMENT SUGGESTED

COMMENTS: I don't agree with OG Map and Comments.

NOTE: Pick up oiled boom from UIIZ.

NOTE: Eastern end of MN006 showed increasing evidence of oiling. It moves from high/moderate exposure to low exposure inside Henning bay. I recommend a thorough SCAT of Henning Bay - possible areas of oiling requiring treatment exist in unobserved more sheltered areas.

NO TREATMENT: High exposure, minimal oil - natural cleansing OK

AND MANAGER

NAME: Tim Creedmore, (AQP) SIGNATURE: Tim Creedmore

TREATMENT SUGGESTED

COMMENTS:

6 spashes of cover mixed with pebbles & gravites near pH1 - each averaged 1' x 1' x 1' in UI. HI exposure. No treatment recommended.

Sheen from surface FT caused by digging pH2 & reaching water in pH. No treatment.

Oiled debris & sparse boom near pH3. Pick up manually.

Interior of Henning Bay between segments 8 & 6.
SHORELINE OILING SUMMARY

OG: M. Barghun
USCG: J. Gambell
BIO: S. Schuster
LAND REP: R. Graveshaw (DNR)
SUMMARY

SEGMENT STI: MN - G
SUBDIVISION A (1 O.F.T.)

J. Levy
ADEC
TIME: 11:00 18 FEB 90
DATE: 4-3-90

EST. SUBDIVISION LENGTH: 793 m

SURVEYED FROM: Land

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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<td>No Oil</td>
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PAVEMENT H F S No eq. m by cm

PATTIES/TARBALLS No. BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

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<tr>
<th>DID YOU COLLECT DEBRIS?</th>
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<tr>
<td>YES ☐ NO ☐</td>
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TYPE Oiled veg.

Photographs:

Roll No: ST-1-5

Frames: None.

COMMENTS

The segment consists of a low-gradient beach with exposed bedrock and/or boulders. Oiling is non-existent to light (coat/scratch). The eastern half is the most consistently oiled sector. A scratchy coat is present at the base of the storm berm. Near the eastern end of the segment a scratchy coat is also present in back (shoalward) of the storm berm.

REVIEWED ☑ DATE: 4-25-90
**SHORELINE ECOLOGICAL SUMMARY**

**Segment**: MN-06
**Subdivision**: A

**Start**: 4-23-90
**Date (mo/day/yr)**: 4-23-90

**Biologist**: S. Schroeter
**Tide**: Start 5.4
**End 9.5
Low 3.5**

**Substrate type % of segments**:
1. Bedrock 40
2. Boulder 50
3. Cobble 6
4. Pebble 2
5. Sand 8
6. Silt

**Overall % cover of biota (% of segment)**:
- Dense 24
- Moderate 22
- Low 44

**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>
<td>Rare</td>
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**Photographs**
- Roll No. None
- Frames N/A

### Mytilus

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<tr>
<td>Rare</td>
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**Wildlife Observations/ General Comments**:
ST-1 (No bull angle observed); 6 V; 2 sea otter

### GastroPods

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</tr>
<tr>
<td>Rare</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

**Environmental Considerations**:
1. High energy beach with much rock with; mussel, barnacle, Fucus, especially gastropods (especially Littorina, Nucella, N. cinerea, N. cincta)
2. Clinch Narragansett bar, effective entire segment
3. Very high density of P. ochracea and P. acuta in littoral, sub-littoral
4. Very high density of P. ochracea and P. acuta under barnacles, in low MITZ+ CITZ
5. High abundance of encrusting coralline algae in MITZ+ CITZ
The segment consisted of 2 kinds of shorelines; those that were predominantly bedrock and boulders (89%), and those that were composed of boulders, cobbles and gravel (11%). Shorelines on the segment are exposed to high wave energy, and have many large logs lining the storm berm. Despite the potential for battering from rocks and logs during storms, large portions of the beaches with bedrock have high densities of barnacles, Fucus, and mussels. Evidently, the bedrock provides protection to these plants and animals.

Salient ecological observations include: (1) no bald eagles observed, despite previous observations of a nesting site; (2) 2 sea otters observed offshore; (3) Dense Nereocystis beds lie offshore along the entire segment; (4) Alaria—marginata and Laminaria setchellii are dense in the LITZ and extend into the subtidal; (5) Mussels, barnacles, and Fucus are abundant along most of the segment, but especially so in areas where fresh water runs across the intertidal, as it does for about 15–20% of the segment; (6) Gastropods (littorines, N. parsoni, and N. scutum) are very abundant throughout the entire segment. Many pools with very dense aggregations of littorines and small (probably recently recruited) limpets are found in the MITZ and lower UITZ. (7) Two species of sea stars, Bisaar ochraceus and Pycnopodia helianthoides, are remarkably abundant in the lower MITZ and LITZ under boulders. (8)
Despite diligent searching, no brooding sea stars (*Leptasterias hexactis*) were observed along the segment.
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

No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC ___________________________ Date 6/10/90

Prepared by ________________ Date 6/10/90
SHORELINE EVALUATION

SEGMENT ST/ MN-007 SUBDIVISION A (1 OF 2) DATE 6/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6T Recreation: Special use destination
6V Recreation: Anchorage (6/1 to 9/15)
2M Herring spawning (4/15 to 6/30)
7II Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: Krueger Or DATE: 7/2/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 236 m: No Oil 1895 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended
____ Treatment Recommended
____ Manual Pickup
____ Bioremediation
____ Tarmat 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: 7/02/90
ADEC Ray McVay, P.E.
EXXON \\
NOAA \\
USCG

FOSC: DATE: 7-10-90
NO TREATMENT RECOMMENDED

Comments:
The Torballs were extremely rare and small.

NO TREATMENT RECOMMENDED
**SHORELINE OIL SUMMARY**

**SEGMENT ST: 11/11**

**DATE: 6/23/90**

**TIME: 2:00:00**

**USCG:**

**BIO:**

**EXXON:**

**ADEC:**

**MONTEZUMA**

**TIDE LEVEL:**

**DATE:** 6/23/90

**NO. XXL:**

**SUBDIVISION LENGTH:** 1.800 m

**SURFACE LEVEL:**

**UPLANDS DESCRIPTION:**

- Grass
- Forest
- Rock

**SURVEYED FROM:**

- Foot
- Boat
- Helo

**WORKING DIRECTION:**

- E 10 W

**SURFACE SEDIMENTS:**

- R 0%
- G 10%
- C 20%
- P 20%
- S 10%
- M 35%
- V 0%

**SLOPE:**

- Lang 100%
- Hang 0%
- Ven 0%

**WAVE EXPOSURE:**

- Low
- Med
- High

**OIL CATEGORY LENGTH:**

- W 0 m
- M 0 m
- N 0 m
- VL 200 m
- NO 1400 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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<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
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<td>COVER</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>STAIN</td>
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</tr>
<tr>
<td>MOUSSE</td>
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</tr>
<tr>
<td>PATTIES</td>
<td></td>
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<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>FILM</td>
<td></td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>NO OIL</td>
<td></td>
<td>✓</td>
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<tr>
<th>PAVEMENT</th>
<th>H</th>
<th>F</th>
<th>S</th>
<th>O sq. m by</th>
<th>O cm</th>
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<tbody>
<tr>
<td>PARALLELS</td>
<td>½</td>
<td>BAGS</td>
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</table>

**NEAR SHORE SHEEN?**

- NO BR RW SL TL

**OILED DEBRIS**

- NO

**AMOUNT**

- SM
- MD
- LG

**DID YOU COLLECT DEBRIS?**

- YES
- NO

**TYPE**

- Trash

**Debris**

- Debris

**Photographs:**

- Roll No.: __________
- Frames: __________

---

**SUBSURFACE OIL**

- No pits dug - much of shoreline has rich intertidal vegetation.

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS INTERNAL</th>
<th>OILED DEBRIS BELOW</th>
<th>OIL / FILM COLOR</th>
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</thead>
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</table>

**OILED DEBRIS INTERNAL**

- Oiled
- Debris

**OILED DEBRIS BELOW**

- Oiled
- Debris

**OIL / FILM COLOR**

- Oiled
- Film

---

**COMMENTS**

- We found only sporadic tarballs on the sheltered shoreline. No treatment is recommended here.

---

**REVIEWED:**

- 7/16

**DATE:** 6/23/90
### SHORELINE ECOCLOGICAL SUMMARY

#### Segment ST1 MN-7 Subdivision A

**Date (mon/day/yr)**: 6/21/90

- **One (24 hr) Observation:**
  - **Biolist:** S. Ban

#### A. Substrate type % of segments:

- **Bedrock:** 24%
- **Boulder:** 10%
- **Cobble:** 20%
- **Pebble:** 20%
- **Sand:** 10%
- **Silt:** 35%

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

- **Dense:** 10%
- **Moderate:** 80%
- **Low:** 10%

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

- **Juveniles/Adults:** New settlement

---

### BARNACLES

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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### MYTILUS

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### GASTROPODS - U. small litorina on gravel at MT in lower ETZ

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</table>

### FUCUS

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<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

---

**Wildlife Observations/ General Comments:**

- Extensive sand/mud mires with dense clams (Strinomus?) as evidenced by
  - Siphon holes
  - Dense limpets on boulders

- Anomalous streams - No evidence of other organisms

**Ecological Considerations:**

- Avoid clam & mussel beds
- Avoid sandy/muddy areas
XXXX Wide
///// Medium
----- Narrow

ADEC Segment Length: 1604m

Map Key: PWS-MN-7a
Name: Ban
SHORELINE EVALUATION

SEGMENT ST/ MN-007  SUBDIVISION B (2 OF 2)  DATE 6/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T  All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
6Y  Recreation: Special use destination
6V  Recreation: Anchorage (6/1 to 9/15)
2M  Herring spawning (4/15 to 6/30)
7II Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid disturbance/damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature]  DATE: 7/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 751 m: V.Light 0 m: No Oil 1073 m
Subsurface Oil Observed: Yes X No  Maximum Depth 10 cm

RECOMMENDATIONS:

X 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 Removal  Beach Cleaner
Other (see comments)

COMMENTS: Recommended treatment includes: 1) manual removal of tarmat.
Work with USFWS monitor concerning eagle nest.

TAG COMMENTS: Bioremediation (custom blend) following manual

pick up of tarmat

TAG APPROVAL DATE: 7/2/90
ADEC [Signature]  DATE: 7-10-90
EXXON [Signature]  FOSC: [Signature]  DATE: 7-10-90
NOAA [Signature]  USEC [Signature]
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: MN-007  SUBDIVISION: B  DATE: June 90

USCG NAME: Man FAD - SIGNATURE: DF

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS: Concur with OG Sheet

ADEC NAME: Peter Montesano  SIGNATURE: PM

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS: - manually remove AP which dips, in places, below 1 layer of cobbles

- mechanically Till and fertilizer buried mussels mat which is identified on OG Sketch map

LAND MANAGER
NAME: ___________________________  SIGNATURE: ________________________________

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
**SHORELINE OIL SUMMARY**

**Table: Surface Oil**

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td>✔</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td>✗</td>
<td>✔</td>
</tr>
</tbody>
</table>

**Notes:**
- Pavement H F 3/40 sq. m by 5 cm
- Patties / Tarballs 0 BAGS
- Near Shore Sheen? NO BR RW SL TL
- Oiled Debris NO
- Amount: SM MD LG
- Did You Collect Debris? YES ☐ NO ☑
- Photographs:
  - Roll No. __________
  - Frames __________

**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>Anaerobic Sheen (Y/N)</th>
<th>Surface Sediments</th>
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<td>N N N</td>
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<td>N</td>
<td>N N N</td>
<td>PCG S</td>
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<tr>
<td>6</td>
<td>25 (asphalt 0.10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>N N N</td>
<td>Cover GP</td>
</tr>
</tbody>
</table>

**Comments:**
Cobble and small boulder beaches cover much of this subdivision. The upper shoreface is quite mobile—several minor storm-three are present and the asphalt patches are partially buried in places. This asphalt is formed in C-1S under an armor of C-3B. Eagle constraints prevented us from going further north along this shoreline. S/S occurs upslope of the asphalt as spots on stones. Manual removal followed by filling and spot bio-remediation is suggested.

Reviewed __________ Date 6/13/90
### 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</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (YN)</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
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<tr>
<td>*7</td>
<td>25</td>
<td>✓ asphalt</td>
<td>0 - 6</td>
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<td>*9</td>
<td>30</td>
<td>✓ asphalt</td>
<td>0 - 6</td>
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<td>10</td>
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<td></td>
<td></td>
<td>✓</td>
<td>N N N</td>
<td>PCOGS</td>
</tr>
</tbody>
</table>

**Comments**
SKETCH MAP # 1 of 1

LEGEND
1 M - No Subsurface Oil
2 M - Subsurface Oil
CT/C Construction Distribution
CT/B Budget Distribution
CT/P Pantry Distribution
CT/RS Spreading Distribution
C - Conifer Vegetation
28 - From location, direction, and number

CHECKLIST
- M Acre
- Appx. Scale
- Segments
- OIl Dist.
- Water
- Length
- % Cover
- Substrate Character
- Ext. Haulage
- S.R.
- Profile Location(s)
- Profile(s)
- Pt. Location(s)
- Plot Location(s)

NOT SURVEYED DUE TO EAGLES:

TARMAK REMOVAL

~70 m of asphalt, 1 x 3 m wide
coverage 30 - 49%
5 - 10 cm thick, hard to friable; buried in spots by 10 cm of P/C

S - C/P

small boulders

dead sea salt

no oil

CONIFERS

rocky

pois
SHORELINE ECOLOGICAL SUMMARY

Segment ST/MN - 7 Subdivision B Date (mo/day/yr) 6/3/90

( ) 24 hr. ( ) am-noon ( ) noon-1:00 ( ) 1:00-4:00 ( ) 4:00-7:00

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

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

Photographs: Roll No. ______ Frames ______

SARNAKLES

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<td>1L</td>
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MYTILUS

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GASTROPODS

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FUCUS

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<td>1L</td>
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Wildlife Observations/General Comments:
Healthy lower ZT in oiled region - no other organisms observed
Skeleton in direct line on cobble beach - possibly oiled

Biological Considerations:
Do not disturb healthy lower ZT if cleanup is recommended.

Audio eagles' nest-unmapped
Braunelle adults +
spat in lower 5/2.
Also listen for climpets.

XXX Wide
/// Medium
----- Narrow

Map Key: PWS-MN-7a
Name: Ban
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT MN-7 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
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<th>Constraint</th>
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<tr>
<td>Tarmat Removal Less Than 400m From Active Nest</td>
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<tr>
<td>Tarmat Removal Less Than 100m From Stream</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
<tr>
<td>Tarmat Removal More Than 100m From Stream and More Than 400m From Active Nest</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
<tr>
<td>Bioremediation* Less Than 100m From Stream and Less Than 400m From Active Nest</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Bioremediation* More Than 100m From Stream and More Than 400m From Active Nest</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
</tbody>
</table>

*Use Customblen Only - Do Not Use Inpol

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream ADF&G catalogued anadromous streams (227-20-17582 and 227-20-17584) are in Subdivision B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to tarmat removal.

