

**LUMMI NATION
SPILL PREVENTION AND RESPONSE CAPABILITY
DEVELOPMENT**

2007 Annual Synthesis Report



Prepared For:
Lummi Indian Business Council

Prepared By:
Water Resources Division
Lummi Natural Resources Department

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Introduction

Large amounts of crude oil, petroleum products, and other hazardous materials are transported and stored near the Lummi Indian Reservation. These hazardous materials are transported by ships, pipelines, trucks, and railroad and are used, produced, and/or stored throughout the Reservation area, particularly in the Cherry Point Heavy Impact Industrial Zone immediately north of the Reservation boundary. Accidents, equipment failure, and human error have the potential to result in large spills and disastrous human and environmental consequences. Many of these hazardous materials are toxic to people and animals if inhaled or contacted. Oil and chemical spills or releases to waters on or adjacent to the Reservation have the potential to threaten public health and safety and destroy some of the most productive and valuable ecosystems in the world. Spills or releases of petroleum products, chemicals, or other hazardous materials to land can threaten public safety, public health, and the environment. To date, there has not been a large hazardous material spill on the Reservation that has impacted Lummi Nation Waters. However, future residential and economic growth on the Reservation, in the adjacent Cherry Point Heavy Impact Industrial Zone, and in areas upstream from the Reservation will increase the risk of a hazardous material emergency on the Reservation.

Because of the potential consequences, it is important for the Lummi Nation to develop and implement a plan to effectively respond to a hazardous material spill or release on or adjacent to the Reservation. The Lummi Natural Resources Department has been actively developing spill response capabilities since the mid-1990s and completed the Lummi Nation Spill Prevention and Response Plan in October 2005 (LWRD 2005). Continuing efforts to develop spill prevention and response capabilities include staff training and spill response drills, equipment upgrades, planning, research, and public outreach. These efforts contribute to achieving the Lummi Nation goals of protecting the public health and safety of Reservation residents and protecting treaty rights to fish and gather throughout all usual and accustomed areas. These activities also contribute to achieving the EPA strategic goals of clean and safe water and healthy communities and ecosystems.

This annual synthesis report is a summary of the Lummi Nation spill prevention and response capability development activities conducted during the January 1, 2007 through December 31, 2007 period. The activities are divided into the following categories: Staff Training and Oil Spill Response Drills, Equipment, Oil Spill Response Incidents, Public Outreach, and Data Collection/Research.

Spill Prevention and Response Capability Development Activities

1. Staff Training and Oil Spill Response Drills:

Spill prevention and response training for staff members is conducted through both dedicated classes and through table-top and boom deployment exercises. The staff members identified below attended the following training programs, workshops, or oil spill response drills during 2007. Agendas or lists of training topics were transmitted to the EPA as part of semi-annual progress reports and are not being transmitted as part of this annual synthesis report.

- a) Introduction to the Incident Command System (ICS 100) – FEMA Emergency Management Institute, February 16, 2007. Attendee: Jamie Williams
- b) Incident Command System for Single Resources and Initial Action Incidents (ICS 200) – FEMA Emergency Management Institute, February 20, 2007. Attendee: Stacy Fawell
- c) ConocoPhillips-sponsored short course entitled, *Dispersants and Incident Command System Overview* on February 21, 2007. Training topics included an overview of dispersants, incident leadership and management, chain of command, span of control, and other topics including a brief table-top exercise. Attendees: Jeremy Freimund, Stacy Fawell, Carl Dean Martin, Jamie Williams, Ann Stark, Lee First
- d) Five Lummi Natural Resources Department staff members participated in a three-day “worst case” spill drill conducted by ConocoPhillips on April 24-26, 2007. Attendees: Jeremy Freimund, Harlan James, Merle Jefferson Sr., Randy Kinley, Mike McKay
- e) ConocoPhillips-sponsored short course entitled, *Overview of Oil Spill Dispersant/Environmental Tradeoffs*, April 16, 2007. Attendees: Jeremy Freimund, Randy Kinley
- f) A practice boom deployment using the retrofitted 26-foot long spill response boat occurred on July 24, 2007. Attendees: Leroy Deardorff, Jeremy Freimund, Merle Jefferson Sr.
- g) U.S. Coast Guard Northwest Marine Oil Spill Control course from August 13 through August 17, 2007. Attendee: Carl Dean Martin
- h) Shell Oil and Tesero Joint Oil Spill Responders Training September 10-12, 2007. Attendees: Greg Dunphy and Tony George

2. Equipment:

- a) The retrofit of a 26-foot boat to become a spill response boat was completed. The boat (MV Responder) was field-tested on June 20, 2007 and a practice boom deployment using the boat occurred during July 24, 2007.
- b) The electrical system of the 26-foot spill response boat (MV Responder) was upgraded.

