[Shoreline evaluations, 1990].

US-01 – US-12

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SHORELINE EVALUATION

SEGMENT ST/ US-01 SUBDIVISION A (1 OF 1) DATE 4/10/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Possible Seabird colony 5R (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: __________________________ DATE: 4/20/90

OILING CATEGORIZATION:
Wide 0 m: Medium 297 m; Narrow 362 m; V.Light 185 m: No Oil 143 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

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

COMMENTS: Recommend (a) manual pick up of mousse, pooled oil, and oil-
ed debris (debris, trash and vegetation), (b) burning of oiled logs
with more than 10% coverage and splash impact, and (c) bioremediation
as noted on sketch map. Work should be conducted only with permission
of ADF&G and USFWS due to seabird colony constraint.

TAG COMMENTS: Monitor to re-evaluate the need to burn
the logs at time of treatment

TAG APPROVAL DATE: 4/20/90
ADEC Art Watters
Exxon Amos Teal
NOAA Frank Watters
USCG Kenneth Kean

FOSC: ___ DATE: 4-25-90

Note: Least intrusive method possible on the
high energy beaches before resorting to highly
intrusive methods may have to deal with storm
activity related to problem and attack next
season.
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
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 Kolen Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1F Remote release site

1G Gill net area

1J Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay - 6/9 to 10/1.
East side Kodiak, East side Afognak - 7/4 to 10/1.

1K Purse seine hook-off

1L Set net sites
USFWS setnet uplands permit 5/15 to 9/15.

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

2M Herring spawning (4/15 to 6/30)
Restrict boat traffic to essential minimum. Avoid damage to unrolled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P Harbor seal and sea lion pupping (5/10 to 6/30)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

3O, 3Q Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 8/31)
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)
Anchorages (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

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

6HH Finfish harvesting

7I Deer harvesting (6/1 to 1/7)

7JJ Invertebrate harvesting

7KK Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)

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

SEGMENT ST  US-01 SUBDIVISION: A DATE 4/10/90

NAME John Naughton SIGNATURE John J. Naughton

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS
This segment had substantial oil, particularly along the water portion of the shoreline. The cliff faces have coating and splashes by up in supra-tidal, logs and marine debris coated and stained. Cobb beach under debris contains oil subsurface to at least 30 cm. depth. Most of oil in upper and supra-tidal indicates oil came ashore (at least during one period) during storm surf conditions. Manual removal of subsurface oil difficult because of large logs covering much of area. Bioremediation could possibly be applied to appropriate areas of this segment.

ADEC NAME Scott Shelton SIGNATURE Scott Shelton

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS US-01 Sub. A
25-30 meter coating on Bedrock in the upper to supra-tidal level. Claying. Shells with erosion from W to E 177 meters. Draft from winter storms up to 2 meters coverage on oil band in western region of this segment. Draft would need to be removed. For clean up access of the impact area. Cleanup/remedial type recommended. Debris pile in this segment (survival type) should be pulled up access limited by high energy beach.

LAND MANAGER NAME LINDA M. HAGEN SIGNATURE Linda M. Hagen, USFWS

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS (Attachment + 2)

Banven Islands contain the largest and most diverse population of seabirds in the Northern Gulf of Alaska and are the most important nesting location in the Region. Due to the amount and wide coverage of oiled surface and the wildlife sensitivity within this location, I recommend treatment as high priority within recommended time frame provided by refuge manager.
High energy beach so impact went high into supratidal.
Logs & debris accumulated here have coating of oil. That easily
contaminates on contact. While this area lacks recreationists (due to access)
- wildlife is in danger.
Some seabird flocks seen in far offshore areas.
No sign of mammals on beach or uplands except for some small rodent
burrows - one songbird observed - no eagles or gulls
Band of cont goes at least 30 cm into subsurface.
Attachment 2

U.S. Fish and Wildlife Service Shoreline Cleanup Disclaimer

This comment sheet is based on current observations and is solely for the purpose of planning and scheduling of 1990 response treatment actions. It in no way implies that the State or Federal government will not in the future determine that further restoration or other treatment, or compensation is warranted regarding this area, or that the area is considered by the Federal or State government to be adequately "clean" or "restored" for the purpose of any claim which the State or Federal government has brought or may bring against Exxon, Incorporated or any other potentially responsible party.
**SHORELINE OILING SUMMARY**

**SEGMENT ST:** US-01

**DATE:** 9/10/90

**TIME:** 10:16 to 11:05

**TIDE LEVEL:** -1 to +2

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

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

**SURFACE SEDIMENTS:**
- 20% Asph
- 20% Gravel
- 15% Fir
- 20% Oil

**OIL CATEGORY LENGTH:**
- W: 0 m
- M: 29 m
- N: 435 m
- VL: 295 m
- NO: 260 m

### 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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</table>

**Pavement:**
- H: 0 sq. m by 0 cm

**Patties/Tarballs:**
- Bags

**Near Shore SHEEN?**
- No

**Oiled substrate:**
- Oil

**Debris collected:**
- Yes

**Debris:**
- Vegetation
- Trash
- Debris

**Photographs:**
- Roll No. 19-8
- Frames 1-13, 26-36

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm-ccm)</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
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**COMMENTS:** Drift coverage on oil film and in the water section of this segment is several meters in depth with up to 1 meters built up covering oil impact. Drift is from winter storms and would need to be removed for any cleanup of impact oil.

Continuous/Winter portion of this segment Area 1 High debris oiling and subsurface oiling.

**Reviewed:**
- Date: 12 Apr 90
### Subsurface Oil (Continued)

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<th>Subsurface Oil Character</th>
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<td>0.30 X</td>
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**Comments**

Beyond Pit 7 Bedrock/Bedrock subsurface conditions

**Reviewed by:** [Signature]  
**Date:** 12/4/90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST US-1  Subdivision A  Date (mo/day/yr) 4/10/90

Time (24 hr) 9:00  Biologist SPIGHT

(A) Substrate type and % of segments:
(1) Bedrock 60% (2) Boulder 30% (3) Cobble 10% (4) Pebble 5% (5) Sand 5% (6) Silt

(B) Overall % cover of biota (% of segment): Dense 35% Moderate 35% 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 (J), new settlement (S)

**BARNACLES**

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Wildlife Observations/General Comments:

Ecological Considerations:
- Extremely diverse area in types of habitats. Tide pools with eelgrass. Lower levels of seaward face covered with "little kelp"
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT US-1 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
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<tr>
<th>Manual Pickup</th>
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<tr>
<td>Oiled Log Burning</td>
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<tr>
<td>Bioremediation</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5R Seabird Colony NO CONSTRAINT. The work area is more than 800m from the nearest seabird colony.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/1/90
ADEC Ray Mansfield
EXxon
NOAA
USCG
Prepared By: Linda Meyer  Date 5/31/90
SHORELINE EVALUATION

SEGMENT ST/. US-02  SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific constraints identified.

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 187 m: Narrow 1174 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

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

COMMENTS: Recommend manual pick up of mousse, oiled debris, and oiled trash, and burn oiled logs if more than 10% coverage and splash impact as indicated on sketch map. Also recommend relocation of 150m x 30m x 30cm material (pits 12, 13, and 14 on sketch map) from SUTZ to MITZ and bioremediate; a bobcat-type vehicle with high flotation tires/ tracks is recommended for relocation of materials.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC: JOHN BAUER  EXXON: ANNY TAYLOR
NOAA: BRIAN WESTHART USCG:  

FIELD SHORELINE COMMENT SHEET

SEGMENT ST: US-2  SUBDIVISION: A  DATE 4-9-90

NOAA NAME: John Naughton  SIGNATURE: John J. Naughton

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
This area appeared to have been heavily oiled last year and then oil covered by beach cobbles during storm. Also much oiled debris pushed into a storm berm, much oil mixed with muck kept and burned. Oil submerged in area at east end of 150m approximately 150m x 40m. By far greatest impact rest of area is middle of segment. In submerged zone pit dug indicated oil at least 30 cm deep.