5T Bald Eagle Nest USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to tarmat removal and bioremediation within 400m of active nest. No constraint to tarmat removal and bioremediation more than 400m from active nest.

7Il Subsistence: Deer Harvesting Closed to bioremediation after 8/15. No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No flushing of pollutants or sediments into stream drainage; do not allow Inpol 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. No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC Date 7-12-90
Prepared by Date 7/12/90
SHORELINE EVALUATION

SEGMENT ST/ MN-500 SUBDIVISION A (1 OF 2) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 227-20-17610 (Ps, 2/90) and an uncatalogued salmon stream (not on ADF&G database).
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
2M Herring spawning (4/1 to 6/15)
3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q, 3P Harbor seal and sea lion molting (8/15 to 9/15)
5T-6 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
6V Recreation: Anchorages (6/1 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. 3 eagle nests in subdivision.

SHPO SIGNATURE: [Signature] DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 567 m: V.Light 1314 m: No Oil 3512 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: 5/3/90

ADEC [Signature] DATE: 5-5-90

EXXON [Signature] FOSC: [Signature] DATE: 5-5-90

NOAA [Signature] [Signature] [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 in-pool application, prior to or 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 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 Peltz 424-3214

1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Swan Island Hatchery release (4/15 to 6/1)
1G Kennicott Creek Hatchery release (4/21 to 6/1)
1H Remote release sites

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

2A Gill net area (6/7 to 8/31)
2B Purse seine area (7/20 to 9/30)
2C Purse seine hook-off (7/20 to 9/30)
2D Set net area (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 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 424-2335

3A, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3B, 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 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 National Marine Fisheries Service Steve Zimmerman 586-7235

ADF&G Don Calkins 267-2403

4A 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

4B Shorebird/waterfowl concentration (6/1 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 Rothf 267-2206

5A All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6A Recreation:
- Tent sites (6/1 to 9/15)
- Anchorage (6/1 to 9/15)
- Forest Service cabin (6/1 to 9/15)
- Lodge (6/1 to 9/15)
- Special use destination

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

7A Subsistence area: Salmon harvesting (5/1 to 9/30)
- Finfish harvesting
- Deer harvesting (8/15 to 2/28)
- Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of 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 / MN-500 SUBDIVISION: A

DATE: April 21, 1990

NAME: James C. Gouck

SIGNATURE: James C. Gouck

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

I concur with OGS comments but the small amount of SP in the intertidal area and the wind will make it difficult to keep the area clean. The intertidal area is not a good area to place oil. The sides of the area need to be 100% cleared asis. The sides need to be cleared to catch any machine oils, etc. This area only way into it is by foot.

NAME: Brian K. FitzSimons

SIGNATURE: Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

I concur with OGS comments and sketch map. The area of P/E is located on both sides of the mouth of intertidal basin may threaten migratory waterfowl (large population of geese) within the basin. Do not recommend Bio - low energy intertidal areas.

No hard removal - would expose stable estuary banks to erosion.

Possibly string a wave line terrace fashion along length of impacted area to catch mobilized oil - prevent migration of oil into basin.

NAME: Ben Crawford (275)

SIGNATURE: Ben Crawford

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Sketch map accurately portrays oiling conditions. Except for 2 or 3 tenths over entire subdivision (sample brought back from adpor pet 1) which were broken up on scene. The oil is Emily coast in MT to UI area on sides & lower parts of boolders is not readily treatable. Sheen will occur @ NE NW.

Numerous eagles, Seals, and seals are herring observed. Extensive sand beaches observed underwater at UI area.
**SHORELINE OILING SUMMARY**

**EQUIPMENT**

- **USCG:** Gambill
- **LAND REP:** S. Schaefer
- **TEAM NO.:** 1
- **DATE:** 3/21/86

**ENVIRONMENTAL CONDITIONS**

- **WAVE EXPOSURE:** Low
- **Working Direction:** W to E
- **SURFACE SEDIMENTS:** 35% Clay, 57% Silt, 8% Sand
- **SLOPE:** 1%
- **SURFACE OIL DISTRIBUTION:** Asphalt Pavement, Pool, Oil
- **IMPACTED ZONES:** Oiled Debris, Oil

**SURFACE OIL**

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**OILED DEBRIS**

- **Amount:** SM
- **Type:** O

**PAVEMENT H F S NO sq m by cm**

- **Near Shore Sheen?** No

**SUBSURFACE OIL**

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**COMMENTS**

Most of the segment is composed of exposed bedrock (vertical shale) or shallow bedrock with scattered boulders. Oiling is sporadic and light (sporadic coat). The only area of significance is the protected inlet (intertidal basin) at mid segment. This area has a patchy coat. Due to the low wave exposure, natural cleaning/resurfacing is slow. Warm temperatures and sun were starting to soften the coat on the boulders making it potentially mobile.

Subsurface oiling does not appear to be a problem due to the light oiling and shallow or exposed bedrock.
SHORELINE ECOLOGICAL SUMMARY

Segment ST / Subdivision A  Date (mo/day/yr) 4/21/90
1400-1930  Biologist S. Schroeder  Tide: ± 1.01
(ne 24 hr)

(A) Substrate type and % of segments:
   (1) Bedrock 33%  (2) Boulder 57%  (3) Cobble 4%  (4) Pebble 5%  (5) Sand 1%  (6) Silt 0%

(B) Overall % cover of biota (% of segment): Dense 27%  Moderate 22%  Low 51%

(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 (X)

BARNACLES

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Wildlife Observations/General Comments: Sensitivity & priorities: 1A, B-2, 5T-6 (25-30 bold
march seen along foreshore; GY; TH; 1M carrying eggs moderate in MIT)

Ecological Considerations:
- Comparative high density of barnacles, gastropods, new species.
- Marine life densities a whole lot higher when the tide is low in the
  PWS.  These were more abundant than any other species present.
- Barnacles of interest:  A.  Barnacles along the strand line are
  unique organisms that are essential for marine ecosystems.
- Ecological Considerations:  1.  The Barnacles are essential components of
  marine ecosystems.  2.  The Barnacles are preyed upon by many
  species, including fish.  3.  The Barnacles are
  considered keystone species.
HN-500 was divided into 2 subdivisions. Subdivision A is approximately 3000 meters in length, or half of the segment. It is comprised of 6 distinct types of shoreline: (1) boulder/cobble beaches without any appreciable bedrock (13%); (2) boulder/cobble beaches with bedrock in the MITZ (26%); (3) beaches that are predominantly horizontal bedrock benches with small amounts of boulders and cobbles (40%); (4) predominantly pebble and gravel beaches with small amounts of boulder (8%); (5) an estuarine mudflat with small amounts of boulders and cobbles in the MITZ (9%); and (6) beaches with very large boulders and vertical or near vertical bedrock cliffs (3%).

The salient ecological features include: (1) very high densities of barnacles (primarily B. glandula), mussels, and gastropods in the MITZ and low MITZ. For the segment as a whole, these three taxa are denser than on any beach I've yet surveyed. Gastropods in order of abundance were L. saltans, L. scutulata, N. persCUS, and N. scutum. Littorines were commonly found at densities between 10,000 to 100,000 per m² over stretches of beach 100' s of meters long. Typically, these high densities were found on Rhodymena lasic on horizontal slate bedrock benches. (2) Fusus occurred in sparse to moderate densities in the MITZ throughout much of the subdivision. (3) MITZ pools had high covers of encrusting coralline algae and seagrass (R. acutica) and the sea anenomes, Anthopleura -artemisia and -aealia spp. were common. (4) There was an interesting estuarine area about 1500 meters
from the western end of the segment that had high densities of echinoids and clams; enteropneust worms were also common here. (5) Herring eggs occurred in moderate densities on algae, eelgrass, and rock on slate platforms in the middle of the subdivision. (6) Mesocystis beds were found offshore along the last 2/3 of the subdivision. (7) Bald eagles were common. We observed 25-30 along the subdivision. (8) Disaster-ebracerus and Pycnopodia were common in the lower MITZ and upper LITZ on bedrock shorelines (types 3 and 6).
SHORELINE EVALUATION

SEGMENT ST/ MN-500 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Anadromous stream no. 227-20-17610 (Ps, 2/90) and one not identified on ADF&G database:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1) within 400M
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15) within 400M
5T-6 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
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. Uncatalogued salmon stream and 3 eagle nests in subdivision.

SHPO SIGNATURE: Charles H. Preuss DATE: June 12, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 114 m: Narrow 255 m: V.Light 967 m: No Oil 3981 m
Subsurface Oil Observed: Yes X No Minimum Depth 20+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of oiled vegetation and debris under logs (see pocket beach detail sketch map), 2) manual pickup of mousse and 3) bioremediation of all areas indicated on sketch map. Work should be conducted between 7/1 and 7/10 based on constraints.

TAG COMMENTS: MONITOR TO ASSES ZALTAF BAY DURING TREATMENT OF MN-500

TAG APPROVAL DATE: 5/3/90

ADEC Art Weinert
EXXON
NOAA
USCG

FOSC DATE: 7/3/90
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fly outmigraton (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 lnipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not not intrusive, or 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 or PWS Aquaculture Association for confirmation and authorization.

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

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

AGENCY CONTACT PERSON: ADF&G Jorry McMillan 267-2326

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

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

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

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3255

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. lnipol application of lnipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 766-3377

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/sterletfowl 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

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:
6V Anchorage (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

7Z Subsistence areas - Salmon harvesting (4/1 to 9/30)
7L-H SalmOn harvesting
7F Deer harvesting (6/1 to 2/20)
7J Invertebrate harvesting

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

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/MM 746 SUBDIVISION: 17 DATE 22/04/19

NAME: James C. Garbutt SIGNATURE: James C. Garbutt

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Two Pocket Beaches on the S.E. End of Segment have heavy oiling. One 3m
undeveloped mudflats at mouth of T/J 3-7m wide, and T/J 8 Smaller "adventurer" just north
A narrow stream which is a Salmon stream. These areas are Contaminated oiling
in the stream. Due to size of sediments and proximity of Intact Traditional Area
See 440 Skagit Map. Also most of subdivision has oiling on very low areas. This
Can be Treated by Natural Clean up (TJ's near Hwy)

NAME: Brian K. Fitzsimons SIGNATURE: Brian K. Fitzsimons

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

I concur with OG Sketch Maps & comments.
Pocket Beach #1 (P/t # 1-2): Manual removal of oiled fine sediment
(smaller cobble, G, R, S) due to adjacent Salmon stream.
Pocket Beach #2 (P/t 3-6): Remove oiled vegetation & debris (will require
use of chain saw with carbide chain to cut & move drift logs to gain access).
Possibly move E and F, surface layer & remove mousse, OP sediments.
Bio + monitor
Pocket Beach #6 (P/t # 11) Bio + monitor

Note: SCAT in detail remainder of bay (both north & south shores)
to head of bay - possibly unobserved areas of oiling requiring treatment.

AND MANAGER
NAME: Brian Garbutt (P/t 12) SIGNATURE: Brian Garbutt

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Oil in subdivision M 500E was in a narrow band along TJ & SU
Remove surface oil & OP around pit #1.
Manual removal of oiled debris & veg near pit #1. Till large cobbles to
expose sub surface oil.
Manual remove shallow oil around pit #11
Bio remediate surface oil pooled beneath cobbles over shallow bedrock in
Ut at south end of northernmost end of subdivision.
SHORELINE OILING SUMMARY

OILographer: B. Berkeland
USCG: J. Gambill
SEGMENT: MN-500

BIO: S. Schurter
LAND REP: R. Greenough (OR)
SUBDIVISION: B

EXXON: C. Levine
ADEC: T. Fritzsimmons

TEAM NO.: 2
TIDE LEVEL: + 6 ft to - 5 ft
DATE: 7/18/90

EST. SUBDIVISION LENGTH: 5110 m

ST. SUBDIVISION LENGTH: 5110 m

UPLANDS DESCRIPTION:
- Grass
- Forest
- Rock

SURVEYED FROM:
- Foot
- Boat
- Helo

WORKING DIRECTION:
- SE to NW

SURFACE SEDIMENTS:
- R: 30% B: 60% C: 10%
- P: 0% G: 0% S: 0% M: 0% V: 0%

SLOPE:
- Lag: 50%
- Hang: 30%
- Vert: 20%

WAVE EXPOSURE:
- Low
- Med
- High

OIL CATEGORY LENGTH:
- W: 0 m
- M: 6.5 m
- N: 180 m
- V: 1100 m
- NO: 3965 m

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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<tr>
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<tr>
<td>MOUSSE</td>
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</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>NO OIL</td>
<td></td>
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PAVEMENT
- H: 0 sq m
- F: 0 cm

PATTIES/TARBALLS
- 0
- BAGS

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

OILED DEBRIS
- Logs
- Vegetation
- Trash
- Debris

DID YOU COLLECT DEBRIS?
- YES
- NO

TYPE
- Room

Photographs:
- Roll No.: 57-1-4
- Frames: 29-36

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS INTERVAL</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSIS</th>
<th>WEATHER (Hr)</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<td>X</td>
<td>0-2</td>
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<td>N</td>
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<td>C/G/Pig</td>
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<td>C/G/LS</td>
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<td>C/G</td>
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<td>C</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>N</td>
<td></td>
<td>B/C/G</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>X</td>
<td>0-10</td>
<td>X</td>
<td>X</td>
<td>Y</td>
<td>10</td>
<td>C/G</td>
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COMMENTS
- See Next pg.

Page 1 of 20
### SUBSURFACE OIL (CONTINUED)

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<tr>
<th>PIT NO.</th>
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<th>BELOW</th>
<th>OIL FILM COLOR</th>
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</tr>
<tr>
<td>8</td>
<td>35</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>C/G</td>
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<td>C/G</td>
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<td>20</td>
<td>X</td>
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<td>X</td>
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<td>B/G</td>
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<tr>
<td>11</td>
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<td>Y</td>
<td>15</td>
<td>B/G</td>
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<tr>
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<td>X</td>
<td></td>
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<td>B/G</td>
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</table>

**COMMENTS**

Generally boulder beach with shallow or exposed bedrock. Large amount of debris and logs in storm debris (unpiled except on one pocket beach). Most of the subdivision has no oiling or very light oiling (CT/5 near HWL). The exceptions are the two pocket beaches at the SW end of the segment. Both these beaches have zones of heavy oiling (see map for details). It may be a good idea to survey the head of the bay (S of these 2 pocket beaches) for further oiling.

**REVIEWED JW DATE 4/24/90**

P. 2 of 20
Sketch 1B (Close up of Pocket Beach)

Oiled Zone
CT/B: 5 x 40 m  70%
MS: 5 x 10 m  80%

Key:
- Mouse
- Broken Coat

Oiled Vegetation and Drift Logs
Move Logs and Remove Debris

Open Forest

Forest

CLIFFS

DERM

Delta 8

Move Logs and Remove Debris

Delta 7

Cobble & Boulder Beach

Pickup Mouse & B20

Delta 5

Steady Heads - Cliffs

Delta 3

Mit/TZ

UL/TZ

HWL

UL/TZ

Delta 4

Mit/TZ

Mit/TZ

MITZ

LI/TZ

LI/TZ

Oiled Zone appears to be larger than exposed at surface.
Water run-off and seeps appears to have reduced weathering of
**Sketch Map 2**

- **End of MN-500B**
- **Oiled zone located along HWL, CT/5**, sometimes heavier in cracks of bedrock or in grooves between boulders.