3. Oil Spill Response Incidents:

- a) Two Water Resources Division staff members responded to a reported diesel and hydraulic fluid spill from a tribal boat at the Blaine Marina on January 24, 2007 (see attached memorandum).
- b) Four Natural Resources Department staff members responded to a reported hydraulic fluid spill at the Gooseberry Point fish buying station on April 3, 2007 (see attached memorandum).
- c) Two Water Resources Division staff investigated oil found in a construction trench on July 27, 2007 (see attached memorandum).

4. Public Outreach:

The oil spill prevention and response activities were publicized in the community through articles in the Lummi Nation monthly newspaper (*Squol Quol*) and through the participation in an educational movie developed by the Northwest Indian Fisheries Commission.

- a) One *Squol Quol* article reported the January 24, 2007 oil spill response at the Blaine Marina.
- b) One *Squol Quol* article reported the February 21, 2007 oil spill response training event.
- c) Members of the Lummi Nation Spill Response Team were filmed in action on July 24, 2007 for an educational docu-drama developed by the Northwest Indian Fisheries Commission. The film, *Shadow of the Salmon*, was intended to illustrate the historic and contemporary achievements of Indian tribes and help people better understand the environmental challenges faced by tribal members and tribal governments. The film was initially shown at the National Museum of the Native American in Washington, D.C. and then used in middle school curricula in Washington State. For the filming, the spill response team worked with the actors to demonstrate and practice a boom deployment around the fish-processing pier at Fisherman's Cove using LNR's refurbished response boat, the MV Responder.

5. Data Collection/Research:

The Lummi Natural Resources Department staff regularly conducts data collection activities and research in support of the overall departmental mission to protect and restore tribal natural resources. These data collection/research activities support the goals of the oil spill prevention and response capability development by documenting background and ambient conditions. This information will be useful in evaluating the effectiveness of response efforts in the event of an oil spill and to protect public health and safety.

Although some of these data collection/research and related activities are funded through the EPA (e.g., the ambient water quality monitoring program), other data collection and research activities are supported through other funding sources.

Data collection/research activities conducted during 2007 that were focused on quantifying the tribal natural resources on tribal tidelands included the following:

- a) The annual Manila Clam Stock Assessment Survey for 2007 was conducted in Lummi Bay, Portage Spit, Brant Flats, and Brant Island.
- b) Planning for the Lummi Intertidal Baseline Inventory (LIBI) was initiated.

Reference:

Lummi Water Resources Division (LWRD). 2005. *Oil Spill Prevention and Response Plan*. Prepared for the Lummi Indian Business Council. October

ATTACHMENTS

INTEROFFICE MEMORANDUM

TO: JEREMY FREIMUND
FROM: STACY FAWELL
SUBJECT: DIESEL SPILL AT THE BLAINE MARINA, JANUARY 24, 2006
DATE: 1/25/2007
CC: MERLE JEFFERSON, RANDY KINLEY, DAVID JAMES

This memo summarizes my response to a vessel sinking at the Blaine Marina on January 24, 2007. I was notified at approximately 9:00AM by Lee First that Randy Kinley had reported a spill to Dean Martin. Lee and I spoke with Randy and were told that a tribal member, Mark Orreiro's, boat, the Cape Ulitka, was listing off of the dock at the Blaine Marina and leaking diesel fuel and possibly hydraulic fluid. We then spoke to Elden Hillaire who told us that Carl Andersen with the Washington State Department of Ecology had been notified. Randy asked me to respond to the scene and deploy sorbent boom around the boat. I asked Lee and Dean to accompany me and we left the tribal center around 9:20 AM. As we were leaving, I received a call from Officer David James. David explained that he and Officer Rob Jefferson were going to go to Mark's house to find him and ask him to come to the marina and they would come also. Lee, Dean, and I drove first to the spill container and loaded the Trailblazer with five bales of sorbent boom, three bales of sorbent pads, disposal bags, duct tape, and personal protective equipment.