ADEC NAME: Scott Scheck  SIGNATURE: Scott Scheck

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
US-2  USHABAT I. 1355 Meters walked by team members. Stain / coating observed along this segment in the storm tide draft areas. Organics mix with oil impact forms a 200 meter band at the Supratidal to upper tidal levels. 150 x 30 meter zone of oiled oil can be treated in the eastern most section of this segment. 3 Pits to 30 cm observed oil in the residual form not saturated. Penetration beyond 30 cm can be seen. Scattered tar balls observed along segment grades. Manual clean-up recommended at this date. High seas and gale force winds on beach / marine area.

LAND MANAGER
NAME: Linda M. Hagen  SIGNATURE: Linda M. Hagen

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
Clean up is suggested for this area.
**SHORELINE OILING SUMMARY**

**OG Pealek**

**BIO** Spill

**EXXON** Ryder

**TEAM NO.** 14

**TIME** 10:45 10/22/90

**DATE** 4/9/90

**EST. SUBDIVISION LENGTH:** 135 m

**SUN** Clouds Fog Rain Snow

**UPLANDS DESCRIPTION:** Grass Forest Rock

**SURVEYED FROM:** Foot Boat Helo

**WORKING DIRECTION:** W to E

**SURFACESEDIMENTS:** R 10% B 10% C 60% P 10% G 10% S 0% M 0% V 0%

**SLOPE:** Lang 70% Hang 15% Vert 15% WAVE EXPOSURE: Low Med High

**OIL CATEGORY LENGTH:** W 0 m M 200 m N 115 m V 0 m

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### SURFACE OIL

<table>
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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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**PAVEMENT:** H F S 0 sq. m by 0 cm
**PATTERS / TARBALLS:** 0 BAGS
**NEAR SHORE SHEEN:** NO BR RW SL TL

**OILED DEBRIS AMOUNT DEBRIS COLLECTED**

- Logs
- Vegetation
- Trash
- Debris

**TYPE:** NETS ROPE LINE
**#BAGS:** 25

**Photographs:**

- Roll No. ST-19-7
- Frames 17-23

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### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
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**COMMENTS:**

- Stain and coat is observed in all of the log and debris line.
- The central headland is coated and stain above the supratidal line.
- Zone of buried oil on the eastern part of the beach 150' deep, depth of burial 30 cm and greater.

---

**REVIEWED**

**DATE** 12/4/90
## Subsurface Oil (Continued)

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
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## Comments

- Seaweed

REVIEWED: [Signature]  DATE: 12/30/90
Manual pick up of mousse and oiled debris, oiled trash
Burn oiled LDG if more than 10% coverage = splash impact
Relocate 30 cm into MIZ and score remediation file

Legend
1
Pt - No Subsurface Oil
2
Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

Oil Character Length (in): AP_0 PO_0 CV_0 ST_1355 ST_1355 NO_1355 PT_0 TB_0 FL_0 NO_0

Profile
## SHORELINE ECOLOGICAL SUMMARY

**Segment ST/ US-2**  
**Subdivision** A  
**Date (mo/day/yr)** 4/14/90

**Time (24 hr)** 10:44  
**Biolist** SPL6HT

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

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

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

#### BARNACLES

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### Wildlife Observations/General Comments:

Ecological Considerations: Normal fauna on headlands. Outcrops at water line and in mid-beach all scoured; a few red algae + slime of greens; Stuck offshore in mid-bay looks to have normal barnacles, etc.
SHORELINE EVALUATION

SEGMENT ST/ US-05 SUBDIVISION A (1 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: DATE: 5/5/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 322 m: No Oil 37 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

No Treatment Recommended X Treatment Recommended Snare/Absorbent Booms
X Manual Pickup Oil Snares (pom poms)
Bioremediation Absorbents (pads, rolls, etc)
Tarmat Removal Spot Washing: Wands
No Oil _3__ m
Maximum Depth _7_ m

COMMENTS: Recommend manual pickup of oiled trash and oiled logs. Work to be done in conjunction with other cleanup activity on Ushagat Island. Work should be conducted prior to 5/15 with permission from USFWS regarding Seabird constraints.

TAG COMMENTS: Monitor to assess logs.

TAG APPROVAL DATE: May 5, 1990
ADEC EXXON NOAA USCG
Mark V. Sillott, Acting Director
Mike Peterson, Acting Director
Captain Peterson, C.A. Keeler

DATE: 5-9-90

USFWS Rep to be on scene
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 inocul 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 Mordon 287-2324

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 inocul application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

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

1D Gill net area (5/7 to 8/31)

Tete Hatchery release (4/15 to 6/15)

Main Bay Hatchery release (4/20 to 6/15)

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

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

Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to minimal. 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 inocul 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 (6/15 to 9/15)

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

Contact ADF&G and USFWS prior to treatmant for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235

ADF&G Don Callins 287-2403

Seabird colony (5/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roathy 287-2208

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. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

Recreation:

Tent sites (6/1 to 9/15)

Anchorage (6/1 to 9/15)

Forest Service cabins (8/1 to 9/15)

Lodge (8/1 to 9/15)

Special use destination

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

Finfish harvesting

Deer harvesting (8/15 to 2/29)

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 inocul which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization; see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 287-2359
SEGMENT ST  US-005 SUBDIVISION: A DATE 4/26/90

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Spectacular geological feature - creates bay. Very high energy (wave) conditions, thus beach undergoes considerable natural cleansing. Only cleanup required is gathering oiled trash.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

There was surface oiling consisting of little splatters of oil on the gravel above the high tide line. At the time we did not observe any treatable oiled subjects. There was a small amount of oil that could be picked up.

☑ TREATMENT SUGGESTED

COMMENTS

Manual removal of oily trash should be conducted in conjunction with other trash/debris pick-up in the Barrens. Activities should be completed as close to May 1, 1990, as possible. A service monitor should be present.
**SHORELINE OILING SUMMARY**

**Ogilvie Hayes**  
**NOSA**  
**Bio-Oil Recycling**  
**REP**  
**Jerry Kuron**  
**Subdivision**  
**DATE**  
**Team No.**  
**East Subdivision Length**  
**Uplands Description**  
**Surveyed from**  
**Working Direction**  
**Surface Sediments**  
**Slope**  
**Oil Category**  
**Uplands Description**  
**Surface Oils**

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<td>Mousse</td>
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<td>No Oil</td>
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**Subsurface Oils**

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<th>Subsurface Oil Character</th>
<th>Oiled Debris</th>
<th>Below Oil/Film Color</th>
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**Comments**

Subdivision consists of esculate bay between rocky headlands. No subsurface oil observed. Surface oil limited to <1% coverage of CT/IS in ~10 m band in upper ITZ below log pile/stromatolite on cal/pop/rob, few logs & trash on bedrock @ SE end of subdivision.
SKETCH MAP

MANUAL PICKUP

Oiled Trash - cans, floats, netting
< 1 % coverage

CT/S < 1 % on bedrock C61/P61 + logs

Cusp sets

Small Stacked
barns

log & boulders

Debris pile
of drift trees
on washer
terrace

CT/S on C61/P61 + logs along entire beach in band ~ 10m wide

Legend:
P1 - No Subsurface Oil
P2 - Subsurface Oil
CT/C - Conspicuous Distribution
CT/B - Bizarre Distribution
CT/P - Patchy Distribution
CT/S - Splashed Distribution

Oil Character Langi (cm) AP PO CV CT ST MS PT TB FL NO
SHORELINE ECOLOGICAL SUMMARY

**Segment:** US005  **Subdivision:** A  **Date:** 04/23/90

**Time:** 13:35  **Biologist:** DANIEL RAIDER

### A) Substrate Type and % of Segments:
1. Bedrock (1)
2. Boulder (2)
3. Cobble (3)
4. Pebble (4)
5. Sand (5)
6. Silt (6)

### B) Overall % Cover of Biota ( % of Segment):
- Dense
- Moderate
- Low

### C) Density, Substrate Preference (by number from A, above), and Vertical Zonation of Major Taxa:
- Juveniles / Adults
- New Settlement

#### Barnacles

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#### Mytilus

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#### Gastropods

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#### Fucus

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</table>

**Wildlife Observations/General Comments:**

See attached "wildlife grid" list

This is a very high energy beach with much sediment deposition and consequent little biota; beach rose grass and dwarf forest area and Sitka spruce above the storm swash and into the intertidal complex are dominant biota of the region; alpine willow in the headland

