

# MINUTES

## NSB/SHELL Baseline Studies Program

### Steering Committee Meeting

#### Hilton Iliamna Room

January 16 -17, 2013 9:00am

January 16, 2013

#### MAIN PURPOSES OF MEETING:

(1) Discuss concerns from 2012 and (2) Develop and begin prioritizing a studies list for 2013

#### MEMBERS PRESENT:

<u>Name</u>	<u>Representing</u>	<u>Name</u>	<u>Representing</u>
Robert Suydam	NSB	Ron Oviok, Sr.	City of Pt. Hope
Tom Weingartner	Independent Scientist	Victoria Broje	Shell (Phone)
Sue Moore	Independent Scientist	Willard Neakok	Pt. Lay Primary
Michael Macrander	Shell	Craig George	NSB
Qaiyaan Harcharek	City of Barrow	Lee Kayotuk	Kaktovik Primary

#### Members Not Present:

<u>Name</u>	<u>Representing</u>	<u>Name</u>	<u>Representing</u>
Ransom Agnasagga	AIN Primary	Danny Pikok, Jr.	Alternate Pt. Lay
Enoch Oktollik	Alternate AIN	Hajo Eicken	Independent Scientist
Brandon Southall	Independent Scientist	Jack Schafer	Alternate Pt. Hope

#### Non Members Present:

<u>Name</u>	<u>Representing</u>	<u>Name</u>	<u>Representing</u>
Malissa Langley	NSB Wildlife	Janell Kaleak	NSB Wildlife
Erling Westlien	Shell		

**CALL TO ORDER:** 9:05 am January 16, 2013

**INVOCATION:** Ron Oviok, Sr.

#### INTRODUCTIONS:

**OPENING REMARKS:** Suydam welcomed the committee members and visitors to the meeting. Lee Kayotuk was welcomed and introduced as the newest committee member, representing Kaktovik.

The Committee wished Kaleak a happy birthday.

#### **APPROVAL OF THE AGENDA:**

The agenda was approved unanimously.

#### **APPROVAL OF MAY MINUTES:**

The May minutes were approved unanimously with slight changes requested by Oviok and George.

Oviok indicated that he wanted to make sure the minutes included his concerns that funding from the NSB/Shell Baseline Studies program be used in all villages. The sentence: “That the Subcommittee would like to see the funds spent across the North Slope and not in just one location” was added to the minutes.

George requested that within the Village Concerns section of the minutes that more detail be added about the discussion. He suggested that the sentence, “George encouraged anyone to stop the scientists when needed” be changed to “ask for clarification from the scientist”.

#### **APPROVAL OF SEPTEMBER MINUTES**

The September minutes were approved unanimously.

#### **INUPIAT WORD OF THE MEETING**

The Inupiat word of the meeting for September 2012 was qaqqisuk = brain.

The Inupiat word of the meeting for January 2013 was taliguq = flipper or arm.

#### **UPDATE ON SHELL’S ACTIVITIES FROM 2012**

##### **SHELL’s 2012 Drilling Program**

Macrander gave a presentation on Shell’s 2012 Drilling Program. He mentioned that there was lots of ice early on in the year so drilling was not able to commence until August instead of July in the Beaufort Sea. In the Chukchi Sea, Shell started drilling on September 7<sup>th</sup> but only drilled for four hours and then moved off hole because ice started to move back into the area. The ice did not show up at the Burger Prospect until four days after the drill ship pulled off site. So Shell gave themselves plenty of time but they wanted to be sure as it was the first time they had drilled in the Chukchi Sea in many years and wanted to take a precautionary approach.

In the Beaufort Sea, Shell began anchor setting on 18 to 22 August. The drilling structure Kulluk did not come onto location until 25 September and the anchor hook up occurred between the 25 and 27. Drilling did not start until 3 October. Shell shut down operations by midnight on

25 August and did not resume until Kaktovik and Nuiqsut had filled their bowhead quotas or declared that their hunt was over.

Shell only drilled top holes in 2012. The total well depth will be between 7000 feet and 9000 feet but only the first 1500 feet were drilled, which is the most difficult part of the Well. The first thing that happens is a 8 inch pilot hole is drilled down to a depth of about 800 feet. This is a kind of test well to make sure there are no shallow gas pockets that could produce a kick. The small hole reduces risk relative to a larger bore hole. The next step is drilling the mud line cellar, which is 20 feet wide and about 40 feet deep. The riser is place in the mud line cellar and the remainder of the well can be drilled.

George asked about the ice that moved into the drilling area in the Chukchi Sea. Macrander stated that Shell had been monitoring some multi-year ice features near Hanna Shoal for a good bit of the summer. It was one of those that moved into the Burger Prospect. Shell was also aware that the ice was full of walruses and didn't want to have interactions with the walrus. Some of the ice that had grounded at Hanna Shoal was at least 45 to 50 feet thick. It was dense multi-year ice. The ice that moved to near the Burger Prospect stayed there for about 4 or 5 days. Finally it moved south about a mile or two and stayed there until it melted.