We arrived at the marina at the same time as an Ecology Spill Response Vehicle. I introduced myself to the driver, Carl Andersen, and explained that we had been asked to come because it was a tribal member's boat. As we walked down the dock, Carl explained that the spill had been reported to him by Port of Bellingham staff on Tuesday January 23 just as he was leaving the marina after dealing with another spill. When he first saw the boat it was still partially above water and tied to the dock. He explained that it was not the Cape Ulitka but instead its skiff that had sunk. Ecology hired Global Diving and Salvage on Tuesday evening to seal the vents on the fuel tank to try to control the source of the spill. Global sent two divers who also removed the battery from the boat. Global and Ecology were on site until 2 AM.

When we reached the site, there were two Port staff tending to sorbent pads placed in a boomed-off area at the end of a docking float. Carl explained that the spill was primarily diesel fuel with some motor oil and that the diesel is dyed red to indicate that it is for off-road uses and may not be used in automobiles. The boat was still tied to the dock at the stern end but was completely submerged. The two Port staff had lined their work area along the dock with sorbent pads and set up a boot wash for decontamination at the end of the end of the line of pads. The responders guessed that the skiff had possibly sunk because it had filled with rainwater and been unable to drain properly. I called Randy to report that Ecology had been notified and responded to the spill the day before, that it was the skiff and not the Cape Ulitka that had sunk, and that the Lummi Police were looking for Mark. I received another call from David James that they had been unable to find Mark and were going to talk to his wife who works at the casino. He said he and Rob would come to the scene and I told him we would wait there for them. Carl mentioned that he had spoken with Elden Hillaire about the tribe helping to remove the boat and went to call Elden again. Johnny Felix arrived at 10:40 and told Carl that Elden had asked him to come to see if he could help remove the

boat. Carl said that he had already talked with the Coast Guard and they were accessing their response funds and contracting with a team from Seattle to float the boat and remove it from the water. This was to happen in the afternoon of the 24th. Johnny estimated that the engine may have had between 50 and 60 gallons of diesel fuel. We asked Carl if Mark would be charged for the response and he said that he would. He had made numerous attempts to contact Mark and Mark had not yet arrived on site or offered to assist with the cleanup. He estimated that the cost for the divers alone would be between \$3,000 and \$4,000. One of the Port's responders said that he had spoken with Mark on Tuesday and he had said he was on his way. One of the Port's responders explained that the Port has a \$300,000 liability insurance requirement.

We left after David and Rob had arrived and we had a chance to talk to them with Carl and after Johnny Felix left. I left my office and cell phone numbers with Carl and he has David and Elden's phone numbers. On our way out we looked at the Cape Ulitka with David and Rob. The officers mentioned that it had either taken on water or had its own spill recently and we all noticed that the bilge pump operated three to four times while we were on site. Rob mentioned that they had had difficulty getting Mark to register the Cape Ulitka.

Carl left a message on my voice mail on January 25 at 7:22 AM reporting that they had been able to remove all of the product from the boat on Wednesday but had been unable to remove the boat from the water. They plan to remove it on Thursday the 25th. He also reported that David James and Rob Jefferson had remained on site throughout the afternoon and that he appreciated the Lummi Police and LNR staff offering to help.



INTEROFFICE MEMORANDUM

TO: JEREMY FREIMUND
FROM: STACY FAWELL *Stacy Fawell*
SUBJECT: HYDRAULIC FLUID SPILL AT THE FISHERMAN'S COVE FISH PROCESSING PIER, APRIL 3, 2007
DATE: 4/17/2007
CC: MERLE JEFFERSON, G.I. JAMES

This memo summarizes the Natural Resources Department's response to a hydraulic fluid spill at the Fisherman's Cove fish processing pier on April 3, 2007. You received notification of this spill from G.I. James of the Lummi Commercial Company at 3:06 pm on Tuesday April 3rd. G.I. reported that the hydraulic line on the hoist at the end of the pier had broken and hydraulic fluid had been spilled primarily to the dock. G.I. did mention that he saw a sheen on the water around the pier but that the spill was primarily contained to the concrete pier deck. G.I. estimated that 5 gallons of fluid had spilled. You asked Gregg Dunphy and Lee First to go to the scene bringing the spill kits from the two Water Resources vehicles. The day was sunny, 56°F, and breezy.

Gregg called me at approximately 3:30 and said that they had used all of the pads from the kits and would need 100-200 pounds of cat litter to absorb the spill. He thought that the spill volume was more in the range of 1 to 2 gallons and did not see a sheen on the water. You asked me and Jamie Williams to pick up more pads at the spill container and bring these to Gregg and Lee. We picked up 5 bales of pads, 3-4 bales of sorbent sweep, PPE, life jackets, and other supplies. When Jamie and I arrived on scene we saw that Gregg and Lee had covered the area of the pier deck to the north of the crane with pads and had placed pallets and other objects on top of the pads to prevent them from blowing away. The pier operators had purchased all of the cat litter from the Fisherman's Cove mini-mart and placed this on the spill as well. The cat litter was mostly saturated and only some of the pads were wet with oil.