**Ecological Considerations:**

- See attached sheet for bird counts taken
- Seabird colony
**Bird Sighting - US OOSA+8**

**TEAM 17**

22 April, 1990

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>1) Song Sparrow</td>
<td>20 ±</td>
<td>Abundant; either Aleutian or Pacific N.W. dark subspecies</td>
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<td>2) Glaucous-Winged Gull</td>
<td>4</td>
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<td>3) Bald Eagle</td>
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<tr>
<td>4) Varied Thrush</td>
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<tr>
<td>5) Cormorant #?</td>
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- Credit to Mike Hayes for helping compile this list.
headlands consisting of Alpine willow and Sitka spruce in Krumholz pattern

Area with relatively high decomposing vegetation

Storm berm of decomposing kelp

Storm berm filled with large, weathered/rounded logs

Storm berm of large, weathered/rounded logs

Active tree stumps in Sitka spruce and moss (except spruce) end brown algae

Photo 12

Photo 13

Photo 14

Bio sketch
22 April 1990
13:35
Daniel Rainer
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT US-5 SUBDIVISION A (1 of 2)

WORK WINDOW
Manual Pickup CLOSED

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5R Seabird Colony Closed to manual pickup. Work area is less than 800m from the nearest seabird colony.

OTHER ECOLOGICAL CONSIDERATIONS
If the seabird colony constraint is removed, other ecological considerations will apply.

Prepared By: G. P. Phillips Date 6/10/90

FOSC DATE 6-10-90
SHORELINE EVALUATION

SEGMENT ST/ US-05 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

OILING CATEGORIZATION:
Wide 18 m: Medium 5 m: Narrow 12 m: V.Light 302 m: No Oil 244 m
Subsurface Oil Observed: Yes X No ______ Maximum Depth 61+ cm

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

COMMENTS: Recommended treatment includes 1) manual pickup of pooled oil, mousse, oiled debris and oiled logs. Relocate UITZ and SUTZ to MITZ. 2) spot wash and bioremediate in areas indicated on sketch map. Work should be conducted prior to 5/15 with permission from USFWS.

TAG COMMENTS: Monitor to assess logs.

TAG APPROVAL DATE: May 5 1990
ADEC Art Weirman Mark Dunn
EXXON Mary N. West Mark N. Sims
NOAA Gary Black Andy Bostic
USCG Carl Keeler Carl Turner

PERM: Manual pickup after 5-1 with approval of land manager. Sediment relocation and cselomgle after 1 Sept. No INPCL.

Re: telephone conversation between CDR Roma/PAUL GENTHER USGS
Kep an area.

FOS: [Signature] DATE 5/15/90

on 23 June 1990, Sediment Relocation + Custom biology application can be done prior to 1 Sept. MY Usher
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT US-5 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
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<th>Manual Pickup</th>
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<tr>
<td>Other Approved Treatment</td>
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<tr>
<td>Bioremediation</td>
<td>OPEN</td>
</tr>
<tr>
<td>Spot Washing</td>
<td>OPEN</td>
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<tr>
<td>Mechanical Relocation</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 5R Seabird Colony | NO CONSTRAINT. Seabird colony in Segment US-3 is more than 800m from work area. |

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/3/10
ADEC
EXXON
NOAA
USCG
Prepared By: (signature)  Date 6/3/10

FOSC
DATE 6/3/10
WORK PLAN ADDENDUM


MODIFICATION

1. REASON FOR MODIFICATION

   RELIEF FROM USF+W TIMING CONSTRAINT SPECIFIC
   TIMING TO BE CLARIFIED BY USF+W.

2. ADJUSTMENT TO WORK PLAN

   RELIEF FROM TIMING CONSTRAINTS FOR BARM RELOCATION
   TRIM.

SHPO APPROVAL NEEDED YES ______ X ______ NO ______

SHPO SIGNATURE

TAG APPROVAL DATE
ADEC Ray Morris, R. J. Hend
EXXON Amy Ten, Ade
NOAA Joseph Talbot, J. O.
USCG C. A. Deiter, C. A. Deiter

Inpection constraint applies. Refer original work plan (Schedule Evaluation for

FOSC 6/38/60

DATE 6/38/60
SHORELINE EVALUATION

SEGMENT ST/ US-07 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
USFWS property
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: 5/14/90

OILING CATEGORIZATION:
Wide 0 m: Medium 30 m: Narrow 0 m: V. Light 70 m: No Oil 724 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse where indicated on sketch and 2) bioremediation of area of surface stain. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENT:
NO BIG OF STAIN FOLLOWING REMOVAL OF MONSTER MOLLEST CUSTOMER IF REQ'D

TAG APPROVAL DATE: 5/2/90
ADEC
EXXON
NOAA
USCG

FOSC: [Signature] DATE: 5/18/90
Monitor agrees need for bioremediation + apply as necessary.
Salmon stream mouth - fry outmiguration (3/1 to 5/15)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremed action 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 will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

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

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 July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

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

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

Invertebrate harvesting

Main Bay Hatchery release (4/20 to 6/15)

Seawmill 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 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: PWS Fisheries Service John McMillan or Bruce Suzumoto 424-7511

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

Purse seine area (7/22 to 9/30)

Purse seine hook-off (7/22 to 9/30)

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 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

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 uncolonized 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

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 haulout. No application of inpulp 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 Calkins 267-2403

Seabird colony (5/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 789-3377

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 789-3377

ADF&G Tom Roth 267-2206

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 shoreline points 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 789-3377

Recreation:

Tent sites (5/1 to 9/15)

Anchorage (5/1 to 9/15)

Forest Service cabins (5/1 to 9/15)

Lodge (6/1 to 9/15)

Special use destination

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

Pleasure fishing

Deer harvesting (8/15 to 2/26)

Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or 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 Fell 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 45-007  SUBDIVISION: A  DATE 04/24/96

USCG NOAA
NAME Mike O. Hayes  SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Manual pick-up of oil-saturated wet sand and remove

Another excellent example of oils having accumulated
in the lee of a protruding underwater ledge ("tombolo gap").

ADEC
NAME Russell Kawasaki  SIGNATURE Russell Kawasaki

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

On the point at the center of the subdivision there
was a 4'X7' area covered in oil. There was some oil
in the cracks of the concrete on this point.

Recommended treatment: Manual pick-up of the oily concrete and
sand and remove, and manual pick-up of the oil from
the cracks of the concrete.

LAND MANAGER
NAME Gerald M. Nugent  SIGNATURE Gerald M. Nugent (USAF)<

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Recommend manual removal of mousse in
conjunction with other pick-up activities on the
Barrens. Actions should take place by or about
Barrens. Actions should be present
May 1, 1990. A Service monitor should be present
during any activities on the Barrens.

REVISION NO. 01/21/96
SHORELINE OILING SUMMARY

OG: N. BILGAR

MILES HAYES

SEGMENT STI: L5-007

BIO: D. RAIDER

LAND REP: BERRY NUGENT

EXXON: John DEAN

ADEC: Russell KUNIGE

TIME: 9:00AM 12:30

TEAM NO.: 17

TIDE LEVEL: +7 +6

DATE: 4/12/90

EST. SUBDIVISION LENGTH: 1440 m

UPLANDS DESCRIPTION:

- Sun
- Clouds
- Fog
- Rain
- Snow

SURVEYED FROM:

- Foot
- Boat
- Helo

WORKING DIRECTION: N to S

SURFACE SEDIMENTS:

- R 15%
- B 5%
- C 10%
- P 50%
- G -

- S 20%
- M -
- V -

SLOPE: Lang 101%

Hang 101%

Vert 101%

WAVE EXPOSURE:

- Low
- Med
- High

OIL CATEGORY LENGTH:

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

- VL m
- NO m

SURFACE OIL

CHARACTER

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

- ASPHALT
- POOLED
- COVER
- COAT
- STAIN
- MOUSSE
- PATTIES
- TARBALLS
- FILM
- NO OIL

PAVEMENT:

H F S - sq. m by - cm

PATTIES / TARBALLS:

- 10?

NEAR SHORE SHEEN?