**Legend**
- A: No Subsurface Oil
- A: Subsurface Oil
- CT/C: Contiguous Distribution
- CT/S: Broken Distribution
- CT/P: Pokey Distribution
- CT/3: Splashed Distribution

**Checklist**
- N Arrow
- Approx. Scale
- SagSub Study
- Oil Dist.
- Main
- Length
- % Covered
- Petrology Character
- Ed. HWL/AWL
- SE
- Profile Location
- Profile Location
- Photo Location
- Photo Location

**Profile**
- Beach on shallow bedrock
- Steep headlands & cliffs behind stream bank.

**Key on Sketch Map 1**

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

Segment ST \ MN-500 Subdivision B3

Time (24 hr) 1500-2100 Biologist S. Schoeler

Date (mo/day/yr) 4/22/96

Tide: Start—6

End—2

Low—0.6

Subdivision

(A) Substrate type and % of segments:

<table>
<thead>
<tr>
<th>Type</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
<td>Bedrock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Boulder</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Cobble</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pebble</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
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<tr>
<td>Silt</td>
<td></td>
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</tr>
</tbody>
</table>

(B) Overall % cover of biota (% of segment): Dense 21 Moderate 21 Low 58

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

<table>
<thead>
<tr>
<th>Taxa</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
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<tr>
<td>Barnacles</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mytilus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastropods</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fucus</td>
<td></td>
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</table>

Wildlife Observations/General Comments: 1 A, B, C-3 (anula located in Ecology 1995, 5T-6)

Ecological Considerations:

1. Phenomenally high densities of Pisaster ochraceus on lower M1-2 (Upper 1H-2H). Barnacles were common but not abundant. 2. Generally high abundance of mussels, barnacles, gastropods, in M1-2. 3. Sponges on hard substrate (2H-3H segment) and in algae and foliose algae above intertidal (5-10% of segment). 4. Percent males about 15%. 5. Subdivision (4) shrimp and Randamulle beds. 6. Nudibranchs and barnacles in Mi-3 pockets of hard substrate. 7. High abundance of echinoderms.
Segment: MN-500  Subdivision: B  Date: April 22, 1990

<table>
<thead>
<tr>
<th>Time</th>
<th>Tide</th>
<th>Time</th>
<th>Tide</th>
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<tbody>
<tr>
<td>Start</td>
<td>1500</td>
<td>6.1</td>
<td>End</td>
</tr>
<tr>
<td>Low</td>
<td>1800</td>
<td>0.6</td>
<td></td>
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</table>

Biologist: S. Schroeter  Segment Length: 5250 meters

The subdivision is comprised of cobble and boulder pocket beaches (64%) bordered by bedrock headlands (36%). The bedrock consists of vertically tilted slate beds that contain many tidepools in the UITZ and MITZ. The LITZ on both kinds of shorelines are boulders and cobbles.

Judging from the sizes of the boulders in the pocket beaches, and the heavy concentrations of logs along their storm berms, this subdivision is exposed to heavy wave action during storms. There is a large anadromous stream about 1 km from the northern end of the subdivision, and numerous small streams throughout its entire length. This stream in addition to the 2 marked on the ecology maps, and is noted on the ecology map sent with the package for this subdivision. Where freshwater runs across the intertidal there are high densities of littorines, Notoacmaea persa, B. glandula, and Mytilus in the MITZ and in the upper LITZ. This "freshwater" effect usually extends several meters beyond the obvious surface flow of fresh water, and may be due to reductions in predators (Nucella and seastars, primarily Leptastarias hexactis are notably absent in these freshwater areas).

Notable ecological features of the subdivision include: (1) a large anadromous stream mentioned above; (2) 5 bald eagles, 2 sea otters, and numerous sea lions; (3) generally moderate to high
densities of mussels, barnacles, Littorina sitkana, and Fucus in the MITZ throughout the subdivisions; (4) notable recruitment of barnacles (chiefly B. glandula) and littorines in the MITZ; (5) Bel grass, laminarians, and Mesoscyptis along much of the subtidal offshore; (6) Remarkably high densities of B. ochraceus in the MITZ and upper LITZ along the entire subdivision. Densities along the pocket beaches were 1 per 5 to 10 m² and were several per m² along much of the headlands. Suasterias were also abundant in the low MITZ and upper LITZ along the pocket beaches. As was the case for MN-500A, Leptasterias were conspicuous because of their extremely low abundance (a single individual was seen along the entire subdivision).
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT MN-500 SUBDIVISION B (2 of 2)

WORK WINDOW

| Manual Pickup More Than 400m From Active Nest | OPEN |
| Manual Pickup Less Than 400m From Active Nest | CLOSED |
| Bioremediation More Than 400m From Active Nest | WORK PRIOR TO 8/15 |
| Bioremediation Less Than 400m From Active Nest | CLOSED |

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream
ADF&G catalogued anadromous streams (227-10-17610 and 227-20-17620) and an uncataloged stream are in Subdivision A and are more than 100m from work site. No constraint to manual pickup and bioremediation.

2M Herring Spawning
No constraint to manual pickup and bioremediation.

3N,O,P,Q Harbor Seal & Sea Lion Pupping and Molting
NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.

5T Bald Eagle Nest
USFWS 6/1/90 map indicates 5 active nests in Subdivision A. Closed to manual pickup and bioremediation within 400m of active nest. No constraint to manual pickup and bioremediation more than 400m from active nest.

7II 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. No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC __________________ Date 7 Jul 90
Prepared by __________________ Date 7/6/90
SHORELINE EVALUATION

SEGMENT ST/ MN-501 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Uncatalogued potential anadromous streams.
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
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 unsoiled biota and substrate.

SHPO SIGNATURE: __________________ DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 75 m: No Oil 7043 m
Subsurface Oil Observed: Yes X 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: 5/3/90
ADEC  EXXON  NOAA  USCG

FOSC: _____ DATE: 5-8-90
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 bio remediation 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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N  Harbor seal and sea lion pupping (5/15 to 7/1)
3O  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 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

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

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

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

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

7HH  Deer harvesting (8/15 to 2/25)
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: MN 501 SUBDIVISION: ___________________ DATE 4/22/90

NAME Robert Jansen SIGNATURE clutch Jones

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

ADEC
NAME Rowann T. Hudson SIGNATURE Rowann T. Hudson

COMMENTS

Very Very Little oil in one area
Most of segment unoiled

LAND MANAGER
NAME ___________________ SIGNATURE ____________________

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
SHORELINE OILING SUMMARY

SEGMENT ST/ MN-501

TEAM NO. 2

TIDE LEVEL: 1.9-5.0

DATE 4/12/22 90

EXT. SUBDIVISION LENGTH: 7,074 m

UPLANDS DESCRIPTION: □ Grass □ Forest □ Rock

SURVEYED FROM: □ Foot □ Boat □ Helo

WORKING DIRECTION: S to N

SURFACE SEDIMENTS: R 35% B 33% C 27% P 9% G 7% S 3% M 6% V 0% D

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

OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m V 50 m NL 50 m NO 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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</thead>
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<tr>
<td>ASPHALT PAVEMENT</td>
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<td>X</td>
<td>X</td>
</tr>
<tr>
<td>POOLED</td>
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</tr>
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<td>X</td>
</tr>
<tr>
<td>TARBALLS</td>
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</table>

PAVEMENT H F S O sq. m by O cm

PATTIES / TARBALLS O BAGS

NEAR SHORE SHEEN? □ BR RW SL TL

OILED DEBRIS

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<thead>
<tr>
<th>AMOUNT</th>
<th>DID YOU COLLECT DEBRIS?</th>
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<td>SM MD LG</td>
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<tr>
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Photographs:

Roll No. ST-2-202
Frames FR 9-14

SUBSURFACE OIL

NO PITS - NOT APPROPRIATE FOR OBSERVED OIL TYPE

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
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<th>PIT ZONE</th>
<th>ANA SHEEN (mm)</th>
<th>SURFACE - SUBSURFACE SEDIMENTS</th>
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COMMENTS:

A variety of coastal types occur within this segment including:

(a) Hummocky Bedrock Ramps (Hedallands), (b) Uniformly Sloping Boulder/Cobble Beach, (c) A Pebble/Sand Recurved Spit and (d) A Gravel Delta with Associated 2-m High Swash Ridges.

Over 98% of the segment is uncoiled - oiling estimated at 2-m wide band of splatters of an est. 80 m of shoreline. The concentration of splats was much less than 1% (est. 1-2 splats/10 m²)

REVIEWED DATE 4/23/90
NO APPRECIABLE OIL (EST. 25 TAR SPLATS)
SEE G.I.S. MAP

NO PITS

Oil Character Length (ft): AP—PO—CV—CT—BD—ST—MS—PT—TB—FL—NO 6,994 ft
SHORELINE ECOLOGICAL SUMMARY

Segment ST/MN-50/ Subdivision A
1975-2035

Time (24 hr) 0637-0830
Biolist John Dixon

(A) Substrate type and % of segments:
1) Bedrock 25% 2) Boulder 33% 3) Cobble 27% 4) Pebble 12% 5) Sand 3% 6) Silt 0%

(B) Overall % cover of biota (% of segment): Dense 15% Moderate 30% Low 55%

(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: Waterline during survey: pH 7-8, 5-4
Others with young offshore. Bears, otters, seals doing impacts
Lynx, deer, tracks on beach. Bear seen to motor boat.

Ecological Considerations: Listed species: III, IV

2, probably another species, is present.
This 7.1 km segment includes a variety of habitat types. Although there are small areas of bedrock outcrop at headlands throughout the segment, in general there is a gradation from rock platforms and hummocky ramps and large talus blocks at the very exposed point at the northeast end to small cobble, pebble and sand beaches at the southwest boundary of the segment. There are several small streams and diffuse areas of freshwater runoff. In addition, there are two rather more substantial streams - one in an embayment on the exposed northeast end (which is bounded by regulatory markers) and one at the southwest end of the segment which is 4-5 m wide by 20-30 cm deep and empties onto a cobble/pebble beach.

The unstable boulder/cobble beaches had the usual sparse cover of Balanus glandula, Fucus, and filamentous green algae. Mytilus was rare and patchy. In the higher areas Littorina sitkana was the dominant snail. Limpets, N. scutum and N. perpusa were more abundant in the middle zone. In areas of freshwater runoff, barnacles and mussels were more abundant. All species increased in abundance on large boulders in areas partially sheltered from waves by rock platforms. On the sandy cobble/pebble beaches Pycnopodia were common.

In general, the biota on rock platforms, ramps and talus blocks was more diverse and abundant, but generally not remarkable. Mytilus was generally relatively rare except on some protected middle intertidal benches. Balanus cariosus occurred in the middle and lower areas but was nowhere very dense. Fucus and Rhodoma larix were the dominant algae. Odonthalia was also abundant in wetter areas. Leptostelias hexactis was common under boulders on bedrock, averaged around 2 cm from madreporite to ray tip, and none were observed brooding. In an area of rock platform and talus blocks about 2/3 of the way toward the southwest end of the segment, large (c. 8 cm radius) Pisaster ochraceous were very abundant in the lower part of the middle intertidal (c. 1 per 5 sq m).
CS = 80m

V.L. = 80
N.O. = 4096

MN-501

CS/S
20 x 2m
<1% 

CS/S
60 x 2m
<1%

Map Key: PWS-MN-501
Name: J. Hinger
Date: 22 April 90
Date Entered:

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

Approx. Segment Length: 6735m
SHORELINE EVALUATION

SEGMENT ST/ MR-001 SUBDIVISION A (1 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nest (5T) - 3/1 to 6/1. Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with minimum disturbance to substrate.

SHPO SIGNATURE: [Signature] DATE: 7/27/90

OILING CATEGORIZATION:
Wide 0 m: Medium 34 m: Narrow 180 m: V.Light 46 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 20

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


TAG COMMENTS: Treatment is recommended pending resolution of cultural resources issues. If cultural resource issues cannot be resolved a no treatment recommendation is the preferred option.

This recommendation was revised by TAG on 4/19/90 and supercedes the recommendation forwarded to FOSC on 4/12/90.

TAG APPROVAL DATE: 4/19/90
ADEC John Bauer
EXXON Hunter
NOAA Paul West
USCG Custom

DATE: 7-30-90
EXXON VALDEZ CULTURAL RESOURCE PROGRAM

WORK PLAN OUTLINE
FOR OIL SPILL CLEANUP AT MR-1A/C
July 27, 1990

The proposed steps of the treatment program are as follows:

1) Archaeological monitors to brief cleanup personnel prior to the cleanup crew's arrival to MR-1. Cleanup personnel will be briefed regarding the significance of the site, and on artifact types which may be encountered.

2) Archaeological monitors to orient cleanup personnel on site at MR-1 prior to the commencement of work.

3) Cleanup personnel manually recover pooled oil in MR 1A/C with trowels, spoons and other manual devices under the close supervision of archaeological monitors. Archaeological monitors to map, record and either replace or collect artifacts encountered during manual removal depending upon the artifact type and its susceptibility to illicit collection.

4) Cleanup personnel manually remove tarmat with shovels and spades. The broken-up asphalt and attached rocks and sediments will be inspected for artifacts by archaeological monitors prior to the removal of asphalt, rocks and sediments. Any artifacts observed in the tarmat debris will be collected and curated in accordance with the MOA.

5) Bioremediation crew will spray the beach under the close supervision of the archeological monitors.

6) Concurrent with, or immediately after Exxon's work in the intertidal zone, Chugach Alaska Corporation and the NPS will be responsible for attempting a limited amount of surface and subsurface work in the site uplands. The key element of this work will be the re-excavation of the 1989 test pit and the recording of its stratigraphy. The purpose of this work is to aid interpretation of the data obtained in the intertidal zone in order to contextualize that data. As a result of this work, NPS will provide Exxon with pertinent information on the number of components present and comment on the nature of these components. Logistics will be coordinated through Exxon.

7) The principal archaeological monitor will describe the cleanup and monitoring processes and analyze the pertinent intertidal and uplands cultural resource findings in a comprehensive report.
Recommended Scope of Work for Monitoring Activity at MR-1A/C

Planned treatment activity recommended by TAG at MR-1A/C is limited to manual recovery (trowling) of pooled mousse located in bedrock and boulder crevices, bioremediation of pooled oil, cover and coat areas, and removal of the asphalt tarmat. Due to the sensitive nature of lithic artifacts in the intertidal zone, the recommended monitoring activity will differ according to the different treatment activities planned.

