

Preassessment Data Report #2

M/V *Selendang Ayu* Oil Spill
Surveys of Intertidal, Subtidal, and Anadromous Stream Habitats

NOAA
Damage Assessment, Remediation, and Restoration Program

COMMENTS OF THE RESPONSIBLE PARTY

Page 1; Paragraph 1; Abstract

“... within the area of principal oiling.”

Add after “oiling“, defined as shoreline response segments where some portion required cleanup action.

“...extreme low-tied series in June 2005, NOAA....”

After “NOAA” add “and scientists working for the responsible party”

“Shoreline clean-up operations, such as burning of oiled debris, use of heavy equipment, and removal of sand and other material from sections of oiled beaches, very probably killed or removed some beach-wrack biota and infauna.”

Add “to varying degrees” at the end of this sentence.

“Between 20 and 23 June 2005, the teams observed beach cleaning operations that resulted in the release of oil into surface waters, apparently causing bleaching and necrosis of marine algae.”

Add “at one location” to the end of this sentence.

“”...and these clean up-related oil releases and likely impacts probably continued into the summer months...”

This statement is speculative and should be deleted or modified.

Replace “likely” with “potential”

Replace “probably” with “may have”

Throughout this document there are speculative comments that are not supported by data. These comments go beyond the purpose of the report which is to present the data, in this case qualitative observations, and not to speculate on injury that was not observed.

Page 2; Paragraph 1; Abstract

“...described herein, strongly suggest that injury likely occurred to intertidal and subtidal biota.”

We did not observe “strong” evidence, but do not disagree some injury was likely. Suggest striking “*strongly*”.

Page 3; Paragraph 3; Methods

“The USFWS vessel M/V Tiglax was used as a working platform.”

The responsible party was not invited to participate in the winter surveys.

“The selection of shore segments surveyed was determined by the USFWS sampling plan used to survey the segments for bird carcasses.”

Change “*shore*” to “shoreline.”

Page 3, Paragraph 4; Observations and Discussion

“Much of the oil on the shoreline near the wreck had been deposited there by storm waves: the oil was high on the beach, in the supratidal zone and in the seaward edge of the terrestrial vegetation.”

Replace sentence with:

However, SCAT surveys documented that most of the oil on the shoreline had been deposited at higher tide zones by storm waves in the supratidal zone and in the seaward edge of the terrestrial vegetation so the oiled portion of the habitats could be observed.

“Most of this vegetation was Aleutian rye grass.”

Replace sentence with:

Most of the vegetation is Aleutian rye grass.

“Evidence of oil remobilization in the form of patties...”

Replace “*oil remobilization*” to “mobile oil”

Page 4; Paragraph 2; Observations and Discussion

“Nick Iadanza observed that the oil became less viscous on days with temperatures in the forties (°F) (~8°C) and produced sheen when placed in seawater.”

Replace “*became*” with “appeared”

Page 5; Paragraph 2; *Methods*

“NOAA preassessment teams conducted....”

Replace with “The Joint preassessment team conducted”

Page 5; Paragraph 4; *Methods*

“Representatives of the responsible party were also present for parts of some day’s surveys. They were Gary Mauseth, Bruce Kvan, Greg Challenger (all of Polaris Applied Sciences), and Jon Houghton (Pentec Environmental).”

Replace with:

Representatives of the responsible party who participated in the surveys were Gary Mauseth, Bruce Kvan, Greg Challenger (all of Polaris Applied Sciences), and Jon Houghton (Pentec Environmental). All are also marine ecologists, biologists, and fisheries biologists with years of experience in Alaska and the Pacific Northwest.

Page 8; Paragraph 1; *Observations and Discussion*

“Fifty-five shoreline segments...”

Replace with: “Portions of 55 shoreline segments”

Page 8; Paragraph 3; *Rocky shore biota*

“In close and careful examination of the perennial biota there were no indications of visible acute mortality or other adverse effects on these perennial biota, except for Spray Cape and the locations being oiled by oil remobilized by beach clean-up operations in June, 2005.”

Which locations?

*“An exception was the breadcrumb sponge (*Halichondria* sp.), which exhibited abnormal coloration in the spill area.”*

How many “normal” breadcrumb sponges did we observe in non-spill areas?

“Kurle found that instead of being its typical bright green or bright yellow color, the breadcrumb sponges were dark brown and/or bleached to no color; no oil was observed on these sponges, however.”

Isn't it true that sponges in the intertidal zone are those that have become unattached from their base and when unattached and dying, they turn brown and/or lose their tissue color.

Page 8; Paragraph 4; Rocky shore biota

Add to the end of paragraph 4:

“The reduction of grazers is likely due to the large quantity of soy bean cargo deposited on the beach smothering some animals.

Page 9; Paragraph 2: Beaches of cobble, gravel, sand

“In addition, oily debris was moved into piles and burned on some beaches which would have killed beach-wrack fauna and infauna in the vicinity of the fires.”

Many of these areas were in very high wave energy areas with cobble and pebble that are unstable and dynamic and may have less interstitial biota than other areas as well as having rapidly repopulating species.

Page 9; Paragraph 5; Observations of remobilized oil, etc.