- NO

- BR RW SL TL

OILED DEBRIS AMOUNT

- SM
- MD
- LG

- P, E, S

- 5, P, E

- S, C, P

- E, P, S

DID YOU COLLECT DEBRIS?

- YES
- NO

TYPE:

- #BAGS

PHOTOGRAPHS:

- Roll No.
- Frames

SUBSURFACE OIL

<table>
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</table>

COMMENTS

Evidence of oil limited to vicinity of rock outcrop in center of segment. On the rock, oil spatter and drip line is quite worn by wave action. Pooled mousse can be found in small crevices and pockets on surface of rock outcrop. Mousse pavement occurs on lee side of rock outcrop. Granite bedrock, resulting in granular beach with pebbles and cobbles. Oil in MTZ to UTZ. No sheen observed. Mousse pavement was moderately tough. DEO outer surface, soft inside, 02/10/90.

REVIEWED BY: J. MAY 90
SEGMENT ST/ US-007

SUBDIVISION A

DATE 4/14/90

CHECKLIST

- N Anom
- Approx. Scale
- Seg/Sub Beding
- Oil Dist.
- Width
- Length
- % Cover
- Subsurface Character
- Est. HWL/WL
- Subsurface Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 \( \Delta \)
- Pit - No Subsurface Oil

2 \( \Delta \)
- Pit - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Broken Distribution

CT/P
- Patchy Distribution

CT/S
- Splashed Distribution

Oiled Vegetation

1 \( \Delta \)
- Photo location, direction, and number

---

Sketch Map

CT/S on R, with pooled M5; in small crevices and notches in L
- (2+3cm²), up to 1cm thick. M5
- LBR: own
- 2.10m x 50m

Granite

Shear rock face

Uplifted terrace

M3 1/2 - DBL, mod. hard on surface, soft DBL beneath
- binds p.g tightly on lee side of rock exposure. 4m x 7m,
- 65% cover

Not Surveys

Manual
- Removal
- OP removal

Manual
- Removal
- OP removal

47.5m²

84m²

Oil Character Length (m): AP O PO O CV O CT 190 ST O MS 147 PT O TB O FL O NO 1243
SHORELINE ECOLOGICAL SUMMARY

Segment ST: X-009 Subdivision A Date (mo/day/yr) 4/3/19

Time (24 hr) 12:00 Biologist Daniel Raider

A) Substrate type and % of segments:
(1) Bedrock 15 (2) Boulder 5 (3) Cobble 10 (4) Pebble 5 (5) Sand 0 (6) Silt 0

B) Overall % cover of biota (% of segment): Dense 3 Moderate 2 Low 95

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)

BARNACLES

<table>
<thead>
<tr>
<th>U</th>
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<th>1L</th>
<th>Moderate</th>
<th>Sparse</th>
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MYTILUS

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FUCUS

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</tbody>
</table>

Wildlife Observations/General Comments:
(see "W"-diaz springs & Shet
small Bedrock area with moderately dense vegetation and fauna population
Ecol.. impacts to it should be minimized (e.g. traffic flow.;)

Ecological Considerations:

NY: 30Q
<table>
<thead>
<tr>
<th>Wildlife Sightings for US-007 27 April 1980</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td>1) Glaucous-Winged Gull</td>
</tr>
<tr>
<td>2) Mallards</td>
</tr>
<tr>
<td>3) Cormorants</td>
</tr>
<tr>
<td>4) Common Raven</td>
</tr>
<tr>
<td>5) Grebe</td>
</tr>
<tr>
<td>6) Black-Legged Kittiwakes</td>
</tr>
<tr>
<td>7) Oyster Catcher</td>
</tr>
<tr>
<td>8) Bald Eagle</td>
</tr>
<tr>
<td><strong>Amount</strong></td>
</tr>
<tr>
<td>10 ±</td>
</tr>
<tr>
<td>9 (1 female)</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>1 (Red Necked ?)</td>
</tr>
<tr>
<td>2000-3000 j at rookery while boating the Barnu Island</td>
</tr>
</tbody>
</table>
Areas 1 & 2
- High energy break zone
  with no biota

Area 3
- Keep ditches

Area 2 Fauna & Flora
- Ulva in MTZ on boulders

Vegetation curving extend from MTZ to LTZ
Moderate focus on Boulders in LTZ
Carawha - dense pockets on boulders.
Dark Ulva on boulders in LTZ (packets)
- Green Ulva in MTZ and LTZ; Pockets of molokai in MTZ
- Undosolenia Magnifica – dense in pools
- Sea Lemon
- Mermaid Smith
- Sea Anemone
- Amphiphium Ascendens
- Stomphia Sarcina
- Epizoanthus Coralline

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

Map Key: KEN-US-7
Name:
Date:
Data Entry...
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT US-7 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>WORK 7/1 - 8/14</th>
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</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK 7/1 - 7/31</td>
</tr>
<tr>
<td>Spot Washing</td>
<td>WORK 7/1 - 8/14</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q Harbor Seal & Sea Lion Pupping and Molting
Closed to bioremediation prior to 7/1 and after 7/31. Closed to manual pickup and spot washing prior to 7/1 and after 8/14.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unoiied biota and substrate.

FOSC: [Signature] Date 6/12/90
Prepared by [Signature] Date 6/12/90
SEGMENT ENVIROMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P  Seal and sea lion pupping (5/15 to 7/1) - in adjacent segment
30,3Q  Seal and sea lion molting (8/15 to 9/15) - in adjacent segment
5T  Active eagle nest (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE: __________________________ DATE: 4/11/90

OILING CATEGORIZATION:
Wide 0 m: Medium 89 m: Narrow 140 m: V.Light 1149 m: No Oil 1176 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

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

COMMENTS: Recommend manual pick up of mousse and oiled debris. Bioremediation is recommended for areas with oil cover and subsurface oil as indicated on sketch. Work only with USFWS permission concerning eagle constraints.

TAG COMMENTS: __________________________

TAG APPROVAL DATE: 4/11/90
ADEC: John Bauck
EXXON: Amy Tread
NOAA: DeDe Woolery
USCG: Kaether Captain

Coordinate bioremediation application with
U.S. Fish and Wildlife, Dept. of the Interior, as practical and effective clean-up.
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

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

Gill net area (9/7 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 seagrasses. 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 9/11)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

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

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

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
SEGMENT ST 7.05-08 SUBDIVISION: 05-84 DATE 4-10-92

□ NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS
See OG notes for proper observations.

NAME D.D. Hauge  SIGNATURE  D.D. Hauge

ADEC NAME Francisco P. Beals  SIGNATURE  Francisco P. Beals

□ NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS
walked entire length of segment, approximately 1.2 mi. long. Observed area of R/B/C having CT U, SS/O P distribution. Some mousse trapped in crevices of bedrock & under cobble is present, it could be removed manually with trowel. Th ground faded out to the north, but a surface/subsurface band of oiled sediments exists in the storm beam. Surface oiled sediments are collectable. There's also oil debris & drift. Mousse mixed w/vegetation & storm debris is present in the drift & often concentrated on the backside of the beam. Much of this is collectable w/flow & should be removed. Only VC oil is present on the surface in the next

LAND MANAGER NAME John Hardister  SIGNATURE  John P. Hardister  USFWS

□ NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS
Sufficient oil & debris exist to warrant removal by mechanical means, especially along the storm beam, but also on the drift beam area.