Prior to initiating treatment at MR-1A/C, an informal briefing session will be held for all personnel involved in treatment activity at MR-1A/C. Information will be presented regarding the sensitive nature of the work area, the level of care that must be exercised throughout treatment, the sequence and method of treatment, and the need for constant direction by an on-site archaeological monitor. Our intention is to prepare all treatment personnel for the sensitive nature of the undertaking prior to arriving on the beach. Once on the beach, treatment will proceed in the following manner:

**TASK 1)** The first task will be to manually recover the pooled oil trapped in bedrock crevices and between boulders in both A and C subdivisions. Trowels and large spoons will be used to scoop the pooled oil into containers. Archaeological monitors will map, record and either collect or replace any artifacts encountered during this task depending upon the artifact type and its susceptibility to illicit collection. Only pooled oil will be removed. Both the movement of treatment personnel in the intertidal zone and the manual removal process will be closely monitored.

**TASK 2)** The second task will be tarmat removal. The area intended for tarmat removal encompasses 32 square meters, 4 of which have been removed as part of the archaeological investigation conducted in April. The remaining 28 square meters will be removed with spades and shovels. Asphalt and attached rocks and sediments to be removed will be inspected for artifacts by monitors. Any artifacts present will be collected and curated in accordance with the MOA.

**TASK 3)** The third task is bioremediation. Direction will be given to treatment workers as they move in the intertidal zone applying the fertilizer where appropriate. All treatment personnel working in the intertidal zone will confine their movement wherever feasible to large boulders and bedrock outcroppings.

**TASK 4)** The final task will be analysis of the archaeological data collected during the cleanup. The principal archaeological monitor will produce a report describing the monitoring process, as well as the location, nature and significance of archaeological material observed in and/or collected from the intertidal zone at MR 1A/C.
SUMMARY

Effective on-site monitoring at MR-1A by professional archaeologists will ensure that the treatment recommended by TAG will take place and that the cultural remains present in the intertidal zone will receive the maximum degree of protection given the planned treatment. The scope of work recommended for on-site monitoring activity at MR-1A/C is consistent with the treatment planned at this location. We recommend that the scope of work outlined above be considered the appropriate archaeological constraint for this subdivision.
EXXON-VALDEZ CULTURAL RESOURCE SUMMARY SHEET

SEGMENT MR-001  A  Landowner: NPS  Region: SEWARD

AHRS: Number  Type  ITZ  Upland Features:
1:  SEL-188  FCR, PAG, HTD  [X]  [X]  MCARthur PASS
2:  
3:  
4:  

SCAT:  YARBOROUGH  Metres:  9000  Minutes:  272  Methods: B, G
SSAT:  

1990 WORK PLAN
No Treatment [ ]
Bioremediation [X]
Manual/Mechanical: MP, TR  Treatment Intensity [2]

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COMMENTS

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TRACKING

RECEIVED 04/08/90  FIELD SURVEY OUT 04/24/90  CTAG OUT 04/09/90
BACK 04/30/90  BACK / /

SHPO / /  FOSC / /  COMPLETED / /
DATE MONITORING REQUESTED / /  Monitor:
PLANNED TREATMENT: MONITORED
SKETCH MAP
MacArthur Pass

KEY

- cobble/boulder surface sediments
- CT/8 to CV/8 total cover ~5%
- AS/5 to CV/5; total cover ~5%
- BIOTRAL MATERIAL
  REW ONLY
  Manual Penna
  TAR MAP REMOVAL AREA # BIOTRAL MATERIAL
  asphalt pavement/c
  armor stones with coat/8 to/5 total cover 95%

Note: where unmarked, the sediments are bedrock with a cover of sparse boulders
Note that subdivision B occurs on either side of subdivision A. If this is unacceptable, simply use the data page for B for a new subdivision C.
ARCHAEOLOGICAL CONSTRAINT: An Exxon archaeological monitor is required on-site during shoreline treatment.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

NO APPLICABLE ECOLOGICAL CONSTRAINTS

OTHER ECOLOGICAL CONSTRAINTS

AVOID ANY UNNECESSARY DISTURBANCE OR DAMAGE TO UNCOILED BIOTA AND SUBSTRATE

Prepared By: G.P. Phillips

Date: 7/27/90

Date: 7-31-90
SHORELINE EVALUATION

SEGMENT ST/ MR-001    SUBDIVISION B (2 OF 3) DATE  3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nest (ST) - 3/1 to 6/1. Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with minimum disturbance to substrate.

SHPO SIGNATURE:    DATE: April 12, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 414 m: No Oil 0 m
Subsurface Oil Observed: Yes  No X  Maximum Depth

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

COMMENTS: Manual removal of pooled oil with absorbents and trawling and bioremediation in same area. Work is to be conducted after 6/1.

TAG COMMENTS: DUE TO THE SENSITIVE NATURE OF THIS LOCATION
NO TREATMENT IS APPROPRIATE.

TAG APPROVAL DATE:  4/3/90.
ADEC  JOHN RAUSCH
EXXON ANDY TAYLOR  FOSC: DATE:
NOAA  Bud Wescott  B. J. HALL
USCG  B. J. HALL
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MRO 1 SUBDIVISION: B DATE 3/31/96

USCG/WOSA NAME JACQUI W. Signature Michael

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Manual removal of pooled oil is suggested.

ADEC
NAME JOHN R. REED SIGNATURE John R. Reed

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Manual Removal of pooled oil on bedrock outcrop with hand trowel or shovel. I have read and agree with all information on S.S.A.T. Forms.

CAC
NAME Peter Zullars SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Subdivision B takes up the west end of MRO.13’s archaeological site, as well as the area immediately west of the site’s perimeter. Manual removal of pooled oil has been suggested and is plausible. There are no processing/conservation restrictions regarding the western most portion of the site.

G.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: MB-1  SUBDIVISION: B  DATE 3/21/90

USCG
NAME_________________________ SIGNATURE_________________________

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

ADEC
NAME_________________________ SIGNATURE_________________________

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

LAND MANAGER NPS
NAME_________________________ SIGNATURE_________________________

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Good survey. Manual removal of pooled oil with trowels and sorbents and removal of cover coat with sorbents if oil becomes mobile enough can be done.
SHORELINE OILING SUMMARY

**DRAFT**

**SEGMENT ST/ TR**

**TEAM NO.:**

**TIDE LEVEL:**

**EST. SUBDIVISION LENGTH:**

**DATE:**

**TIDE LEVEL:**

**SURFACE SEDIMENTS:**

**SLOPE:**

**OIL CATEGORY LENGTH:**

**SURFACE OIL**

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**PAVEMENT:**

**PATTIES / TARBALLS**

**NEAR SHORE SHEEN?**

**OILED DEBRIS NO AMOUNT**

**DEBRIS COLLECTED**

**PHOTOGRAPHS:**

**COMMENTS:**

"Depressed coastline of light-colored granite rocks with the continued wash and ring of splattered oil, very little wave action of oiling evident. Overall looks about like it did last August."
MR-1, Subdivision B, site sketch, Mann 4/3/90 (see attached map for location)

KEY

- ct/p, ¼m x 8m on vertical face
- ct/p + CV/p + P0S (total oil coverage
  - ct/p + CV/p + P0S = 40%)

(This is not a subdivision map)

granite bedrock point

10m

bedrock slabs and rubble

forest

Notes: we visited this site at 1140-1200 on 4/3/90 with tide level ≈ +5'.
Coverage by P0S is ≈ 5% in the 2m x 4m area.

1. Apply Trowels & Absorbent to pick up pooled oil
2. Bioremediation

CLEARED

Forest
SHORELINE ECOLOGICAL SUMMARY

Segment ST/ MRO1 Subdivision B (of A-C) Date (mo/day/yr) 3/31/80

(e 24 hr) 09/3 Biologist M. CARR

(A) Substrate type and % of segment:
   (1) Bedrock 75
   (2) Boulder 25
   (3) Cobble 4
   (4) Pebble 3
   (5) Sand 2
   (6) Silt 1

(B) Overall % cover of biota (% of segment): Dense 90 Moderate 20 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)

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Wildlife Observations/General Comments:
Harlequin ducks (3)

Biological Considerations:
Sensitivity codes: 5T (active bald eagle nest)
4U Keri, F
Note that subdivision B occurs on either side of subdivision A. If this is unacceptable, simply use the data page for B for a new subdiv. C.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT MR-001 SUBDIVISION B (2 of 3)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
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<tbody>
<tr>
<td>Tarmac Removal</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation*</td>
<td>OPEN</td>
</tr>
<tr>
<td>Other Approved Treatment</td>
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</tbody>
</table>

*No Inpol - Only Customblen as per FOSC

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest NO CONSTRAINT. USFWS 6/10/90 map indicates no active nest within 400m of Subdivision B work site. No constraint to manual pickup, bioremediation and other approved treatments.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC: ____________________ Date 6/39/90
Prepared by: Ray D. Courter Date: 06/27/90
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nest (5T) - 3/1 to 6/1. Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with minimum disturbance to substrate.

SHPO SIGNATURE: Charles J. Drane DATE: April 12, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 872 m: No Oil 0 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:____Breakup _____ Beach Cleaner
____Removal _____ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC John A. Grbac
EXXON Andy Tom
NOAA Brian Fussel
USCG M. J. Hall

Do not delete unless land manager agrees with bioremediation.
SHORELINE EVALUATION

SEGMENT ST/MR-001  SUBDIVISION C (3 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nest (ST) - 3/1 to 6/1. Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with minimum disturbance to substrate.

ARCHAEOLOGICAL CONSTRAINTS: If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: [Signature] DATE: April 12, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 872 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC [Signature] DATE: 4/23-90
EXXON [Signature] FOSC: [Signature]
NOAA [Signature] USCG [Signature]
FIELD SHORELINE COMMENT SHEET

MENT ST / MR-1 SUBDIVISION: C DATE 3/31/90

USCG NAME __________________________ SIGNATURE ____________________________

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADEC NAME __________________________ SIGNATURE ____________________________

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

LAND MANAGER NPS

NAME Michael Tetreau SIGNATURE __________________________

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Good survey. Very light splatters of dried cover and coat. Cleaning would be difficult and would be primarily cosmetic.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: MR-1  SUBDIVISION: C  DATE: 3/31/90

USCG NAME:  JACQUI MICHEL  SIGNATURE: [Signature]

[ ] NO TREATMENT RECOMMENDED  [ ] TREATMENT SUGGESTED

COMMENTS

The light distribution of oil on rocky outcrops does not warrant any treatment.

ADEC NAME: JOHN R. REED  SIGNATURE: [Signature]

[ ] NO TREATMENT RECOMMENDED  [ ] TREATMENT SUGGESTED

COMMENTS

Very light boultub ring on granite bedrock and boulders. I have read and agree with all information on S.S.A.T. Forms.

LAND MANAGER: CAC

NAME: [Signature]

[ ] NO TREATMENT RECOMMENDED  [ ] TREATMENT SUGGESTED

COMMENTS

The intermittent presence of cover/cot type oil in subdivision C does not, in my opinion, warrant a treatment effort. This is subject to review by CAC later this year. I presently agree with S.S.A.T.'s on this regard to this area. If cleanup is implemented MR-01's archaeological integrity would not be threatened.
**SHORELINE OILING SUMMARY**

<table>
<thead>
<tr>
<th>TEAM NO.:</th>
<th>DATE:</th>
<th>EST. SUBDIVISION LENGTH:</th>
<th>DATE:</th>
<th>TIME:</th>
</tr>
</thead>
</table>

**UPLANDS DESCRIPTION:**
- Sun
- Clouds
- Fog
- Rain
- Snow

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

**WORKING DIRECTION:**
- W
- E

**SLOPE:**
- Long
- Short
- Vertical

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

---

### 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>Asphalt/ Paving</td>
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<td>Pool</td>
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<tr>
<td>No Oil</td>
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</table>

**PAVEMENT:**
- H F S

**OILED DEBRIS NO:**
- Log
- Vegetation
- Trash
- Debris

**DEBRIS COLLECTED:**
- YES
- NO

**PITY BALLS / TARBALLS:**
- BAGS

**NEAR SHORE SHEEN:**
- BR
- RW
- SL
- TL

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### SUBSURFACE OIL

<table>
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<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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</thead>
</table>

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**COMMENTS:**

This subdivision lies east of subdivision A. This shoreline is very similar to that of subdivision B - the shoreline is bedrock slabs of granite with irregular boulders that have weathered-out locally. The forest presses close to the sea and weathered slabs are common.

Page 1 of

Reviewed DATE
SHORELINE ECOLOGICAL SUMMARY

Segment ST, MR-1 Subdivision C (of A-C) Date (mo/day/yr) 3/31/90

Time (24 hr) 0930 Biologist M. CARR

A) Substrate type and % of segments:
   1) Bedrock 70 (2) Boulder 25 (3) Cobble (4) Pebble (5) Sand (6) Silt

B) Overall % cover of biota (% of segment): Dense 70 Moderate 20 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)

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Wildlife Observations/ General Comments:

Ecological Considerations:

Sensitivity codes: ST (Bald eagle nest)

414 - Helipad Kenai Fjords National Park
Note that subdivision B occurs on either side of subdivision A. If this is unacceptable, simply use the data page for B for a new subdiv. C.
WORK PLAN ADDENDUM


MODIFICATION

1. REASON FOR MODIFICATION

   Request from the field (by phone) to add spot washing to aid in the removal of oil from boulder areas.

2. ADJUSTMENT TO WORK PLAN

   Following manual removal of accessible oil (mousse + pooled oil) spot wash as required.

SHPO APPROVAL NEEDED YES ☑ SHPO SIGNATURERaeford Owen 2 Aug 20

TAG APPROVAL DATE 8/2/90

ADEC JOAN BAUERJOHN

EXXON AMY TAYLOR

NOAA Burd Westcott Burd Westcott

USCG D. D. Rome D. D. Rome

MONETE CONSTRAINT APPLIES.
SHORELINE EVALUATION

SEGMENT ST/MT-001 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
4QQ National Wildlife Refuge (no time constraints given)

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/damage to unoiled substrate and biota. See attached Ecological Constraints Sheet.

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 38 m: V.Light 404 m: No Oil 747 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:
X No Treatment Recommended
_____ Treatment Recommended
_____ Manual Pickup
_____ Bioremediation
_____ Tarmat: _____ Breakup
_____ Removal

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90
ADEC JOHN BAUER
EXXON
NOAA
USCG

FOSC: DATE: 5-1-90
PWS ECOLOGICAL CONSTRAINTS

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

1C  Salmon fry nursery area  (4/31 to 7/31)
1D  Estuary Hatchery release  (4/15 to 6/1)
1E  Main Bay Hatchery release  (4/20 to 5/10)
1F  Sewmill 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  Srt 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 8/15)
   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)
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  Recreation: Tent sites  (5/1 to 9/15)
   Anchorages  (5/1 to 9/15)
6V  Forest Service cabins  (5/1 to 9/15)
6W  Lodge  (5/1 to 9/15)
6X  Special use destination
6Y

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 Chugach Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/MT 01 SUBDIVISION: A DATE 4/7/90

USCG/NOAA
NAME: JACQUI MICHEL SIGNATURE:

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Oil was found in two locations within this segment: 1) stuck in subsurface in the Boulder Beach, and 2) scattered bands/drips on the more sheltered rock faces and behind offshore rocks. I was quite surprised to find any oil in this area is very high energy. Yet natural removal has been effective and the small amount of remaining oil does not warrant further treatment.