Gregg expressed that he still thought that the best plan was to purchase and spread more cat litter over the spill area as it would remove the oil from the concrete. There was confusion about whether or not anyone had already left to purchase more litter and the one dock operator that was present said he would go do it and left. We used the pads to wipe the concrete surface in the spill area and placed the soiled pads in an appropriate disposal bag. Because we could still see fluid dripping and pooling inside the crane structure, we left sorbent boom wrapped around the base of the crane and stuffed pads inside. Before we left, we told the dock operator that the best plan would be for them to purchase and spread cat litter to complete the clean up. He indicated that he would do this once he finished storing some halibut he was processing. We left a partial bale of pads with the dock operator. We left the scene around 5:00pm and Jamie and I returned the unused supplies to the spill container.

I asked Jamie and Lee to return to the scene on Wednesday April 4, 2007 to see if the dock staff had continued the clean-up, remove any saturated pads and replace with clean pads if necessary, check the sorbent boom, and pick up and dispose of the disposal bags filled with soiled pads and cat litter. They did this and reported that there was no evidence that additional response measures had

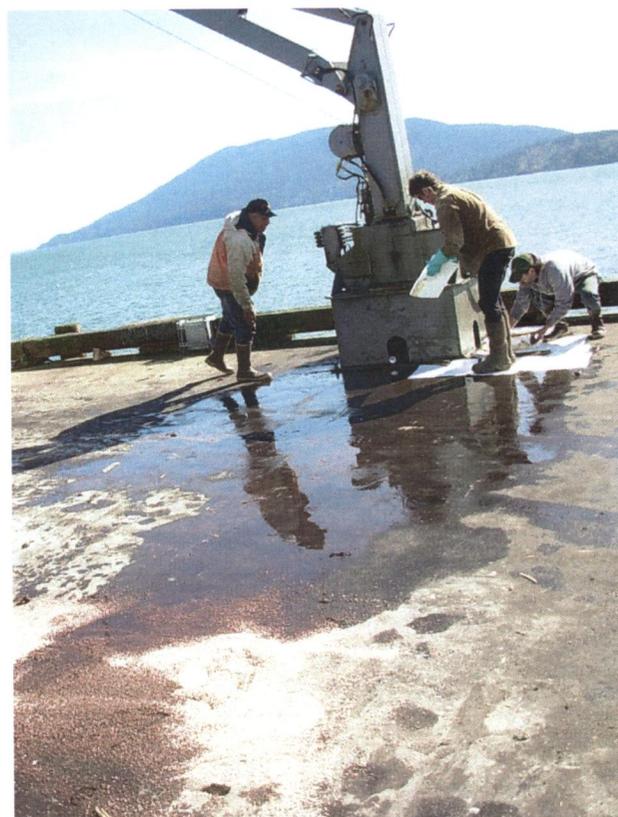
been taken (i.e. no cat litter spread). They picked up soiled pads and left unsaturated ones for any continuing leaks, checked and left the sorbent boom in place, and removed and threw away the filled disposal bags. They checked and noted that there was no sheen on the water around the pier. They also restocked the spill kits with items from the container and placed them back in the Water Resources vehicles. Below is an itemization of the time and materials used for this response.

Item	Quantity	Unit Cost	Total Cost
Sorbent pads	2 bales (100/bale)	\$35.00	\$70.00
Spill kit - 20 gallon oil only	1	\$82.50	\$82.50
Disposal bags	2	\$1.40	\$2.80
Sorbent boom - 10'	1	\$9.50	\$9.50
Gloves	4	\$2.20	\$8.80
Staff time	4 for 2.25 hrs each	\$50/hour	\$450
			\$623.60