REVISION NO. 02/31/92
portion of the segment, in the form of small MS wads + stains on drift. Collectable oil is minimal but clean-up crew should definitely sweep the UITR /Storm boom to insure thoroughness in the effort. A numb of pits were dug up here in the North section of 0808, no subsurface oil was observed. Throughout the segment is scattered, oiled debris that should be removed.
SHORELINE OILING SUMMARY

REVIEW NO. 03-22-90

SHORELINE OILING SUMMARY

OG Action: USCg Haver SEGMENT ST/ US-8
BIO: Dries LAND REP: Heebe SUBDIVISION US-8A
EXXON: Avery ADEC: Dennis TIME: 8:50 to 10:55
AM NO.: 20 TIDE LEVEL: 1 to 2 DATE: 4/10/90
ST. SUBDIVISION LENGTH: 2583 m LND DESCRIPTION: Sun Clouds Fog Rain Snow
ISLANDS DESCRIPTION: Grass Forest Rock
SURVEYED FROM: Foot Boat Helo WORKING DIRECTION: N to S
SURFACESEDIMENTS: R 10% B 85% C 5% P 15% G 15% S 15% M 10% V 10%
SLOPE: Lang 90% Hang 10% Vert 0% WAVE EXPOSURE: Low Med High
OIL CATEGORY LENGTH: 0 m M 950 m N 155 m VL 1200 m NO 1138 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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<tbody>
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<td>ASPHALT</td>
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</tr>
<tr>
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<td>POOLED</td>
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PAVEMENT: H F S sq. m by cm
PATTERNS / TARBALLS BAGS
NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

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<th>DEBRIS COLLECTED</th>
<th>DEBRIS TYPE</th>
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<td>YES</td>
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<tr>
<td>Logs</td>
<td>Vegetation</td>
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<tr>
<td>Trash</td>
<td>Debris</td>
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Photographs:

Roll No. 51.24.51 24-5
Frames 25-37 1-8

SUBSURFACE OIL

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<td>5 30</td>
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<tr>
<td>6 30</td>
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COMMENTS: 3 m x 175 m band of oil limited approx 250 m south at creek. Band at base of SS barn, in 50m medium and 125 m narrow, all areas of buried mousse on top of 15 cm deep. Extensive cobble accumulations/barns make assessment of buried oil difficult on this type of high-energy beach. Area at seashore end of segment has oil impacting on the rock cliff and on/in the boulders/cobble on the rock platform. Pits could not be dug in this area. The very light oiling (100m) between these 2 areas consisted of predominantly splash on driftwood and coals (very occasional).

Reviewed: ZA Date 12/22/90
## Subsurface Oil (Continued)

<table>
<thead>
<tr>
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<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm)</th>
<th>Below Oil/Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Subsurface Sediments</th>
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<td>0-15</td>
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### Comments

[Blank space]
SEGMENT ST/US-8
SUBDIVISION US-8A
DATE 4/10/90

CHECKLIST
- N Arrow
- Approx Scale
- Seg/Sub Brdy
- Oil Dist
- Width
- Length
- % Cover
- Substrate Character
- Ex St Haul
- SSL
- Profile Location
- Pit Location
- Photo Location

LEGEND
1 A
Pit - No Subsurface Oil
2 A
Pit - Subsurface Oil

CT/C
Continuous Distribution
CT/B
Broken Distribution
CT/P
Patched Distribution
CT/S
Splashed Distribution

Oiled Vegetation
1
Photo location, direction, and number

SKETCH MAP
N
Approx Scale 1cm = 75m

BIOREMEDICATE COAT AND SUBSURFACE OIL

Stream

3m x 175m band CT/P - CT/S w/ areas of buried (to 20cm depth) MSP of 0 or at base of SS berm in cave
50m medium, 125m narrow

3m x 100m band in basalt/romer(s) and convex (w) of ST/CT/S, very light

Primary Carbon Beach w P + G

Extensive Driftwood on SS Berrm

Upper Unit, including driftwood and convex, from just S of AA to just N of B-B and ST/CT/S, 1100 mx 3m very light

8m x 70m band at ST/CT/CVP on cliff and basalt/subtype w/ MSP between some basalters
40m medium
30m narrow

MANUAL PICKUP OF MOUSSET, OILED DEBRIS, OILED LOGS, SPLASHED OILS

Oil Character Length (m): AP PO CV 90 CT IUS 1100 MS 90 PT TB FL NO 1138
3m x 175m band CT/P - CT/B w/areas of buried MP/P OF 10R to a depth of 20cm

A-A' = 50m

Oil Character Length (m): AP PO CV CT ST MS PT TB FL NO
SEGMENT ST/VS-8
SUBDIVISION VS-2A
DATE 4/10/90

CHECKLIST
- Approx. Size
- Oil Out
- Wash
- % Corrosion
- Subsurface Character
- Est. H/A/W/L/W
- Profile Location(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1
- Pit - No Subsurface Oil

2
- Pit - Subsurface Oil

CT/C
- Concretion Distribution

CT/B
- Broken Distribution

CT/PI
- Patchy Distribution

CT/S
- Splashed Distribution

Clogged Vegetation

Oil Character Length (m): AP______PO______CV______CT______ST______NS______PT______TB______FL______NO______
SHORELINE ECOLOGICAL SUMMARY

Segment ST / US-08 Subdivision US-08 A __________________ Date (mo / day / yr ) 4/10/80

Time (24 hr) 09:00  Biologist H. Davis __________________

(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 35% Moderate 35% Low 30% 5%

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

### BARNACLES

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Wildlife Observations/ General Comments:

- Seals, 2 humpback whales, 12 harbor seals, 20 eider ducks, 1 cloudburst.
- Characterized with abundant plant life, animals, birds, and large numbers in the upper tidal flat.
- Five humpback whales were observed, with one group of 5-10 whales could be joined by others. All marine mammals showed about 10%-12% blubber.

Ecological Considerations:

- The shore is used for pupping and birthing around May 15. Monarch butterflies and other butterflies nest in the area. Eagles feed on the island. The stream on US-08 margin is anadromous.
US-8A

Map Key: KEN-141a
Name: Acton
Date: 4-10-90

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

US-8

ADEC Segment Length: 2554m
WORK PLAN ADDENDUM

Segment US-008_________________________ Subdivision A_________________________ Dated 5/16/90

MODIFICATION

1. REASON FOR MODIFICATION

• Admirals requirement.
• Landowner recommendation.

2. ADJUSTMENT TO WORK PLAN

• No Customblen or Inipol at this site.
• Access after May 1 permitted with special instructions from the Refuge Manager of the Alaska Maritime National Wildlife Refuge.

SHPO APPROVAL NEEDED YES _____ NO _____

SHPO SIGNATURE ______________________

TAG APPROVAL DATE 5/18/90
ADEC ___________ EXXON ___________ NOAA ___________ USCG ___________

FOSC _______ DATE 5-18-90
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT US-8 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>WORK 7/1 - 8/15*</th>
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<tbody>
<tr>
<td>Bioremediation</td>
<td>CLOSED</td>
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*Contact Alaska Maritime NWR @ 235-6546 For Permission

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 3N, O, P, Q | Harbor Seal & Sea Lion Pupping and Molting |
| 5T          | Bald Eagle Nest                             |

Closed to manual pickup and bioremediation prior to 7/1 and after 8/15.

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

OTHER ECOLOGICAL CONSIDERATIONS

Restrict all activity to essential minimum, especially air traffic. 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. Restrict air traffic and all disturbance to essential minimum. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from nests. Avoid any unnecessary disturbance or damage to unollled biota and substrate.

FOSC: [Signature] Date: 6-12-90
Prepared by: [Signature] Date: 6/11/90
WORK PLAN ADDENDUM

Segment US - 8  Subdivision A  Dated June 22, 1990

MODIFICATION

1. REASON FOR MODIFICATION

- REQUEST BY USF+W FOR BERM RELOCATION
- FOSC REQUEST.

2. ADJUSTMENT TO WORK PLAN

ADD BERM RELOCATION TO WORK PLAN AS INDICATED ON SKETCH FOLLOWING ACCEPTANCE OF THE TRIAL ON US 58 BY USF+W.
Timing to be specified by USF+W.

SHPO APPROVAL NEEDED YES  X  NO

SHPO SIGNATURE Charles 2 ff.Dee 6/29/90

TAG APPROVAL DATE June 22, 1990

ADEC Ray Monroe  L. Shepherd
EXXON Andy Teal  E. Rode
NOAA [Signature]
USCG S. A. Reiter  S. A. Kizer

Original inspection constraint applies. Add storm berm inspection to work order.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT US-9 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup
Tarmat Removal

OPEN

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

APPLICABLE ECOCLOGICAL TIME CONSTRAINTS
No ecological time constraints.

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

TAG APPROVAL DATE 6/04/90
ADEC [Signature]
EXXON [Signature]
NOAA [Signature]
USCG [Signature]

Prepared By: [Signature] Date 6/2/90

FOSC [Signature] DATE 6/2/90
I

SHORELINE EVALUATION

SEGMENT ST/ US-19 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No special constraints identified.