ADEC
NAME: JOHN R. REED SIGNATURE: John R. Reed

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Most of this segment is vertical granite bedrock with a few large granite boulder beaches. Very light oil of mostly stain found in granite boulders on site #1 (see some coat and stain found in band on vertical wall. Does not require cleanup in this segment. I have read and agree with all data on S.S.A.T. Forms.

LAND MANAGER/USFWS
NAME: Mary Forbes
SIGNATURE: Mary Forbes

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Oil was present in 2 locations within this segment:

1. Oil present in 2 locations: 3, 3-5 m long x 2 m wide patches at site 1. Oil stained as 3, 3-5 m long x 2 m wide patches and stains. Subsurface oil was present as coat and of coat and stain. Subsurface oil was present as coat and stain. This beach is only accessible at a depth of 25 cm. This beach is only accessible at a depth of 25 cm. This beach is only accessible.

2. Oil present in 2 locations: 3, 3-5 m long x 2 m wide patches and

as a sporadic band of drips on the rock face.
## SHORELINE OILING SUMMARY

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
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<tbody>
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</tr>
</tbody>
</table>

### SURFACE OIL

- **Character**: various types of oil and film
- **Distribution**: different areas impacted
- **Oil / Film Color**: various colors
- **Impacted Zones**: different zones affected

### SUBSURFACE OIL

- **Pit No.**
- **Pit Depth (cm)**
- **Subsurface Oil Character**: various types of oil
- **Oiled Interval**: time interval for oiling
- **Oiled Below**: depths impacted
- **Oil / Film Color**: various colors
- **Pit Zone**: different zones

### PAVEMENT

- **Material**: various types

### DEBRIS

- **Type**: various types
- **Amount**: different quantities

### Photographs

- **Roll No.**: 5T 18-4
- **Frames**: 21-30

### Comments

- Patchy coat and cover exist on high angle, desert-like terrain.
- This section encompasses the inner, eastern shoreline of the cove on eastern Matagorda Island. Its walls are near-vertical except when broken by steep, pyramid-shaped beaches. Bedrock is granite. At the southern end of the cove, we landed and observed remnants of oil. Most of their oil is a sparse ST and CT on boulders below the surface horizon.
Sensitivity sites for segments MT-1, MT-3, & MT-4.

Entire shoreline of island is inhabited by seabird colonies.
NO Sketch
SHORELINE ECOLOGICAL SUMMARY

Segment ST-MT Subdivision A Date (mo/day/yr) 4/7/80

Time (24 hr) 1005 Biologist M. CARR

(A) Substrate type and % of segments:
(1) Bedrock 70 (2) Boulder 20 (3) Cobble 10 (4) Pebble 5 (5) Sand 5 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 70 Moderate 20 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)

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Wildlife Observations/General Comments:
Bold eagle (1) Surf-scooter (1)
Common murre (1), double-crested
Glaucous-winged gull (1)
Ecological Considerations:
Sensitivity code: 4-00 (National Wildlife Refuge), 5-R (Seabird colonies)
Sketch Site #1

MT-4 4/7/90

Mann

20% coverage by CT, ST in patches, each
3-5m long x 2m wide:
much evidence of wave
abrasion.

Subsurface oil = CT + ST to
depth of 25cm, locally

Fresh rock fall

Large boulders
SHORELINE EVALUATION

SEGMENT ST/MT-003 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
4QQ National Wildlife Refuge (no time constraints given)

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/damage to unoiled biota and substrate. See attached Ecological Constraints Sheet.

SHPO SIGNATURE: [Signature] DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 1202 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90
ADEC John Rauer
EXXON Arno Tad
NOAA Buoy (Buoys)
USCG G.A. Keiter
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 bio remediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C Salmon fry nursery area (4/31 to 7/31)
1D Estuary Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/20 to 5/10)
1G Cannery Creek Hatchery release (4/21 to 5/1)
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 unolioed 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 H 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.
FIELD SHORELINE COMMENT SHEET

PROJECT ST: MT 03  SUBDIVISION: A  DATE 4/7/90

USCG/NOAA  NAME  JACQU LINCOLN  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

WE WERE NOT ABLE TO INSPECT ANY OF THIS SEGMENT BY FOOT. HOWEVER, MOST OF THE SHORELINE WAS COMPOSED OF VERTICAL ROCKY CLIFFS WHICH WERE FREE OF OIL. THE ONE BEACH IS LIKELY TO HAVE HAD SOME SMALL AMOUNT OF OIL, BASED ON SURVEYS OF SIMILAR BEACHES. NO FURTHER TREATMENT IS WARRANTED ALONG THIS HIGH ENERGY SEGMENT. IT IS QUITE A PLACE!

ADEC  NAME  JOHN R. REED  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

The majority of this segment is vertical granite cliffs with a large bird colony. No oil was observed in this segment. No treatment is needed. I have read and agree with all data on S.S.A.T. Forms.

LAND MANAGER/USFWS  NAME  MARY PETERS  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

WE WERE UNABLE TO INSPECT THE SMALL PEBBLE BEACH IN THIS SEGMENT WHICH WAS OILED IN 1989 (See 1989 Stellar Notes). THE REMAINDER OF THE SEGMENT IS PRIMARILY VERTICAL ROCK FACE WITH HIGH WAVE ENERGY. NO OIL WAS OBSERVED IN THIS PORTION OF THE SEGMENT.
SHORELINE OILING SUMMARY

OG: MANN
RIO: BARZ
USCG/NAME: MICKEL
SEGMENT ST: MT 03
PARTNER: ADEC
LAND REP: REED
TEAM NO: 1B
TIDE LEVEL: +4.0 to +2.4
DATE: 4/7/90
TIME: 36th to 17th: 00

EST. SUBDIVISION LENGTH: 1367 m

SUN ☑ Clouds ☐ Fog ☐ Rain ☐ Snow
Grass ☑ Forest ☐ Rock

SURVEYED FROM: ☑ Foot ☐ Boat ☐ Halo
WORKING DIRECTION: SOUTH TO NORTH

SURFACE SEDIMENTS: R 95 % B 5 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %

OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m V 0 m NO 1839 m
NOT OBSERVED 0

OIL / FILM COLOR

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PAVEMENT: H F S ☑ 1.4 sq.m by 1.14 cm

PATTIES/TARBALLS ☑ 0 BAGS

NEAR SHORE SHEEN? ☑ NO BR RW SL TL

OILED DEBRIS NO

AMOUNT

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DEBRIS COLLECTED ☑ YES ☐ NO

BAGS ☑ 0

Photographs:
Roll No. NONE
Frames

SUBSURFACE OIL NO PITS DUG BECAUSE OF INACCESSIBILITY OF THE SHORE AND STEEP ROCKY SLOPES.

MT-3 IS THE ROUGHEST AND MOST INACCESSIBLE OF THE MATEHKA ISLANDS. WE HAD OCEAN SWELLS OF ABOUT 10 FEET WHICH MADE APPROACH TO THE CLIFFS IMPOSSIBLE AT DISTANCES < 30-50 YARDS. SHORELINES ARE STEEP AND MUCH WAVE ENERGY IS REFLECTED. JUDGING FROM THE RATE AND PERSISTENCE OF OIL IN A SIMILAR CONE IN MT-1, I THINK IT UNLIKELY.
Sensitivity sites for segments MT-1, MT-3, & MT-4.

Entire shoreline of island is inhabited by seabird colonies.
SHORELINE ECOLOGICAL SUMMARY

Segment ST1 MT-3 Subdivision 4 (of A) Date (mo/day/yr) 4/7/90

(24 hr) 1639 Biologist M. CARR

(A) Substrate type and % of segments:
   (1) Bedrock 25% (2) Boulder 5% (3) Cobble (4) Pebble (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 40 Moderate 10 Low

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

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Wildlife Observations/General Comments:
- Bald eagle (4), both immature
- Glaucous-winged gulls (400), on rocks,
- Black-legged Kittiwake (20), on rocks

Ecological Considerations:
- Sensitivity codes: 4-00 (National Wildlife Refuge), S-R (Seabird colonies)
SEGMENT ST/MT-004 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
4QQ National Wildlife Refuge (no time constraints given)

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/damage to unoiled biota and substrate. See attached Ecological Constraint Sheet.

SHPO SIGNATURE: [Signature] DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 36 m: No Oil 2728 m
Subsurface Oil Observed: Yes X No Maximum Depth 50 cm

RECOMMENDATIONS:
X No Treatment Recommended
--- Treatment Recommended
--- Manual Pickup
--- Bioremediation
--- Tarmat: Breakup
--- Removal

Snare/Absorbent Booms
--- Oil Snares (pom poms)
--- Absorbents (pads, rolls, etc)
--- Spot Washing: Wands
--- Beach Cleaner
--- Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90
ADEC [Signature] DATE: [Signature]
EXXON [Signature] DATE: [Signature]
NOAA [Signature] DATE: [Signature]
USCG [Signature] DATE: [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)

Esoter 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 (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 unsold intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

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

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

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

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

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

Tent sites (8/1 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

Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (9/15 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

USCG/NOAA
NAME JACQUI MICHE Signature  

NO TREATMENT RECOMMENDED  TREATMENT SUGGESTED

COMMENTS

No oil was observed along the vertical rocky shoreline. Small amounts of pooled oil (coat) stain were found at a previously oiled boulder beach, mostly within/below the boulder substrate. However, natural removal along this high-energy shoreline is the most effective means of oil removal.

ADEC
NAME John R. Reed Signature

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

COMMENTS

No oil present on vertical granite shoreline. One small area of coat, stain, and very little mousse was present in a large boulder beach. No cleanup needed in this segment. Large bird colony provides in this segment I have read and agree with all data on S.S.A.T. Farms.

LAND MANAGER /USFWS
NAME Mary Porter Signature

TREATMENT SUGGESTED

COMMENTS

Oil remaining as pooled, coat and stain at the small pocket beach described at Site 2 in the 1989 S.S.A.T. The oil is concentrated in the NE corner of the beach where boulders strike the bedrock. This site is accessible only during calm weather. A rich surfacing is present on this segment.
SHORELINE OILING SUMMARY

OG MANN  USCG/NOAA  MICHEL  SEGMENT ST/ UT 04
BIO CARR  LAND REP. PORTER - BUS  SUBDIVISION

XXON RIVER  ADEC REED  TIME 17:00 TO 17:50

TEAM NO.: 19  TIDE LEVEL: +2.8 TO +0.9  DATE 7/17/90

EST. SUBDIVISION LENGTH: 3040 m  Sun  Clouds  Fog  Rain  Snow

SURVEYED FROM:  ☑ FOOT  ☑ BOAT  ☑ HELO  WORKING DIRECTION: SOUTH TO NORTH

SURFACE SEDIMENTS: patial 5%  Grass  Clay  Water  Plant  %

SLOPE:  Lang 5%  Hang 20%  Vert 65%  WAVE EXPOSURE:  ☐ LOW  ☑ MED  ☑ HIGH

OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m V 30 m NO 0

SURFACE OIL

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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PAVEMENT:  H F  S  H/A  sq. m by  H/A cm

PATTIES / TARBALLS  H/A 0  BAGS

NEAR SHORE SHEEN?  ☑ BR RW SL TL

OILED DEBRIS  NO  AMOUNT  SM MD LG

Logs
Vegetation
Trash
Debris

Photographs:
Roll No. 51 18-4
Frames 31

SUBSURFACE OIL

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<th>PIT NO.</th>
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<th>OIL / FILM COLOR</th>
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COMMENTS

This side of Matshiki Island is mainly a high cliff infested with seabirds. Wave energy is very high and mainly reflected from the shore. Oil does occur at the north end of the segment in a small pocket beach where we were able to land. Here it and its persists on bedrock and boulder surfaces but shows wave/boulder abrasion. A few areas of pooled mousse exist on bedrock where sheltered by stable boulders.

Reviewed DATE
Sensitivity sites for segments MT-1, MT-3, & MT-4.

Entire shoreline of island is inhabited by seabird colonies.
NO SKETCH PROVIDED

Oil Character Length (ft): AP 0 PO 3 CV 0 CT 30 ST 30 MS 0 PT 0 TB 0 FL 0 NO 30 10

LEGEND
1 A
- Pit - No Subsurface Oil

2 A
- Pit - Subsurface Oil

CT/C
- Concentrated Distribution

CT/B
- Broken Distribution

CT/12
- Patchy Distribution

CT/S
- Splashed Distribution

Gilled Vegetation
1 -
- Photo location, direction, and number

CHECKLIST
- N Arrow
- Approx. Scale
- Leg/Sub Entry
- Oil Dist.
- Wash
- \text{Length}
- \text{% Cover}
- Subsurface Character
- Est. HWAWL
- SSL
- Pit Location(s)
- Photo Location(s)
SHORELINE ECOLOGICAL SUMMARY

Date (mo/day/yr): 4/7/90

A) Substrate type and % of segments:
   1) Bedrock 95% (2) Boulder 5% (3) Cobble (4) Pebble (5) Sand (6) Silt

B) Overall % cover of biota (% of segment): Dense 50 Moderate 10 Low

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

Photographs:
   Roll No. 4
   Frames 31

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BARNACLES

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Wildlife Observations/ General Comments:

Glaucous-winged gulls (100) Black-legged kittiwake (50)
Red-faced merganser (20) Harlequin duck (1)
Common murre (1) Oystercatcher (1)
Barnacle goose (1) Crow (1)

Zoological Considerations:

Sensitivity codes: 4-00 (National Wildlife Refuge), 5-2 (Seabird colonies)
SHORELINE EVALUATION

SEGMENT ST/ MU-01 SUBDIVISION A (1 OF 3) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-2 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)
7HH Subsistence area: Finfish harvesting
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 43_m: Narrow 525_m: V.Light 599_m: No Oil 0_m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:
--- No Treatment Recommended
X Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat Removal

--- Snare/Absorbent Booms
--- Oil Snares (pom poms)
--- Absorbents (pads, rolls, etc)
--- Spot Washing: Wands
--- Beach Cleaner
--- Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of debris,
2) removal of tarmat as indicated on sketch map, and 3) bioremediation
of area shown on sketch map (location #1). Work should be conducted
after 6/1 with approval of USFWS regarding eagle nest constraints.

TAG COMMENTS: [Comments]

TAG APPROVAL DATE: 5/1/90
ADEC [Signature] DATE: 5/1/90
EXXON [Signature] DATE: 5/1/90
NOAA [Signature] DATE: 5/1/90
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 bio/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 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)
1L Set net sites (5/11 to 7/25)

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

2A Herring spawning (4/1 to 8/15)
Restrict boat traffic to essential minimum. Avoid damage to unooked intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P 30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

SR 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.