Shell moved off the drilling location on the 7 September and did not move back until 21 September. Drilling started on the 23<sup>rd</sup>. The mud line cellar was drilled from 2 to 4 October and drilling finished on 26 October. Shell moved off the drilling location on 28 October. The season was a very limited drilling season in the Chukchi Sea. There was some discussion about the length of time it took to drill the top 1500 feet of the well. Macrander mentioned that the drill bit for the mudline cellar had been in storage for about 25 years. The crew had a learning curve that required additional time to sort out some of the issues. Shell also had a number of down days because of weather.

Neakok asked about the cuttings because the community of Point Lay is worried about possible impacts to walrus feeding habitat from discharge of muds and cuttings. He asked about the thickness of the layer of cuttings on the ocean floor and how they may impact walrus prey? Macrander said there were two parts to the answer: When drilling the top hole the cuttings were never brought close to the ocean surface but were released during the drilling process. Once you get the top hole drilled then a "riser" is installed. The riser allows for the cuttings to be brought up to the drillship. During this first part of the drilling the top hole, no drilling mud are used. The rock is released around the top hole. In the Chukchi the plan is that muds and cuttings for the wells are released onto the ocean floor. Shell did some initial monitoring on a voluntary basis, but in new permit from the EPA Shell will be required to do monitoring.

Every well drilled for the next few years there will be very detailed monitoring, including: sampling and analyzing chemicals/contaminants in the cuttings, characterizing the muds that we use to make sure that they are very low in heavy metals; monitoring the discharge plume during

the time that Shell is operating. The intent is for the data to be available for making informed decisions about future possible impacts from discharge.

Discharges of muds and cuttings have been studied pretty extensively over the last thirty years. Agencies have generally made a decision that the discharge of water-based muds and cuttings, as long as nothing toxic is used, is environmentally sound management. Even though this has been the position of agencies, Shell will have a high degree of monitoring of discharges over the next couple of years.

Neakok specifically asked about muds and cuttings that might be deposited or settle on Hanna Shoal. This is a large concern because Hanna Shoal is an important walrus feeding area. He wanted to know how thick the cuttings will be on the ocean floor. Macrander responded that the water depths at the drill sites are about 100-130 feet. Because of the relatively shallow water, the vast majority of the discharge of mud and cuttings settle to the floor within 500 – 1000 yards of the drilling location, so the foot print is relatively small. The depth of the cuttings should generally be about the thickness of a nickel or a fifty cent piece. Immediately adjacent to the drilling location, the amount of deposition will be about 8 to 12 inches, although it may be as deep as 18 inches. When one gets out to about 1000 yards from the drill site, the cuttings should be just a fine dusting.

Harcharek asked whether there are aerial photographs available of the spread of cuttings. Shell did not do deliberately fly over the rig in 2012. Transects were flown to look for marine mammals. Asking for aerial photos in the future is a good suggestion.

Suydam asked about where the muds and cuttings are actually released into the water column. Are the discharges being dumped at the ocean surface or is there actually a pipe that it is taken back down to the bottom and being dumped there? Macrander said that during drilling of the top hole, the cuttings are released at the ocean floor. Once the riser is installed, the discharges are brought up to the surface. For the Discoverer, muds and cuttings are released about 5 meters below the surface and for the Kulluk muds and cuttings are discharged about 7 or 8 meters below the surface.

Macrander also mentioned that Shell tries to preserve and reuse as much of the mud as is possible. Muds are expensive. Macrander was asked about Shell's plans to discharge unused muds at the end of the season. He stated that was correct for the Chukchi Sea but not in the Beaufort. Unused muds will not be discharged.

Oviok expressed concerns that he has heard in North Slope communities about dirt and mud being on snow and ice, which promotes melting. North Slope snow and ice was usually clean in the past but now it is often dirty. People are concerned about where that dirt is coming from and the possible impacts.

## **SHELL's 2013 Geotechnical Survey Activities and 2013 Gouge Survey Activities**

Shell plans to conduct geotechnical and ice gouge surveys in the Chukchi Sea in 2013. They will also continue to conduct numerous studies in both the Chukchi and Beaufort seas.

### **VILLAGE CONCERNS/OBSERVATIONS:**

#### **Willard Neakok—Point Lay**

The alternate member from Point Lay, Danny Pikok Jr., moved to Anchorage so a new alternate will be needed. At the next City Council meeting, an alternate could be requested.