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

SHPO SIGNATURE:  DATE: 4/20/90

OILING CATEGORIZATION:
Wide 0 m: Medium 84 m: Narrow 118 m: V.Light 492 m: No Oil 511 m
Subsurface Oil Observed: Yes X No Maximum Depth 40 cm

RECOMMENDATIONS:
___No Treatment Recommended ___Snare/Absorbent Booms
X Treatment Recommended ___Oil Snares (pom poms)
X Manual Pickup ___Absorbents (pads, rolls, etc)
X Bioremediation ___Spot Washing: Wands
___Tarmac: _____Breakup _____Beach Cleaner
_____Removal _____Other (see comments)

COMMENTS: Recommend manual pick up of surface mousse and oiled trash/debris. Bioremediation is recommended for areas with surface oil coat and cover and for subsurface oiling. No ecological timing constraints are indicated.

TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90
ADEC ART WEINER DATE: 4-27-90
EXXON DATE: 4-27-90
NOAA Comments about HRW's noted - however, we are attempting to introduce method to resolve oil spill problem on this shoreline directly to excavation - let's discuss what that's recommended results in.

USCG G.A. HANCOCK G.A. HANCOCK
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / US-10 SUBDIVISION: US-10A DATE 4-9-90

USCG NAMED: D. Hansen Jr., GM3 USCG SIGNATURE: D. Hansen

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

ADEC NAME: Francis T. Brown SIGNATURE: Francis T. Brown

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Observable band of oil spans 600 meters in the UITE. Within this area are loose areas of surface oil such as absorbed saturated sediments, MS patina, and C/T/C sediments which indicate presence of subsurface oil. Although not continuous, this oil band is expensive. One can speculate, based on September observations of the obvious redistribution of sediments at this beach, that there is more subsurface oil than that revealed by our pit dig today. It seems that winter provided a means for abrasive action serving to remove control of page 2.

LAND MANAGER NAME: John Hardister SIGNATURE: John P. Hardister

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

USFWS

Subsurface oil of particular concern. Consideration for cleanup is warranted.
US-10A

Comment Sheet

Rye 2

ADEC

Some C/V of the cobbled or coarse gravel. Some of the subsurface oil has now been exposed by the sea wave energy, it is eroding onto the flanks of the berma. There is definitely collectable oil saturation sediments now on the surface. Manual removal is recommended to Rino, as some very moussey /G4 are present down to 15cm from surface as shown by pit #3. Also present is some oiled debris & drift. Debris should be removed, but most of the oiled driftwood has only VMA stains & wouldn’t be my priority for a manual clean-up effort.

Subsurface oil here remains a problem & could contribute to sheen on warm temperatures cause this summer however large scale, heavy equipment - excavation may not be justified here.

This ADEC rep does not believe the application of Tricel here is appropriate or that it would serve any great benefit. Some biomethanation took place in Aug, & the oil still looked bad in Sept. Now, at least the surface looks better after the winter.

There is, however, oil that can be collected MANUALLY, and should be.
**SHORELINE OILING SUMMARY**

**SEGMENT** ST/US-10

**TEAM NO.**: 20  **DATE**: 4-1-90

**TIDE LEVEL**: -1.10  **TIME**: 8:50 10-10-90

**OG**: Acton  **BIO**: Panis  **USCG**: Haven  **LAND REP** USFWS  **SUBDIVISION**: Hardister - US-10A

**EST. SUBDIVISION LENGTH**: 1081 m  **WORKING DIRECTION**: N 10 S

**SURVEYED FROM**: Foot  **Surveys**: Helo  **SURFACE SEDIMENTS**: R 10 % B 15 % C 40 % P 15 % G 15 % S 5 % M 0 % V 0 %

**SLOPE**: Lang 90 % Hang 10 % Vert 0%

**WAVE EXPOSURE**: Low  Med  High

**OIL CATEGORY LENGTH**: W.m M.135 m N.115 m V.300 m NO.481 m

---

**SURFACE OIL**

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>ASPHALT PAVEMENT</td>
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<td>POOLED</td>
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<td>COVER</td>
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<td>COAT</td>
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<td>STAIN</td>
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<td>TARBALLS</td>
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**PAVEMENT**: H F S  C sq. m by 0 cm

**PATTIES/TARBALLS**: O BAGS

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

**OILED DEBRIS**: AMOUNT

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<th>DEBRIS COLLECTED</th>
<th>OILED DEBRIS</th>
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<td>NO</td>
<td>Vegetation</td>
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**Trash**: ✓

**Debris**: ✓

**Photographs**:

- Roll No.: 20-4  20-3
- Frames: 1-24  35-37

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**SUBSURFACE OIL**

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm cm)</th>
<th>OILED DEBRIS</th>
<th>SUBSURFACE SEDIMENTS</th>
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**COMMENTS**

Oil band in upper U172 near/lat base of SSL berm. For most of band length (600cm) there is surface evidence of oil in the band. It appears that redistribution of beach material has covered most of the impacted band, making it difficult to assess the area. In some portions of the oiled band, the mousse present forms an aggregate conglomate which appears to resist erosion to a greater degree than the natural beach material. This oil conglomerate is exposed in places. The area of U172 near the southernmost creek is a thick carbon deposit and no oil was observed in the pit dug; however, the oil may be buried by 1-2 m of carbon. The boom band at impact has several exposed oiled areas.

**REVIEWED BY**: Date 12/90
### SHORELINE OILING SUMMARY (PAGE 2 of 2)

SEGMENT ST/ VS-10 SUBDIVISION US-10A

#### SUBSURFACE OIL (CONTINUED)

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#### COMMENTS

Nearby exposed areas of more heavily impacted areas that were assessed. Due to the volume of sediments that have been redistributed since the oil impacted the shoreline, assessment of shoreline is difficult/impossible with a shovel.

Reviewed 12 Dec 90

[Signature]
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST/US-10 Subdivision US-10A**

**Date (mo/day/yr)** 4/9/90

**Time (24 hr)** 09:30 **Biologist** H. Davis

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

1. Bedrock 10
2. Boulder 15
3. Cobble 40
4. Pebble 30
5. Sand 5
6. Silt

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

- Dense 10%
- Moderate 40%
- Low 50% (<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 (✓)

**Photographs:**

- Roll No. 5T-20, 35-26-9
- Frames 35-37, 1-24

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NOT PRESENT 4, 5, 6

### FUCUS

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NOT PRESENT 4, 5, 6

**Wildlife Observations/General Comments:** The central area of US-10A was a beach with large winter storm swells built up the stream coming out had lots of bedrock. But I could not find any definite information. Most of the marine life was concentrated at the rocky points at either end of the beach. Bash Point pointed west: a community of barnacles, mussels, and limpets. There was also another rock outcrop which was home to the intertidal zone organisms. There was an intertidal Ecological Consideration: Not sure if it is the same point, but the area is densely populated. The stream in the area does not look an intertidal zone.
OG Action

SEGMENT ST/ UY-10

SUBDIVISION U2-M-A

DATE 4/9/80

CHECKLIST

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

LEGEND

1

-

Pit - No Subsurface Oil

2

-

Ph - Subsurface Oil

CT/C

Contamination Distribution

CT/B

Broken Distribution

CT/D

Pitted Distribution

CT/S

Splashed Distribution

Oil Contact Length (m): AP PO CV CT ST MS PT TB FL NO
SKETCH MAP

2 m x 3.5 m area of CV/P + MS/B w/in 420 n x unburned oil + buried oil to 30 cm

Driftwood

5 m bluff

Cobble Beach

HVL

B

B' = 90 m

Oil Character Length (m): AP______ PO______ CV______ CT______ ST______ MS______ PT______ TB______ FL______ NO______
WORK PLAN ADDENDUM

Segment US-10 Subdivision A Dated 6/27/90

MODIFICATION

1. REASON FOR MODIFICATION

- Request by USF+W to add storm berm relocation
- Request by FOSC

2. ADJUSTMENT TO WORK PLAN

ADD BERM RELOCATION TO WORK PLAN AS INDICATED ON ATTACHED SKETCH, FOLLOWING ACCEPTANCE OF THE TRIAL ON US 50 BY USF+W.