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

ST 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 (9/1 to 9/15)
Anchorages (8/1 to 9/15)
Forest Service cabins (8/1 to 9/15)
Lodge (8/1 to 9/15)
Special use destination

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

7TH Finish harvesting
7II Deer harvesting (9/15 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 1 MV - 1  SUBDIVISION:  B  DATE 4/20/90

NOAA  NAME  STEPHEN STURM  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

LOCATIONS #1, 2, 3 ARE LOCATED ALONG LONG CHANNEL ON THE WEST SIDE OF MUMMY ISLAND. AT THESE LOCATIONS ARE LOW ENERGY SHELTERED AREAS, ANAEROBIC CONDITIONS GENERALLY IMPED DEGRADATION OF SUBSURFACE OILY SEEDMENTS (COBBLE/BUDDLER U/V MINI PEBBLE) VIAERGED BEACHES SHOULD BE MECHANICALLY TILLED OR PLowed TO EXPOSE SUBSURFACE OIL TO NATURAL REMOVAL PROCESSES. TAR MATS SHOULD BE REMOVED (LOCATION 3). TILLING MAY BE COMBINED W/BIOREMEDIATION TO SPEED MICROBIAL DEGRADATION. CARE SHOULD BE TAKEN IN LOCATION #1 AS TO NOT RE-MOBILIZE OIL INTO PREVIOUSLY OILED SEEDMENTS.

ADEC
_NAME Wesley Ghormley  SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

LOCATION #1 - CLEAN-UP IS RECOMMENDED IN LOCATION OF PIT #5. HOT H2O HIGH PRESSURE WASHING IS SUGGESTED & MANUAL MOVING OF SMALL BouldERS TO REMOVE SUBSURFACE OIL WHICH IS 30 CM IN DEPTH. RETRIEVE OIL WITH PON-PONS, ALSO BROKEN COAT THRUI-OUTF SUBDIVISION COULD BE SPAT WASHED & OR SCRAPED OFF USING PUTTY KNIVES.
LOCATION #2 - MANUALLY REMOVE VARIOUS TYPES OF DEBRIS AT SUTA. OILED PON-PONS WERE REMOVED BY CREW.
LOCATION #3 - MANUALLY REMOVE 4 X 3M CHUNK OF ASPHALT PAVEMENT USING SHOVELS. MANUALLY REMOVE TAR BALLS ON ROCKY HEADLAND.

LAND MANAGER
_NAME  Ray Burger  AONR SIGNATURE  Ray Burger

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

- BROKEN COAT ALONG UTZ NEEDS TO BE REMOVED BY MANUAL SCARIFICATION OR SPAT WASHING.
- POCKET BEACH @ LOC #2 HAS COAT ON COBBLES & SPLASHES OF COAT ON LOGS THAT REQUIRE SAME TREATMENT. THIS BEACH IS LANDABLE/CAMPABLE
- CONCUR WITH TX OUTLINED BY ADEC ABOVE
- SPECIAL CAUTION @ LOC #1 TO PREVENT SPREAD OF OIL.
SHORELINE OILING SUMMARY

OIL CHARACTER: ASPHALT PAVEMENT, POOLED, COVER, COAT, STAIN, MOUSSE, PATTIES, TARBALLS, FILM

SURFACE OIL

CHARACTER | DISTRIBUTION | OIL/FILM COLOR | IMPACTED ZONES
---|---|---|---
ASPHALT PAVEMENT | X | X | X
POOLED | | | |
COVER | | | |
COAT | V | O | X | X | V | X
STAIN | | | |
MOUSSE | | | |
PATTIES | | | |
TARBALLS | X | | | X | X | X
FILM | | | |
NO OIL | | | |

PAVEMENT H | F | S | 18 sq m by 2 cm
PATTIES / TARBALLS | 0 | BAGS
NEAR SHORE SHEEN? | NO |
OILED DEBRIS | AMOUNT | DOES
Log | X | YES
Vegetation | | |
Trash | | |
Debris | X | |

Photographs:
Roll No: ST-9-3
Frames 9-13

OILED INTERVAL (cm): 0-10
OIL/FILM COLOR:

SURFACE OIL

SUBSURFACE OIL

PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER | OILED INTERVAL (cm) | OIL/FILM COLOR |
---|---|---|---|---
1 | 12 | X | - |
2 | 15 | X | - |
3 | 10 | X | - |
4 | 10 | X | - |
5 | 33 | X | 10-44 | X | X |
11 | 20-30 | X | X |

OIL SHEEN:

ANALYSIS (cm): N 10 P-P/6/5

SURFACE - SUBSURFACE SEDIMENTS

COMMENTS

- SUBDIVISION IS RELATIVELY UNIFORM CONSISTING OF BED ROCK AND HIGH ANGLE BOULDER/Cobble SHORE FACIES
- MOST SIGNIFICANT OILING OCCURS JUST N OF #1 ON 615 HAP AND IN LOCATION #3

2 of 19

REVIEWED by DATE 4/24/90
**SHORELINE OILING SUMMARY (PAGE 2)**

**SEGMENT STI MI-1 SUBDIVISION H**

**SUBSURFACE OIL (CONTINUED)**

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**COMMENTS**

- \* SHEEN IN PIT 10 WAS BROWN WITH BLACK GLOBULES
- \* \* 11 \* 12 \* RW

- JUST N OF LOC. 1: HIGH R N/Boulder/Cobble Shoreface with Broken Coast In U1 - Band Is 2-3 M Wide
  - \* Subsurface Oil Is To 30 CM (Pit # 5)

- LOC. 3 HAS MOST SIGNIFICANT OILING RELATIVE TO AREAS EXTEND (Sketch Map): Asphalt Pavement on CIAG Deposits; Tarballs on R-Headland; Coast on Rock Faces In U1 and On Left Side of Headland
  - No Subsurface Oil

**3 of 19**

**REVIEWED**

\[ W \] **DATE** 4/14/90
Sketch Map (6 of 19)
ST-MU-1-A
(Location 3)

Legend
1 A
2 A
PT: No Subsurface Oil
P: Subsurface Oil
CT/E
Continuous Distribution
CT/B
Broken Distribution
CT/P
Patches Distribution
CT/S
Splashed Distribution
Oiled Vegetation

Profile A-A'

Oil Character Length (ft): AP 6 PO 0 CV 0 CT 20 ST 0 MG 0 PT 0 TB 10 FL 0 NO 0
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST: \(MU-1\)  
Subdivision: A  
Date (mo/day/yr): 04/20/90

Time (24 hr): 1315-1450  
Biolgist: D. REED

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

(B) Overall % cover of biota (% of segment):  
Dense 20  
Moderate 40  
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))

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Wildlife Observations/ General Comments:  
LEAGUE, 2 DUCKS, 1 NO SEA OTTERS OR SEALS.  
Fucus recruits common on unpolished bedrock in upper edge of distribution.

Ecological Considerations:  
SEA OTTER SCAT. FOUND ON BEDROCK IN HIGH ZONE ABOVE.  
A small patch of medium oil.  
Although it did not look like a small patch of medium oil.  
Although it did not look like a small patch of medium oil.  
Although it did not look like a small patch of medium oil.

Disruption to sea otter haul out behavior.

2 of 19
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MU-1 SUBDIVISION A (1 of 3)

WORK WINDOW

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<th>Work Type</th>
<th>Window Status</th>
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<tr>
<td>Manual Pickup and Tarmat Removal</td>
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<tr>
<td>Less Than 400m From Active Nest</td>
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<tr>
<td>Manual Pickup and Tarmat Removal</td>
<td>OPEN</td>
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<tr>
<td>More Than 400m From Active Nest</td>
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</tr>
<tr>
<td>Bioremediation Less Than 400m From Active Nest</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Bioremediation More Than 400m From Active Nest</td>
<td>WORK PRIOR TO 7/1</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, and bioremediation within 400m of active nest. No constraint to manual pickup, tarmat removal, and bioremediation more than 400m from active nest.

7HH Subsistence: Finfish Harvesting

Closed to manual pickup, tarmat removal, and bioremediation after 7/1.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.
SHORELINE EVALUATION

SEGMENT ST/ MU-01 SUBDIVISION B (2 OF 3) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-2 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)
7HH Subsistence area: Finfish harvesting
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: 5/1/90

OILING CATEGORIZATION:
Wide 62 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

____ No Treatment Recommended
X Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat Removal

Snare/Absorbent Booms
Oil Snare (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: X Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommended treatment includes 1) spot washing with wands and absorbents to recover oil in south portion of subdivision (see sketch map) 2) removal of tarmats as shown on map, 3) manual pickup of mousse/pooled oil and oiled vegetation (see map) and 4) bioremediation of areas shown on sketch map. Work should be conducted after 6/1 and with approval from USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90
ADEC EXXON NOAA USCG

FOSC:  DATE: 5/13/90
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
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<tr>
<th>5T</th>
<th>Bald Eagle Nest</th>
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<tr>
<td>USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to manual pickup, tarmat removal, bioremediation, spot washing, and other approved treatment more than 400m from active nest.</td>
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<thead>
<tr>
<th>7HH</th>
<th>Subsistence: Finfish Harvesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed to bioremediation, spot washing, and other approved treatment after 7/1. No constraint to manual pickup and tarmat removal.</td>
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OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.
SHORELINE EVALUATION

SEGMENT ST/ MU-01 SUBDIVISION C (3 OF 3) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-2 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)
7HH Subsistence area: Finfish harvesting
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiLed biota and substrate. 5T - Two bald eagle nests and one more nest within 400m in adjacent segment MU-900. 6U - Tent sites noted on ecology map.

SHPO SIGNATURE: _______________ DATE: 5/1/90

OILING CATEGORIZATION:
Wide 0 m: Medium 40 m: Narrow 513 m: V.Light 2704 m: No Oil 1982 m
Subsurface Oil Observed: Yes X No___ Maximum Depth 15 cm

RECOMMENDATIONS:
_____ No Treatment Recommended  X Treatment Recommended
_____ Manual Pickup  X Bioremediation  X Tarmat Removal

Snare/Absorbent Booms  Oil Snares (pom poms)
Absorbents (pads,rolls,etc)  Spot Washing: Wands
Beach Cleaner  Other (see comments)

COMMENTS: Recommend removal of tarmats as indicated on sketch map. Work should be conducted after 6/1 and with USFWS approval based on eagle nest constraints. NOTE: Sketch map made up of four sections. Begin with upper right and lay out clockwise.

TAG COMMENTS: MANUAL PICKUP OF TAR BALLS & TARPATTIES, BIOREMEDIATE WHERE COATS & COVERS ARE FOUND IN ROCKET BEACHES

TAG APPROVAL DATE: 5/1/90
ADEC ART-WELGER  DATE:
EXXON  NOAA
USCG
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A  
Salmon stream mouth - fry outmigratin (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 (4/15 to 6/10)
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 (8/7 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)
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 seagrasses.
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 8/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

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

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

7H, 7I  
Finfish harvesting

7L  
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.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST MU-1: SUBDIVISION: C DATE 4/20/90

NAME STEPHEN STORM SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

MANUAL REMOVAL OF THE BALLS/MOUSSE/ASPHALT SPILLS/ETC., AS NOTED IN HIGH INTEGRITY - STORM BEAM AREAS AT LOCATIONS 1, 2, 3, AND 13. LOCATION #8 - MAY NEED ADDITIONAL HAND-RAKING AND PICK-UP OF THE OILED SEDIMENT. GENERALLY, HIGHER ENERGY BEACHES ON NORTH SIDE OF ISLAND - SUBJECT TO ACTIVE, NATURAL CLEANING BY STORMS. RES. OIL OBSERVED ON SHELTERED MARGINS OF BEACHES.

HOE AND OTHER MAN-MADE DISRUPTIONS SHOULD BE MINIMIZED AS TO NOT DISTURB EAGLE-NEST SITES (LOCATION 9) AND OTHERS ALONG NORTHERN-NORTHWESTERN END OF ISLAND.

ADEC

NAME Wesley arrowley SIGNATURE Wesley arrowley

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

2. Manual removal of tarballs & 2 x 3m area of tar on Northside of location in Location #2.
3. Possible Hot H2O washing at location #6 on west side consisting of a boulder, bedrock, area, is a high energy beach.
4. 3x3m stretch of asphalt along bedrock in location #9 but recommend no-clean up due to the presence of active bald eagle nest.
5. Manually pick up small chunk of asphalt at location #9.

- 2 large bags of oiled clean-up debris were removed from entire segment by team.
- 2 dead oters, 1 dead deer & dead seal were also located, decomposed to no sign of oil.

LAND MANAGER

NAME Ray Burger PONR SIGNATURE Ray Burger

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

- Broken & patchy coatings, covers, mousse & asphalt as diagramed on map should be removed in accessible areas (denoted by sections that were walked, on attached maps) - All tarballs & mousse to be picked up in these areas.
- Scenic, well protected waters, - tent sites available as noted on map.
- Concur w ADEC Tr. as outlined above except for tar at Loc #9 where recommend removal of asphalt after eagles are fledged.

REVISION NO. 06/2010
### SHORELINE OILING SUMMARY

**OGK DEBUSSCHE: STEVE STUM**

**SEGMENT ST: MV-1**

**BIO DEN REED**

**LAND REP:** Ray Burger **COUNTY**

**SUBDIVISION C**

**TIME: 10:00**

**EAM NO: 1**

**TIDE LEVEL: 2**

**DATE: 4/12/90**

**UPLANDS DESCRIPTION:**
- Grass
- Rock

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

**WORKING DIRECTION:**
- E

**SURFACE SEDIMENTS:**
- 70% B
- 15% C
- 10% S
- 5% M
- 5% V

**SLOPE:**
- Long (20%)
- Hang (25%)
- Vert (55%)

**OIL CATEGORY:**
- Length: W 0 m  M 65 m
- N 650 m  L 316 m  NO 2301

### 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 6 sq. m by 2 cm

**PATTIES / TARBALLS**: 0 BAGS

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

**DID YOU COLLECT DEBRIS?**
- YES  
- NO

**TYPE DEBRIS (NO)**
- BAGS 1
- PORTIONS OILED

**Photographs:**
- Roll No. ST-9-3
- Frames 18

### SUBSURFACE OIL

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<th>PIT NO.</th>
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<th>SUBSURFACE OIL CHARACTER</th>
<th>Oiled Internal</th>
<th>Below Oil / Film Color</th>
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<th>ANA SHEEN</th>
<th>SURFACE - SUBSURFACE SEDIMENTS</th>
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**COMMENTS**

- Subdivision is mostly bed rock with intermittent pocket beaches
- Oiling is overall light
- Subsurface oiling is present in loc 8
- In 15 m of broken cover
- And in loc 12 in 15 m of patchy coat

**Reviewed:** 7/30/90
SHORELINE OILING SUMMARY (PAGE 2)
SEGMENT ST/ M12-1 SUBDIVISION C (3 of 3)

SUBSURFACE OIL (CONTINUED)

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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
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COMMENTS

PHAVINGMENT IS PRESENT IN LOC ⑨ (2X3 M)
LOC ⑩ (1X1 M)

- NORTH FACING BEACHES ON NORTHERN END OF MUMMY ISLAND ARE MOD TO HIGH ENERGY, WITH WELL-DEVELOPED BEACH PROFILES. BEACHES ARE COMPOSED OF PEbbLE/CHANDEL W/MINOR COBBLE VENER ALONG MARGINS. OIL APPEARS TO HAVE BEEN REMOVED FROM THESE BEACHES IN EXPOSED AREAS BY NATURAL CLEANING. HOWEVER, OIL/MUSSLE/TAR BALS/TAR MATS/ASPHALT PRINT IS STILL FOUND ALONG THE SHELTERED MARGINS AND PLATFORMS OF THESE BEACHES.