Recommendations

- **Store appropriate equipment.** The processing plant and/or the LCC need to have appropriate materials on hand for spills to land. Our cache of equipment was planned and purchased for responding to oil spills to water and is not properly equipped for spills to land. A key item, which would have been appropriate and useful in this case, is a granular absorbent. Absorption Corporation in Ferndale makes three products which are less dusty and more absorbent than cat litter (SpillSorb, SpillDri, and AbsorbentW) and will entirely absorb the spill without leaving a slick surface. These products are acceptable in landfills and available through John Maley at StoreTec on Main Street in Ferndale, 380-1842. Similar granular sorbents are also available through the Grainger catalog (OilDri) and safety supply catalogs. We should potentially also keep some granular absorbent in the LNR spill container.
- **Establish authority.** There was no accountability for the cleanup of this spill. Apparently the fish processing pier used to be managed by the Lummi Development Authority and has not been reassigned after LDA was dissolved. Our contact for the cleanup was G.I. but he did not have authority over the staff or operations of the pier. We had a little help from the one dock operator that was present on scene but he mostly expressed concern about continuing operations on the dock and finishing tasks in the plant. He did not have direction to ensure a proper cleanup and did not participate in this.

Hydraulic Fluid Spill at Fisherman's Cove Fish Processing Pier, April 3, 2007



Tuesday
April 3, 2007



Wednesday April 4, 2007

INTEROFFICE MEMORANDUM

TO: JEREMY FREIMUND
FROM: STACY FAWELL *Stacy Fawell*
SUBJECT: OIL FOUND IN TRENCH FOR THE GOOSEBERRY POINT WATER SYSTEM, JULY 27, 2007
DATE: 8/20/2007
CC: MERLE JEFFERSON, DEAN MARTIN, RICHARD JEFFERSON, ANDY KAMKOFF

This memo summarizes my response to a report of oil found during the trenching and pipe laying for the improvements to the Gooseberry Point water system. You received a call from Andy Kamkoff at approximately 9:00 a.m. on the morning of July 27, 2007. Andy reported that while digging a trench and laying water pipe in the alley behind Lena Road for the new Gooseberry Point water system on the evening of July 26, 2007, he and the contractor noticed an oil odor. They left the trench open and called you to ask what the Natural Resources Department would like to do. You asked me and Dean Martin, Water Resources Specialist, to look at the trench and the source of the odor.

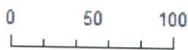
Dean and I arrived at the site around 9:30 a.m. and looked at the spot with Andy. Figure 1 shows the approximate location of the spill site in the alley and photographs of the site are included in Figure 2. There was an obvious oil odor in this spot along the trench. This area was approximately one foot to 18 inches below the surface, looked wet, and we could smell oil in the sandy soil. Dean dug with his hands underneath the pipe for a couple of inches and collected a sample of the water that filled the hole with a 1 liter amber narrow mouth sample bottle. We could not see a sheen on the surface of the water in the trench or on the surface of the water in the bottle. A neighbor from the north side of the alley came out while we were there and didn't know of any underground storage tanks in the area. He did report that cars used to be stored in the alley. Andy said that the neighbor to the south of the site had come out when they were trenching and didn't know of any tanks either.

We called you and reported what we saw and together decided to let the contractor back fill the trench. Other than by odor, we didn't know how to determine if the oil deposit went any further than this site and didn't know of any existing underground storage tanks in the area. Also, permission had been given by the Tribal Historic Preservation Office only for excavation of the eighteen inch trench and further permission would have been needed for more digging. I called Andy around 10:00 a.m. and told him they could fill in the trench but to please stake the spot. Andy asked us to let him know the results of the sample testing. Dean delivered the sample to Avocet Environmental Testing for analysis for diesel and heavier hydrocarbons. We received the attached results on August 14, 2007.

In Table 1 below, the hydrocarbon results are compared against the Washington State Model Toxics Control Act (MTCA) Cleanup Levels for ground water for the measured parameters. Although the MTCA does not apply on the Lummi Reservation, the cleanup levels within MTCA were used to evaluate the measured water quality. These results indicate that further action should be taken to identify and control the source of this contamination and to delineate and clean up the existing spill. This work should be performed at the expense of the responsible entity.



Approximate location of oil spill
in the Lena Street alley



Legend	
	Lummi Reservation
	Roads_Whatcom County
•	Addressed Buildings

Figure 1: Approximate Location of Oil Spill in the Lena Street Alley



Figure 2: July 7, 2007 Photographs of Water Line Trench in Lena Alley and Spill Location

Table 1. Gooseberry Point Water System Trench Samples from July 7, 2007:
Hydrocarbons

	Parameter	
	NWTPH Diesel (mg/L)	NWTPH Lube Oil (mg/L)
Trench in Alley behind Lena St.	7.48	2.23
MTCA GW Cleanup Levels ¹	1.0	1.0

¹ Model Toxics Control Act (MTCA) Cleanup Levels for ground water