TIMING TO BE SPECIFIED BY USF+W.

SHPO APPROVAL NEEDED YES X NO ___

SHPO SIGNATURE Charles Z. Heuer 6/27/90

Area of storm berm relocation must be inspected by an Exxon archaeologist.

TAG APPROVAL DATE 6/27/90

ADEC Ray Moore, K. Hendricks

EXXON Andy Teal, Brad

NOAA Joseph Talbot, M. Moore

USCG G.A. Pieter, G.A. Pieter

DATE 6/27/90
SKETCH MAP

 Approx Scale
 1cm = 75m

 Relocation of old storm berm
 sediments to mid/upper ITZ

 MANUAL PICK-UP ITZ
 OVER MOUSSETRAVEC
 SODDIES
 BIOREGULARITE COAT, COVER
 AND SUBSURFACE OIL

 LEGEND
 1 A
 Ph - No Subsurface Oil
 2 A
 Ph - Subsurface Oil
 CT/C Connecticut Distribution
 CT/D Connecticut Distribution
 CT/P Patchy Distribution
 CT/S Splashed Distribution
 Gilted Vegetation

 Pheno location, creation, and number

 Date 4/9/90

 CHECKLIST
 - A Area
 - Approx. Scale
 - Seg/Sub Variaty
 - Oil Dist.
 - Width
 - Percent
 - Subsurface Character
 - E fil. MVLW/LCL
 - SRL
 - Profile Location(s)
 - Fl Location(s)
 - Photo Location(s)
WORK PLAN ADDENDUM

Segment US-10  Subdivision A  Dated 16 Aug 90

MODIFICATION

1. REASON FOR MODIFICATION

RESOLVE METHOD, APPROACH AND TIMING OF TREATMENT TO BE UTILIZED AT US-10.

2. ADJUSTMENT TO WORK PLAN

RELOCATE OVERBURDEN COVERING SUBSURFACE LENS AND MOVE THE OIL TO LENS ONTO THE FACE OF THE STORM BERM. UTILIZE MECHANICAL EQUIPMENT AS DESCRIBED IN THE ATTACHED PROPOSAL IN THE "PROPOSED APPROACH" SECTION.

SHPO APPROVAL NEEDED YES ☐ NO ☐

SHPO SIGNATURE: ___________________________  DATE: 8/16/90

TAG APPROVAL DATE: ___________________________

ADEC ☐  EXXON ☐

NOAA ☐  USCG ☐

No Consequences in TAG as per attached letter

FOSC: ___________________________ DATE: 8/16/90

Much thought was given to the above decision. There is too much sediment to remove from the subsurface; we have a 15 day window within which to operate this year. In my opinion it is best to effect the above and alleviate or eliminate the problem we may be confronted with next year. We may not be able to may decide to do nothing. If this decision is carried over to next year, while large forces of personnel + equipment are assigned this year, it will be too late to accomplish the above.
SHORELINE EVALUATION

SEGMENT ST/ US-11 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
USFWS property.

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

SHPO SIGNATURE: ____________________________ DATE: 5/14/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 114 m: No Oil 729 m
Subsurface Oil Observed: Yes____ No X ______ Maximum Depth______

RECOMMENDATIONS:

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

COMMENTS: ____________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

TAG COMMENTS: _________________________________________

_____________________________________________________

_____________________________________________________

TAG APPROVAL DATE: 5/14/90
ADEC Art Weimer Art Weimer
EXXON Andy Cornell
NOAA Gary Peterson Gary Peterson
USCG D.D. Rome D.D. Rome

FOSC: ______ DATE: 5/14/90
Salmon stream mouth - fry outmigrant  (3/1 to 5/15)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to or 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. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

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

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 Inipol 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 Pelitz 424-3214

1D  Gill net area  (5/7 to 6/31)
1J  Purse seine area  (7/20 to 9/30)
1K  Purse seine hook-off  (7/20 to 9/30)
1L  Set net sites  (5/11 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 beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

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 uinfaunal intertidal and subtidal snares and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

30  Harbor seal and sea lion pupping  (5/15 to 7/1)
3Q  Harbor seal and sea lion molting  (5/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235

ADF&G Don Calitine 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 267-2208

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

Active Bald Eagle nests (3/1 to 8/1) 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  (8/1 to 9/15)
6V  Anchorage  (8/1 to 9/15)
6W  Forest Service cabins  (8/1 to 9/15)
6X  Lodge  (8/1 to 9/15)
6Y  Special use destination

7Z  Subsistence area: Salmon harvesting  (6/1 to 9/30)
7H  Finish harvesting
7I  Deer harvesting  (9/15 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 application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

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


NAME  Mike O. Hughes  SIGNATURE  U.S. Coast Guard

☑ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

Very high energy
No treatment required.

ADEC

NAME  Russell Kembe  SIGNATURE  Russell Kembe

☑ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

Oil was present on splatter of oil on the bank and debris.

LAND MANAGER

NAME  Gerald M. Nugent  SIGNATURE  Gerald M. Nugent

☐ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

No treatment is practical or recommended.
### SHORELINE OILING SUMMARY

**OG** N. B. Lanners
**BIO** D. Fauser
**LAND REP.** F. K. A. (ADM.)
**GM** J. L. S. (enu.)
**SEGMENT** A (LOF)
**EXXON** John Dean
**ADEC** Russell Kunib
**TIME** 9:45 to 10:50
**TEAM NO.** 17
**TIDE LEVEL** 6 to -2
**DATE** 4/21/90

**EST. SUBDIVISION LENGTH:** 242 m
- Sun
- Clouds
- Fog
- Rain
- Snow

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

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

**WORKING DIRECTION:**
- E to W

**SURFACE SEDIMENTS:**
- Coal
- Pebble
- Sand
- Mud
- Silt

**SLOPE:**
- Lang
- Hang
- Ven

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

**OIL CATEGORY**
- Long
- Medium
- Short

**SURFACE OIL**

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</table>

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

**PATTIES / TARBALLS**
- BAGS

**NEAR SHORE SHEEN?**
- NO

**BR RW SL TL**

**OILED SHEEN**

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<td>Debris</td>
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**DID YOU COLLECT DEBRIS?**
- YES
- NO

**TYPE**
-...

**BAGS**

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

**SUBSURFACE OIL**

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**PIT A3 APPEARS TO BE IN US-012!**

**COMMENTS:**
- Oil is present as a very light spatter on shoreline and rock face.
- Heaviest concentration is a drip line on protected vertical rock face near E end of segment.
- Beach has been eroded to about 1 ft lower than drift line.
- Oil is present as a very light spatter on shoreline and rock face.

**REVIEWED**
- BAT
**DATE**
- MAY 70
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/15-01 Subdivision A Date (mo/day/yr) __________

Time (24 hr) 9:45 Biolologist DANIEL DAIDER

A) Substrate type and % of segments:
1) Bedrock 2) Boulder 3) Cobbles 4) Pebbles 5) Sand

B) Overall % cover of biota (% of segment): Dense 40 Moderate 10 Low 5

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

**BARNACLES**

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**MYTILUS**

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**GASTROPODS**

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**Wildlife Observational/General Comments:**

See attached sheet for wildlife sightings

Ecological Considerations:

NONE ON DATA BASE HANDOUT
Wildlife observations - US-011 A 4/25/90

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<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1) Glaucois - Winged Gull</td>
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<td>2) Bald Eagle</td>
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<td>3) Cormorant sp.</td>
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Note: Low numbers of birds possibly attributed to high winds.
Blue Comments for VS-011

Tom 17, Daniel Reider
25 April 1990

This segment has a very extensive and dense amount of vegetation running its entire length throughout the MITZ and LIZ. This mass (extremely tough & dense) is composed mostly of brown algae. Areas have been designated on map and will be described here.