REVIEWED ___________ DATE ___________

2/25
SHORELINE ECOLOGICAL SUMMARY

Segment ST, Subdivision C

Date (mo/day/yr) 04/30/90

Time (24 hr) 1600-2000

Biologist D. Reed

(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 15 (3) Cobble 10 (4) Pebble 5 (5) Sand 10
(6) Silt

(B) Overall % cover of biota (% of segment): Dense 20 Moderate 40 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 (G)

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Wildlife Observations/General Comments:
Eagle nests active in pine vegetation. Broken nest below.
Substantial mussel beds below. Sea otter haulout area.
Substantial mussel beds below. Sea otter haulout area.

 photographers:
Roll No. ST-9-3
Frames 18

NOT PRESENT
NOT PRESENT
NOT PRESENT
START
ST-MU-1-C

Resource codes for entire segment

7.44
ST-2; One nest within 400 meters
On segment MU 700 and two
within segment MU-2

Map Key: PWS-484b
Name: D. Reed
Date: 04/01/90
Date Entered:

Wide
Medium
Narrow
Very Light
No Oil

ADEC Segment Length: 6488m

12/25  100  200  300
METERS:
MU-90

APEC Segment Length: 6486m

Map Key: PWS-484d
Name: D. Reed
Date: 04/20/90
Date Entered:
MU-1

Wide
Medium
Narrow
Very Light
No Oil

ST-MU-1-C

Map Key: PWS-484c
Name: D. Reed
Date: 04/20/90
Date Entered:
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT MU-1 SUBDIVISION C (3 of 3)

WORK WINDOW

| Manual Pickup and Tar mat Removal | OPEN |
| Manual Pickup and Tar mat Removal | CLOSED |
| More Than 400m From Active Nest   |       |
| Bioremediation Less Than 400m From Active Nest | CLOSED |
| Bioremediation More Than 400m From Active Nest | WORK PRIOR TO 7/1 |

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision C. Closed to manual pickup, tar mat removal, and bioremediation within 400m of active nest. No constraint to manual pickup, tar mat removal, and bioremediation more than 400m from active nest.

7HH Subsistence: Finfish Harvesting

Closed to bioremediation after 7/1. No constraint to manual pickup and tar mat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to un原油 biota and substrate.

FOSO Date 6-0-90
Prepared by Date 6/11/90
## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-1 SUBDIVISION C (3 of 3)

### WORK WINDOW

| Manual Pickup and TarMat Removal Less Than 400m From Active Nest | CLOSED |
| Manual Pickup and TarMat Removal More Than 400m From Active Nest | OPEN |
| Bioremediation Less Than 400m From Active Nest | CLOSED |
| Bioremediation More Than 400m From Active Nest | WORK PRIOR TO 7/1 |

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 584-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 5T | Bald Eagle Nest |
| 7HH | Subsistence: Finfish Harvesting |

USFWS 6/1/90 map indicates an active nest in Subdivision C. Closed to manual pickup, tarMat removal, and bioremediation within 400m of active nest. No constraint to manual pickup, tarMat removal, and bioremediation more than 400m from active nest.

Closed to bioremediation after 7/1. No constraint to manual pickup and tarMat removal.

### OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

FOSC | Date 6-2-90 |
Prepared by | Date 6/11/90 |
SHORELINE EVALUATION

SEGMENT ST/ MU-02 SUBDIVISION A (1 OF 2) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-2 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)
7HH Subsistence area: Finfish harvesting

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: 5/8/90

OILING CATEGORIZATION:

Wide:0 m Medium:0 m Narrow:232 m: V.Light:2441 m: No Oil:1706 m
Subsurface Oil Observed: Yes No

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: Manual pickup of tarballs location #1, asphalt at location #4, and tarballs at location #6

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90
ADEC [Signature] DATE: 5/2/90
EXXON [Signature] FOSC: [Signature] DATE: 5/2/90
NOAA [Signature] USCG [Signature]
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 inpulp 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. Contact ADF&G prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morrison 267-2224

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 inpulp 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 Peitz 424-3214

1D. Esther Hatchery release (4/15 to 6/1)
1E. Main Bay Hatchery release (4/20 to 6/10)
1F. Seminary 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 inpulp 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 Evelyn Biggs 424-3235

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

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

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

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

3N-3P. Harbor seal and sea lion pupping (5/15 to 7/1)
3Q. Harbor seal and sea lion molting (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 inpulp 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

ADF&G Don Calkins 267-2403

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Pethy 267-2208

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U. Recreation: Tent sites (6/1 to 9/15)
6V. Anchorage (6/1 to 9/15)
6W. Forest Service cabin (6/1 to 9/15)
6X. Lodge (6/1 to 9/15)
6Y. Special use destination

7Z. Salmon harvesting (5/1 to 9/30)
7A. Finfish harvesting
7B. Deer harvesting (9/15 to 2/28)
7C. 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 inpulp 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/MU-2  SUBDIVISION: A  DATE 4-21-90

NAME  Stephen Sturm  SIGNATURE  Stephen Sturm

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Recommend removal of tar balls and break up pavements at locations #4-#6. Removal should be done by small work teams that will minimize impact to wildlife populations in the area (sea otters, eagles).

Due to the restricted, sheltered nature of these areas, clean-up will prevent permanent asphalt mate and pavements from developing.

ADEC

NAME  Wesley Ghormley  SIGNATURE  Wesley Ghormley

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Location #1 - Manually remove tar balls. (Small amount thru-out location)
Location #4 - Manually remove small amount of asphalt/pavement at Unit.
Location #6 - Manually remove small amount of tar balls.

The rest of subdivision is very light in oiling.

LAND MANAGER

NAME  Ray Burger  AONR SIGNATURE  Ray Burger

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Comments

In addition to the tx. outlined by ADEC above I would remove the broken coat on the east side of Mummy Island - at least breaking the continuity of this band to reduce its visibility.

Loc #4 - Remove continuous cover also
Loc #5 - Remove continuous cover
NW point of island to south of Mummy Is - remove broken coat
2 islands to west of Mummy Is - remove patchy continuous coat from east side
About 300' above pocket beaches on this segment are easy to land on - are well
**SHORELINE OILING SUMMARY**

OG K. DEB/USCHEME:  WAG SEVEN STORM

TEAM NO. 9

TIME: 14:00 17:30

DATE: 1/1/90

DISTRIBUTION:  Black  Clouds  Fog  Rain  Snow

SLOPE:  Low  Med  High

OIL CATEGORY LENGTH:  W  M  M

**SURFACE OIL**

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**SUBSURFACE OIL**

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**COMMENTS**

Subdivision is dominated by high angle/vertical bedac with shell pocket benches and boulder shorefaces on the east end.

Oiling is predominantly no oil to very light.

Most significant oiling is on E - Mummy Island where a broken coat of oil coats the B/C/F.

Oil around Knob Xous Stream (Loc 3) is very light - no s.
SHORELINE ECOLOGICAL SUMMARY

Segment ST | MU-2 | Subdivision | A | Date (mo/day/yr) | 04/01/90

Time (24hr) | 1400-1730 | Biologist | Dan Reed

(A) Substrate type and % of segments:

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

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Wildlife Observations/General Comments:
4 Eagles, 1 Nest, 4 Sea Otters, 1 Sea Otter Skeleton, 2 Humpback Whales
2 Oyster Catchers, 3 Canada Geese, 4 Golden Eyes, 15 Scoters, 2
Buffleheads, 2 Gulls, Many Deer Tracks Near Salmon Stream.

Ecological Considerations:

SEE ATTACHED
Ecological Considerations

- General Community Description
  This area consists largely of bedrock in the mid and upper tidal zones. Dense fucus cover on inclined and horizontal surfaces. Dense recruitment of fucus as well as new growth found throughout mid zone.
  Vertical bedrock surfaces with dense barnacle cover, moderate barnacle densities elsewhere.
  Cobble, pebble and silt common in low zone and support moderate densities of mussels and clams.

- Notes on Wildlife
  Abundant wildlife in this area. Numerous eagles, eagle nests, sea otters, and ducks.
  Sea otter foraging (as evidenced by extremely large number of clam pits) extensive on the S.W. side of island in low zone, especially in area of anomalous fish stream (location #7). Many of the islets in this area are used by sea otters as haul out sites (evidenced by scat).
# LOCATION NUMBER IN FIELD NOTES

Ecology Map 244

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

Map Key: PWS-485d
Name: Dan Reed
Date: 04/01/90

ADEC Segment Length: 5581m

Start MU-2-A

PWS 4858

MU-900
ECOLOGY MAP 4044

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

ST- MU-2-A

ADEC Segment Length: 5501m

Map Key: PWS-485c
Name: Dan Redo
Date: 04/21/90
S = SKIP
W = WALK

Wide
Medium
Narrow
Very Light

Map Key: PWS-485c
Name: K. DEBUSSCHERE
Date: 4/21/90
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT MU-2 SUBDIVISION A (1 of 2)

WORK WINDOW

| Manual Pickup Less Than 400m From Active Nest | CLOSED |
| Manual Pickup More Than 400m From Active Nest | OPEN |

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 3N,O,P,Q | Harbor Seal & Sea Lion Pupping and Molting |
| 5T       | Bald Eagle Nest                           |
| 7HH      | Subsistence: Finfish Harvesting           |

NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to approved treatments within 400m of active nest. No constraint to approved treatments more than 400m from active nest.

No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. 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 unoiled biota and substrate.

Prepared by J.P. Phillips Date 6/12/90
ECOLOGY MAP
SEGMENT MU-2

MU-3

MU-2

SQ-2

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest

MU Company, USA
Map Keys: MUS-MU-2
June 04, 1990
SHORELINE EVALUATION

SEGMENT ST/ MU-02 SUBDIVISION B (2 OF 2) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-2 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)
7HH Subsistence area: Finfish harvesting
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: [Signature] DATE: 5/2/90

OILING CATEGORIZATION:
Wide 0 m; Medium 209 m; Narrow 0 m; V.Light 0 m; No Oil 0 m
Subsurface Oil Observed: Yes__ No__ X Maximum Depth_____

RECOMMENDATIONS:
_____ No Treatment Recommended  ____Snare/Absorbent Booms
____ Treatment Recommended  ____Oil Snares (pom poms)
_____ Manual Pickup  ____Absorbents (pads, rolls, etc)
____ Bioremediation  ____Spot Washing: ____Wands
____ Tarmat Removal  ____Beach Cleaner
____ Other (see comments)

COMMENTS: The recommended treatment includes 1) spot washing in conjunction with sorbents on pooled oil, 2) removal of tarmats and 3) bioremediation of area shown on sketch map. Bioremediation should be conducted between 7/2 and 7/31 based on pinniped constraints and all work after 6/1 with USFWS approval regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90
ADEC [Signature] DATE: 5/9/90
EXXON [Signature] FOSC: [Signature] DATE: 5/9/90
NOAA [Signature]
USCG [Signature]
1A Salmon stream mouth - try 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 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 Morton  267-2324

1C Salmon fry nursery area (4/21 to 7/31)

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 Peltz  424-3214

1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site

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: 1E  ADF&G  Larry Peltz  424-3214  1D 1F 1G PWS Aquaculture Association  John McMillan or Bruce Suzumoto  424-7511

1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)

Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict boat operations to essential minimum as authorized by ADF&G. If 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

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 unobstructed intertidal and subtidal seagrass and eelgrass. If 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  James Brady  424-3212

30,3Q Harbor seal and sea lion pupping (5/15 to 7/1)
30Q 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. No application of in-pool within two weeks of arrival dates (work window at those 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  ADF&G  Don Callins  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  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  ADF&G  Tom Rothy  267-3206

6T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS  Jill Parker  786-3377

6U Recreation:

- Tent sites (3/1 to 6/15)
- Anchorage (6/1 to 9/15)
- Forest Service cabins (6/1 to 9/15)
- Lodge (6/1 to 9/15)
- Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
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 / MU-2 SUBDIVISION: B DATE 4-21-96

FIELD SHORELINE COMMENT SHEET

NAME Steven Stover SIGNATURE Stephen Stover

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Oil collected in rock tonels and sillsites on the southern and southeastern end of island (see map) at high tide. Being in a sheltered area, small patches of pooled oil and mud may be present.

Recommend raked oil be removed with absorbent materials, and oiled and the patches both removed and broken up to increase microbial decay (degradation) during the summer.

If spot not H2O washing is necessary, it should be done during the bald eagle nesting season (summer-fall). Hot H2O may re-distribute oil into non-oiled areas. Use of bioremediation may be an alternative to hot H2O.

ADEC

NAME Wesley C. Horn SIGNATURE Wesley C. Horn

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Manually remove small patches of asphalt pavement.

This subdivision consists mainly of bedrock. The bedrock has a large crack that runs thru-out subdivision that acted as a catch basin for floating oil. Pooled oil / cover has accumulated all along crack.

Recommend - Hand shovels & sorbent pads should be used to remove as much oil as possible, followed by Hot H2O washing of entire crack at low to medium pressure so as not to blow the retrievable oil out of crack.

Retrieve oil with sorbent pads & pum-poms.

- Clean in late summer, do the presence of eagles nest.

- There is no large colonisation of biota below oiled area.

LAND MANAGER

NAME Ray Burger PHONE SIGNATURE Ray Burger

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Concur with ADEC tx. as above with wildlife constraints.

9/26
SHORELINE OILING SUMMARY

OG K. DEAUSSCHE L prefers Steven Sturm SEGMENT ST, MV-2
BIO D. REED LAND REP L R U-3 4 R HANX SUBDIVISION 16 1 2 OF 2
EXXON T. DIAZ ADEC 11541 14th Ave., Anchorage
TEAM 17 TIDE LEVEL 14.7 Ft DATE 4/23/90
SUBDIVISION LENGTH: 150 m SUN Clouds FOG Rain Snow
UPLANDS DESCRIPTION: Grass Forest Rock
SURVEYED FROM: Foot Boat Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 85% B 2% C 5% P 5% G 3% S 0% N 0% V 2%
SLOPE: Lang 20% Hang 50% Ven 30% WAVE EXPOSURE: Low Med High
OIL CATEGORY LENGTH: W 90 m M 150 m N 0 m VL 0 m NO 0 m

### SURFACE OIL

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<td>TARBALLS</td>
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PAVEMENT H F S 10 sq. m by 2 cm
PATTIES/TARBALLS 0 BAGS
NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT
<table>
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<td>Debris</td>
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DID YOU COLLECT DEBRIS?
YES N

PHOTOGRAPHS:
Roll No. NONE
Frames NONE

### SUBSURFACE OIL

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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>
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<th>ANA SHEEN (mm)</th>
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<td>X</td>
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<td>- PoG-K</td>
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COMMENTS:
- OILED INTERVAL IS PAVEMENT and does not constitute subsurface oil
- SUBDIVISION CONSISTS HEAVILY OF BEDROCK. THE S-END IS A INTERTIDAL ROCK PLATFORM, THEN-EN DIO IS CLIFF BORDED BY FOREST
- OIL: POOLED OIL IS PRESENT IN CRACKS IN WEATHERED R
- COVER OCCURS WHERE R HAS FROZEN TO FORM GULLIES
- RAINBOW SHEEN IS PRESENT ON OIL REVIEWED DATE 4/23/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST, Subdivision B

Date (mo/day/yr): 04/21/90

Time (24 hr): 1930-1800

B. Reed

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

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

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
- Juveniles / adults
- New settlement

Photographs:
- Roll No.
- Frames

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Wildlife Observations/General Comments:
- 2 Bald Eagles with 1 Eagle Nest
- 2 Black Scoters
- 1 Common merganser

Ecological Considerations:
- Medium oiling in this short (150m) Subdivision. Bald eagle nest is active and should be taken into consideration when determining the timing and type of cleanup. Primarily Fucus and Barnacles in areas of heaviest oil.