“There were oil slicks on the water surface of the cove at SKN...”

Replace “*slicks*” with “*sheens*”

Page 10; Paragraph 1; Observations of remobilized oil, etc.

“The slicks ranged from silver through rainbow to brown-black.”

Replace “*slicks*” with “*sheens*”

Page 11; Paragraph 1; Observations of remobilized oil, etc.

“However, it can be concluded that most of the adverse effects observed on these and other algal species was probably due to oil exposure.”

Delete “*and other algal species was probably due to oil exposure*”

There is a lot of discussion of mobilized oil and possible impacts, but the area affected by this mobilized oil is unclear. Can the areas where possible impacts were observed be defined in terms of linear distance or aerial extent?

Page 11; Paragraph 3; Summary of June Intertidal Surveys

“Temporary burial by beach sediments is also a possible cause of the observed adverse impacts.”

After “*burial by beach sediments*” add “due to natural processes”

Page 12; Paragraph 1; Summary of June Intertidal Surveys

“Prior to 20 June 2005, the Selendang Ayu oil spill probably did not cause acute mortality for most of the perennial intertidal biota in the spill area except at Spray Cape.”

Replace “*except at*” with “with the possible exception of”

Much of the Spray Cape area temporarily had very large accumulation of soy beans that likely smothered many organisms.

Page 12; Paragraph 2; Summary of June Intertidal Surveys

“However, starting 20 June 2005 indications of adverse impacts were found on various species of marine algae caused by oil that was recently remobilized from beach cleaning operations...”

Add “that could have been” before “*caused*”

Page 12; Paragraph 3; Summary of June Intertidal Surveys

“In addition to Selendang Ayu oil released from shoreline deposits, the U.S. Coast Guard also reported releases of oil in October and November 2005 when storms shifted and further damaged the hull of the Selendang Ayu.”

Our records indicate that the USCG over flew the wreck in November 2005. They reported no oil observed and the vessel had not moved.

“It is also worth noting that many segments where oil had not been observed in winter clean up operations were visibly oiled when the clean up resumed in spring 2005, indicating that there was some remobilization of oil after the initial SCAT operations in the winter had ended. Some of these segments were oiled sufficiently to require clean up actions in the spring. A summary of reports of remobilized oil is given in Table 3.”

The winter SCAT surveys were conducted largely by helicopter and fixed wing aircraft. The Spring 2005 SCAT surveys were conducted on foot. The fact that oil may have been seen in the spring is very much more likely a function of the survey technique rather than remobilization as there were no storms as large as the event that stranded the oil high on the beach in the intervening period. We recommend deleting or substantially revising this paragraph.

Table 3 does not summarize reports of remobilized oil.

Page 13; Paragraph 4; *Observations and Discussion*

“The divers found a band of “tar spots” in 15-20 feet of water in one of the Humpback Bay locations, which was adjacent to HMP-12.”

Replace “a band” with “scattered”

Add “The distribution of the observed tar spots was less than 5 percent.” to the end of the sentence.

Page 14; Paragraph 2; *Observations and Discussion*

“Because oil was deposited along the banks of this system for a considerable distance upstream of the mouth, large numbers of juvenile coho, and their invertebrate prey, were potentially exposed to oil. Sculpin eggs were also present.”

What is a considerable distance?

Page 14; Paragraph 4; *Observations and Discussion*

“The stream at HMP-12 was examined on 20 June 2005, when clean-up crews were working on a deposit of oil from the adjacent beach at HMP-11b. The high intertidal area at HMP-12 had been tilled to expose the buried oil to removal by natural factors, which includes remobilization by wave action, according to information posted on the Unified Command website...”

Add “after removal of bulk oil deposits by hand” after “natural factors,”

Page 14; Paragraph 6; *Observations and Discussion*

“These observations are not sufficient in themselves to detect adverse impacts, if any, of the oil but they strongly suggest exposure of these fish to oil.”

Delete “strongly”

Page 14; Paragraph 2; *Observations of possible effects of oil on fish in anadromous streams*

“However oil was present in the environment when and where the fish died, and the gravid condition of the dead fish indicated mortality was not a result of spawning, so mortality from exposure to oil is a possible cause of death.”

Tissue samples? Based on the known behavior of the oil and inferences from literature, is it likely this oil would result in a fish kill of one species and not others?

Page 16; Paragraph 1; Determination

“There is also a reasonable basis to conclude that some of the impacts to algal species in areas in and around those being actively cleaned during the June 2005 survey resulted from remobilized oil. These impacts are likely to have continued...”

Replace sentences with:

“Some of the impacts to algal species in areas in and around those being actively cleaned during the June 2005 survey may have resulted from the oil itself. These impacts could have continued...”

Page 16; Paragraph 2; Determination

“While not observable in our surveys, there is also likely to have been sub-lethal effects...”

Replace “*is also likely to have been*” with “are also possible”

“Because the total area exposed to oil from the Selendang Ayu is large, however, the known and potential injury to these habitats and biota is significant from a NRDA perspective.”

We are not certain this is true. If observed possible injuries were only observed in very few areas of the 55 segments examined, the potential injury may not be “*significant*”. Also, the term “*significant*” implies analysis of quantitative data that were not collected.