Area 1
- Dense Laminaria spp. all along the shore on the MITZ and MITZ
- Bedrock in LIZ w/ dense Semi Belonos Carinus
- *Katharina* tubulosa — many
- *Fucus* — sparse on boulder on MITZ
- *Entomorpha*
- Nodina Andersonii
- *Pyropodia helicophora* (3 spch)
- Red filamentous; Brown filamentous
- Bryozoa — MITZ
- Moderate branches in MITZ on dry rocks — boulder

**AREA 2** (greater diversity)
- Profuse amount of *Nodina helicophora* in clusters (or if)
  on one boulder found
- Sparse *Laminaria* on boulder in MITZ
- Moderate *Lithodes sittkana* in MITZ
- small pockets of dense new turf on m72 or boulders
- many anemones, *Anthroplena* spp. on m72 or boulders
- Sculpins - Saddleback and Fluffy (?)

- area 2 has a great diversity in both fauna and flora or it has some fresh snow melt creeks flowing into it
SHORELINE EVALUATION

SEGMENT ST/US-12 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
USFWS Property
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: 5/14/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 992 m: No Oil 1306 m
Subsurface Oil Observed: Yes No

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 mousse and oiled debris. 2) bioremediation of area shown on attached sketch map. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/16/90
ADEC Art Wilkinson
EXXON Andy Teal
NOAA Cary E. Beeler
USCG D. D. Rome
FOSC: DATE: 5-16-90
Monitors access logs during work activities.
Salmon stream mouth - fly outmigration (3/1 to 5/15)

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

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

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

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

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

Estuary Hatchery releases (4/15 to 6/15)

Contact AOF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1.5) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: AOF&G James Brady 424-3812

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

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235

ADF&G Don Calilina 267-2403

Seabird colony (5/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Retty 267-2208

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

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 (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 (6/1 to 9/30)

Finfish harvesting

Deer harvesting (8/15 to 2/3)

Invertebrate harvesting

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

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

SEGMENT ST. US-012 SUBDIVISION: A DATE 27 April 19...

USCG NOAA
NAME: M. D. Hughes SIGNATURE: M. D. Hughes

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

This is a spectacular crescent bay type of beach shaped by waves approaching (dominantly) from the east. Two major erodible beaches were present on either side of the entry. There was no subsurface oil.

Manual pick-up is recommended for tar balls, tar balls and oiled debris.

ADEC
NAME: Russell Kunde SIGNATURE: Russell Kunde

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Manual pick-up of oiled trash and debris and tar balls and pads in conjuction with other shore clean up activities.

LAND MANAGER
NAME: Gerald M. Nugent SIGNATURE: Gerald M. Nugent

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Manual pick-up of oiled trash/debris and tar balls recommended in conjuction with other clean up activities on the Barrens.
# SHORELINE OILING SUMMARY

**OG** 8.5 MILES HAYES SEGMENT ST. U3-302
**BIO** D. BAUER LAND REP. JERRY NUGENT FWS SUBDIVISION A (1/OF 1)
**EXXON** JOHN DEAL ADEC RUSSEL KURIDE TIME 11/15 10:30

**TEAM NO.** 19 **TIDE LEVEL** 1 9 0 DATE 4/23/86

**EST. SUBDIVISION LENGTH:** 3200 m
**SUBDIVISION:**
- Sun
- Clouds
- Fog
- Rain
- Snow

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

**WORKING DIRECTION:** E to W

**SLOPE:**
- Lang: 94%
- Hang: 6%
- Vert: 8%

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

**SURFACE SEDIMENTS:**
- R: 20%
- B: 4%
- C: 20%
- P: 25%
- G: 44%
- S: 5%
- M: 25%
- V: 6%

**OIL CATEGORY LENGTH:**
- W: 3 m
- M: 0 m
- N: 0 m
- VL: 772 m
- NO: 15/4 m

## SURFACE OIL

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

**HE F S** __ sq. m by __ cm

**PATTIES / TARBALLS:** __ BAGS

**NEAR SHORE SHEEN?** __

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

**DID YOU COLLECT DEBRIS?**
- YES __ NO __

**TYPE:** __

**# BAGS:** __

**Photographs:**
- **Roll No.** __
- **Frames** 20-23

## SUBSURFACE OIL

<table>
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<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (Y/N)</th>
<th>SURFACE - SUBSURFACE SEDIMENTS</th>
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</table>

**COMMENTS:**
- The oil present in the beach consists of:
  1. gravel and small pebbles -- uneven tan color from pattern that occur in area A in sketch. They have the appearance of rounded pebbles and rather easily transported by wave action. See in upper tidal zone near you.
  2. Jet, larger than pattern, up to 30 cm X 32 cm will seen @ B. The far above as a film of pebbles and gravel
  3. Oil on beach forms and on larger (20cm) splatter on top of structure - Oil cooled with sand ~ over C.

**REVIEWED:** BAT __ **DATE:** 1 May 90
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL</th>
<th>OIL CHARACT</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
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**COMMENTS**

Beach is a "text-book" crescent beach, relatively fine grained (g.p.), with lens of erosion and redeposition.

The oil -patched onto logs show a weathered appearance.
DATE 4/25/90

CHECKLIST

- N Arrow
- Approx. Scale
- Sop/Sub Binchy
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- E/w. HWL
- SSL
- Profile Location(s)
- Pt Location(s)
- Photo Location(s)

LEGEND

1 ▲
- Pt - No Subsurface Oil

2 ▲
- Pt - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Broken Distribution

CT/P
- Patchy Distribution

CT/S
- Splashed Distribution

Oiled Vegetation

1 ~
- Photo Location, direction, and number

---

Oil Character Length (m): AP ___ PO ___ CV 50 CT 1B ST ___ MS ___ PT 354 TB 350 FL ___ NO ___
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/UL-012  Subdivision  A  Date (mo/day/yr)  4/15/99

Time (24 hr)  11:15  Biologist  DANIEL TRAIDER

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

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

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

### BARNACLES

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### ASTRUPIDS

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### FUCUS

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</table>

Wildlife Observations/ General Comments: See wildlife observations sheet attached.  I saw 2 (two) seals swimming along coast; appeared to be looking for a haulout location; one female & one male.  I believe

Ecological Considerations:

<NP: 0, Q>
Bio Comments US-012A
Team 17 Daniel Raider
4/25/90

This segment resembles many of the crusts because that are typical of this island. Area 1, as indicated on the Bio sketch, a bedrock outcrop, bore the majority of both (dene populations). Area 2, also on the map, is void of major vegetation and/or fauna; the high energy nature of the beach and excessive transportation of substrate does not allow for colonization of the L72, M72 or U72.

Description of Area 1
- Dense adult Fucus on boulders in M72
- Moderate Barnacles on bedrock in L72
- Sparse Barnacles (Semi-balanus cariosus + Balanus) on bedrock + boulders in M72, recruits glaucus
- Porzane black lichen on boulders in M72
- Moderate = dense Littorina on boulder in M72; over 50% from this year
- Sparse Limpets in U72
- Porc mytilus on bedrock in M72

Note:
These data presented on the Bio Shooler Ecological Summary do not reflect only this one area and are averaged out for the entire segment. This should be taken into consideration when reviewing material.
<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Black-legged Kittiwake</td>
<td>93</td>
<td>on pond</td>
</tr>
<tr>
<td>2) Song Sparrow</td>
<td>3</td>
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<tr>
<td>3) Glamorous-Winged Gull</td>
<td>9</td>
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<tr>
<td>4) Rough-legged Hawk</td>
<td>1</td>
<td></td>
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<tr>
<td>5) Common Tern</td>
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<tr>
<td>6) Sea Lions</td>
<td>2</td>
<td>along shoreline</td>
</tr>
<tr>
<td>7) Other (Rarer?)</td>
<td>2.2</td>
<td>Tracks along beach</td>
</tr>
</tbody>
</table>

**Note:**

Note the large number of Kittiwakes on the pond that may represent a seabird colony.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT US-12 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup
WORK 7/2 TO 8/14

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q Harbor Seal & Sea Lion Pupping and Molting

Closed to manual pickup prior to 7/2 and after 8/14.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/14/90
ADEC [Signature] 6/14/90
EXXON [Signature] 6/14/90
NOAA [Signature] 6/14/90
USCG [Signature] 6/14/90

Prepared By: [Signature] 6/14/90
US + US-1
US-2
US-3
US-12

ECOLOGY MAP
SEGMENT US-12
SUBDIVISION A (1 of 1)
METERS

★ Seabird Colony
▲ Eagle Nest