4/26
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT MU-2 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
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<tr>
<th>Task</th>
<th>Status</th>
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<tr>
<td>Tarmat Removal</td>
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<tr>
<td>Bioremediation</td>
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<tr>
<td>Spot Washing</td>
<td>CLOSED</td>
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<tr>
<td>Other Approved Treatment</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>3N, O, P, Q</td>
<td>Harbor Seal &amp; Sea Lion Pupping and Molting</td>
<td>NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&amp;G to Mark Kuwada/ADF&amp;G.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to tarmat removal, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to tarmat removal, bioremediation spot washing, and other approved treatment more than 400m from active nest.</td>
</tr>
<tr>
<td>7HH</td>
<td>Subsistence: Finfish Harvesting</td>
<td>Closed to bioremediation, spot washing, and other approved treatment after 7/1. No constraint to tarmat removal.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC ___________________________ Date 6-12-90
Prepared by ______________________ Date 6/1/90
SEGMENT ST/ MU-03 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3O Harbor seal and sea lion molting (8/15 to 9/15)
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
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECMOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiied biota and substrate.

SHPO SIGNATURE: DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 71 m: V.Light 1155 m: No Oil 0 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

RECOMMENDATIONS:
X 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 Removal ___ Beach Cleaner
____ Other (see comments)

COMMENTS: Manually remove tarmats, pooled oil and tarballs. Bioremediate areas indicated on sketch map. Work should be conducted prior to 5/15 or between 7/1 and 8/15 and with USFWS approval based on pinniped and eagle constraints respectively. Inipal should only be applied between 7/2 and 7/31 due to pinnipeds.

TAG COMMENTS: Spot Wash Prior to 6/10 As indicated

TAG APPROVAL DATE: 5/3/90
ADEC ___ 
EXXON ___ FOSC: DATE: 5-8-90
NOAA ___ 
USCG ___
Salmon stream mouth - fry outmigration (3/1 to 5/15)

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or oil 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 permission application. AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

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

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

Estuary Hatchery release (4/15 to 6/1)
Main Bay Hatchery release (4/20 to 6/10)
Seward 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 oil application, prior to 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 Jim Brady 424-3212

GB 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)

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 oil 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 intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or oil 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 (9/15 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 haulout. No application of oil 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 ADF&G Don Calhoun 267-2403

Seabird colony (5/1 to 9/1)

Restrict air and boat traffic to essential minimum. No personnel in 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 Rotty 267-2206

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

Restrict air traffic and all disturbance 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. AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

Recreation: Tent sites (5/1 to 9/15)
Anchorage (8/1 to 9/15)
Forest Service cabins (6/1 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 9/15)
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 oil 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  MU-3  SUBDIVISION:  A  DATE  4-21-90

NAME  STEPHEN STEWART  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Manual removal of tar balls, tar mats, etc. from sheltered areas in locations 3 & 5 with small work teams at the end of summer early fall. Bald eagle nest sites are in close proximity to both locations. Additional use of spot hot water washing of sheltered, vertical rock faces may be necessary to remove continuous coat of oil in units. Care should be taken as to not re-mobilize oil into unshaded areas during hot water washing.

ADEC
NAME  Wesley Gorman  SIGNATURE  Wesley Gorman

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Location #3 - Manually remove tar balls, spot wash continuous coat on rock at Units using hot H2O.

Location #5 - Manually remove small amount of pooled oil on north side of location in bedrock crack. Manually remove tar mat & tar balls from same location spot washing using hot H2O to remove coated oil from both south & north pocket beaches on location.

- All other locations were lightly stained & coated & require no clean-up.
- Large tar patty was removed from location #1.

LAND MANAGER
NAME  Key Burger  AONR  SIGNATURE  Key Burger

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

- Concur with ADEC as above with addition of removal of broken continuous coat on east side of northern island.
- Pocket beaches on islands allow easy landing for exploring, but no good campsites found.

21/26
### SHORELINE OILING SUMMARY

**O & G K. DEBUSE**
**L & H. S. STONE**
**SEGMENT ST/ MU-3**

**BIO & RE: D.**
**LAND REP: B. W. PROPP & SUBDIVISION**
**EXXON T & D.**
**ADEC WESLEY G. SMITH**
**TIME 18:25 TO 19:30**

**TEAM NO. 9**
**TIDE LEVEL: 1.75 - 2.95**
**DATE: 4/1/90**

**EST. SUBDIVISION LENGTH:** 3359 m
- **Sun**
- **Clouds**
- **Fog**
- **Rain**
- **Snow**

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

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

**WORKING DIRECTION:** C to W

**SURFACE SEDIMENTS:**
- **R:** 90%
- **B:** 5%
- **S:** 4%
- **C:** 1%
- **Y:** 0%
- **P:** 1%
- **G:** 0%
- **O:** 0%
- **M:** 0%
- **E:** 0%

**SLOPE:**
- **Long:** 0%
- **Hang:** 15%
- **Vert:** 85%

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

**OIL CATEGORY LENGTH:**
- **W:** 0 m
- **M:** 0 m
- **N:** 70 m
- **V:** 32.89 m
- **N:** 0 m

### SURFACE OIL

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<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
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<tr>
<td>No Oil</td>
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</table>

### PAVEMENT

- **H:** 2 sq. m
- **S:** 2 sq. m

### PATTELS/TARBALLS

- **1 Bags**

### NEAR SHORE SHEEN?
- **No**

### OILED DEBRIS

- **Logs**
- **Vegetation**
- **Trash**
- **Debris**

**Type:**
- **The Pat**

**Photographs:**
- **Roll No.: None**
- **Frames: 40**

### SUBSURFACE OIL

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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW OIL/FILM COLOR</th>
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### COMMENTS

**SEGMENT IS HAMLY BED ROCK**

**OILING IS MOST SIGNIFICANT IN LOCATIONS 2 & 5**

3 - **POCKET BENCH (Bue) -> BAND OR CONTINUOUS COAT AT U - 1 THREBALL/S**

5 - **1.5 M WIDE SULLY WITH COMBINATION OF COAT/B A COVER/B ON VERTICAL ROCK (15 X 15M)**

**SUST NORTH**: CONT/C ON VERTICAL ROCK (20 X 10M)

**Also PO/P (20X40CM)**

**TARBALLS REVIEWED**

**DATE: 4/1/90**

**14/26**
SHORELINE ECOLOGICAL SUMMARY

Segment ST / MU-3 Subdivision A

Date (mo / day / yr) 04/21/90

Time (24 hr) 18:55-19:30  Biologist D. REED

(A) Substrate type and % of segments:
   1) Bedrock 90 (2) Boulder 5 (3) Cobble 4 (4) Pebble 2 (5) Sand 1

(B) Overall % cover of biota (% of segment): Dense 30  Moderate 40  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 (3)

Photographs:
Roll No.
Frames

BARNALES

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MYTILUS

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Wildlife Observations/ General Comments:

3 BALD EAGLES, 2 ACUTE EAGLE NESTS, 6 SEA OTTERS, 3 HERONS,
3 BUCKS, SEA OTTER Haul Out Area on HIGH BLock DRoeK.

Ecological Considerations:

2 Acute Eagle Nests (one on each Island)

1C/26
NOTE: NO BIO on vertical faces
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MU-3 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
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<tbody>
<tr>
<td>Tarmac Removal</td>
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<tr>
<td>Bioremediation</td>
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<tr>
<td>Spot Washing</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>3N,O,P,Q</th>
<th>Harbor Seal &amp; Sea Lion Pupping and Molting</th>
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<tbody>
<tr>
<td></td>
<td>NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&amp;G to Mark Kuwada/ADF&amp;G.</td>
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<table>
<thead>
<tr>
<th>5T</th>
<th>Bald Eagle Nest</th>
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<tbody>
<tr>
<td></td>
<td>USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmac removal, bioremediation and spot washing within 400m of active nest. No constraint to manual pickup, tarmac removal, bioremediation and spot washing more than 400m from active nest.</td>
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<th>7HH</th>
<th>Subsistence: Finfish Harvesting</th>
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<tbody>
<tr>
<td></td>
<td>Closed to spot washing and bioremediation after 7/1. No constraint to manual pickup and tarmac removal.</td>
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</table>

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

[Signature]

Date 6/14/90

Prepared by

[Signature]

Date 6/14/90
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MU-3 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
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<th>Manual Pickup</th>
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<tbody>
<tr>
<td>Tarmat Removal</td>
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<td>Bioremidiation</td>
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<td>Spot Washing</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered: PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 3N, O, P, Q | Harbor Seal & Sea Lion Pupping and Molting | NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G. |
| 5T          | Bald Eagle Nest                              | USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, bioremidiation and spot washing within 400m of active nest. No constraint to manual pickup, tarmat removal, bioremidiation and spot washing more than 400m from active nest. |
| 7HH         | Subsistence: Finfish Harvesting              | Closed to spot washing and bioremidiation after 7/1. No constraint to manual pickup and tarmat removal. |

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSCO: [Signature] Date: 6/23/90

Prepared by: [Signature] Date: 6/14/90
ECOLOGY MAP
SEGMENT MU-3
SUBDIVISION A (1 of 1)

WORK AREA
Active Eagle Nest
400 M Buffer Zone

MU-3

MU-2

SQ-2

EXxon Company, USA
Map Key: PNS-MU-3
June 04, 1990

★ Seabird Colony
▲ Active Eagle Nest
▼ Inactive Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ MU-900 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-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 uncoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 422 m: No Oil 0 m
Subsurface Oil Observed: Yes  No  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 Removal  ___ Beach Cleaner
 ___ Other (see comments)

COMMENTS: Recommend manual pickup of patties and removal of tarmat as indicated on sketch map. Work should be conducted between 7/1 and 8/15 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/3/90
ADEC  [Signature] DATE: 5/8/90
EXXON  [Signature]  FOSC: [Signature]
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fly outrigging (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 lnipel 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 lnipel application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

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

1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Caniry Creek Hatchery release (4/21 to 6/1)
1H Nalu egg collection

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipel 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 Evelyn Biggs 424-3234

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 area (8/11 to 7/29)

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

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3234

2A 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 lnipel application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3234

2B 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 lnipel 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 ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 766-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 766-3377 ADF&G Tom Rothby 267-2206

6U 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

6V Recreation:
6V.1 Tent sites (6/1 to 9/15)
6V.2 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.1 Pinkfish harvesting
7H.2 Deer harvesting (5/15 to 2/25)

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 lnipel 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
RECOMMEND hand raking/tilling of pavement and trash mat at end of summer to prevent disruption of eagle-nesting site on island. Process of raking oiled sediments - pavement and removal of such substance should preferably take no longer than one hour by small work party.

Manually remove small amount of asphalt and trash on east side of island late in summer as not to disturb nesting Eagles.

Concur to ADEC tx as above.

A couple of pocket beaches on this island make for easy landing in this scenic spot.

9/19
### Shoreline Oiling Summary

**Nom:** S. Strom  
**SEGMENT:** M U - 900  
**BIO:** D. Reed  
**ADEC NO.:** 1042  
**DATE:** 4/21/90

**Team No.:** 9  
**TIDE LEVEL:** 5.75 - 4.50  
**LOW:** 4/21/90

- **UPLANDS DESCRIPTION:** Grass & Forest  
- **SURVEYED FROM:** Foot, Boat, Helo  
- **SURFACE SEDIMENTS:**  
  - **Red:** 90%  
  - **Blue:** 14%  
  - **Green:** 6%  
  - **Yellow:** 3%  
  - **White:** 2%  
  - **Gray:** 1%  
  - **Pink:** 0%  
  - **Green:** 0%  
- **SLOPE:**  
  - **High:** 15%  
  - **Medium:** 30%  
  - **Low:** 55%

**OIL CATEGORY LENGTH:**  
- **W:** 61.7 m  
- **M:** 61.7 m  
- **N:** 61.7 m  
- **V:** 61.7 m  
- **L:** 61.7 m

### Surface Oil

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<td>Tarballs</td>
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<td>Film</td>
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<td>No Oil</td>
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**Impact Zones:***  
- Pavement H  
- PATTIES/TARBALLS  
- NEAR SHORE SHEEN?

**Oiled Debris Amount:**  
- Logs  
- Vegetation  
- Trash  
- Debris

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

### Subsurface Oil

<table>
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<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Material</th>
<th>Below</th>
<th>Oil / Film Color</th>
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**Comments:**  
- **SEGMENT IS DOMINATED BY BEDROCK.**
- **EASTERN HALF OF ISLAND IS ROCK PLATFORM (INTACT) WITH SOME PAVEMENT, COAT/S & PATTIES /S**
- **WESTERN END IS FORESTED BEDROCK WITH COAT/S ON CLIFFS**
- **NO PITS B/C BEDROCK**

**Reviewed:** YW  
**Date:** 4/23/90  
**Date:** 2/13
SHORELINE ECOLOGICAL SUMMARY

Segment ST / MU-900 Subdivision A Date (mo/day/yr) 04/21/90

Time (24 hr) 1915-2005 Biologist D. Reed

(A) Substrate type and % of segments:
   (1) Bedrock 90 (2) Boulder 4 (3) Cobble 3 (4) Pebble 2 (5) Sand 1 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 10 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 (G)

BARNACLES

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Wildlife Observations/General Comments:

EAGLES, 1 NEST - small island (5), largely bedrock with numerous
small dense mussel beds on the eastern side.

Ecological Considerations:

EAGLE NESTING AND MUSTEL BEDS SUSCEPTIBLE TO HUMAN
DISTURBANCE AND SHOULD BE CONSIDERED WHEN DETERMINING
THE TIMING AND TYPE OF CLEANSUP.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT MU-900 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup
Tarmat Removal

CLOSED

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q Harbor Seal & Sea Lion Pupping and Molting
NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.

5T Bald Eagle Nest
USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup and tarmat removal within 400m of active nest. No constraint to manual pickup and tarmat removal more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS
If eagle nest constraint is removed, other ecological considerations will apply.

FOSC __________________________ Date 6/14/90
Prepared by ______________________ Date 6/14/90