During the spring, Point Lay had a good harvest of bearded seals, about 10 or 15 were harvested. The walrus haul-out did not happen this year even though the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service was hoping something would happen. The last part of September it was too shallow to go across to check for walruses. A small group was heard but not counted. You couldn't tell how many walruses were present but there were probably less than 25. No walrus were taken by Point Lay in 2012.

The ice was good for bowheads and Captain Nukapigak landed on in the spring of 2012. In 2012, it was a very windy season with a lot of rain. Each year things seem to change; every year is different.

Macrander asked about the caribou harvest: A lot of people got caribou in 2012 here and there.

George asked about walruses, particularly about a report from the Russian observer program over the past 20 years. They have seen lots of remarkable things, including many killer whale attacks on gray whales. One thing they witnessed was an enormous white walrus that passed north of Chukotka on 2 July. Harcharek mentioned that he has seen an all white walrus and has heard a lot of stories. Many people think that walrus is a sacred type. The one he saw was in a herd of maybe five hundred on a big piece of ice. It was in the middle, up higher than the rest of them and the big bulls surrounded it as if they were protecting it as we came closer, but it was such a big herd we didn't want to bother them. Oviok has also seen a large white walrus. The tusk were huge we didn't want to bother them either. My wife saw one on the beach also but sometimes they just get pale when they come up out of the water.

Suydam mentioned that Willard was elected President of the Native Village of Pt. Lay. The committee congratulated him.

#### **Ron Oviok Sr.—Point Hope**

Point Hope had a good season last year during whaling season. Five whales were caught and they were all good and tender. During whaling there were lots polar bears coming from the south. One hunter reported that in his own camp he counted 12 male polar bears that kept

coming through. He couldn't go to sleep because there were so many bears during whaling. Belugas were also caught during the spring. At the end of May Point Hope hunted bearded seal and some walruses. There were lots of seals during the spring season. Some hunters reported that some of the walruses and seals looked sick. The walrus' faces and tails have scratches.

By the first part of June caribou started to come through Pt. Hope and head to the North. The hunters were going out 30 to 35 miles to look for caribou. Often times the Kivilina people call when the caribou are coming. Caribou used to come close to the community but that doesn't happen anymore because of the air and ground traffic. Some hunters are concerned about this. A light was built about three miles east of Point Hope on the coast a couple of years ago and it blinks every ten or fifteen seconds 24 hours a day. Hunters believe that light is bothering the caribou when they start migrating from south heading toward the community. The caribou may be deflecting away from town. The caribou that were caught in September were all in good health.

There was lots of rain and we didn't have many salmon or blueberries because of the rain. Hardly any salmon were caught in June and July last summer.

Another concern from Point Hope was about Russians conducting seismic in the ocean.

The people of Point Hope would like to see more information about our meetings and the Baseline Studies Program.

Oviok also mentioned that blue cods (i.e., arctic cod) hadn't been seen for five or six years but that they finally came around Point Hope about three months ago. Everybody was happy to see them, they are delicious and healthy. Point Hoppers were also seeing wolves and lots of wolverines in the later part of November and one hunter caught five wolves in one day' they were all black. Another hunter caught a wolf and two wolverines, one wolverine was unusual because it was white and taller than Ron.

Neakok and Oviok discussed concerns about polar bears and arctic foxes in Point Lay and Point Hope. There is concern that children may be bit by a fox. Having a bear/fox patrol may help to avoid problems. Suydam asked if anyone was trapping foxes in either community. Fox furs have gone up in value and this would be economic opportunity for some young hunter to start running trap lines around the villages to help reduces foxes. Harcharek mentioned in Barrow there is a new emerging interest of younger kids wanting to go after wolves and wolverines. In Barrow you have to go so far this time of year it is really dangerous, so there have been a few parents with the younger middle and high school kids that are bringing them out and setting traps for foxes around town to start them at that level to help them learn.

Suydam asked Oviok and Neakok if there were any impacts from ships or from industrial activity in 2012. Oviok said that in July there were three big ships that looked like drillers but

we didn't know what they were doing south of Pt. Hope. They anchored for three days one big ship kept circling Pt. Hope and came close to the village. Kayotuk mentioned that ION had conducted seismic surveys in the Beaufort. Maybe those were their ships? ION did not complete their seismic surveys in 2012 but they did have some problems with their monitoring efforts. It sounds like they will not try to finish their surveys in 2013 but possibly in the future.

Kayotuk informed the committee that ION's seismic vessel got stuck in Ice too and they had to get another vessel to get them out. That happened on the Canadian side of the border. Kaktovik tried to get them to shut down and the Subsistence Observer said he told them about five times to shut this down or they were going to get stuck. They didn't listen and got stuck for maybe a day or two

Neakok also mentioned that TGS was planning seismic surveys for 2013. One of the council members in Point Lay was concerned that the seismic planned for the Russian side may have impacts on Alaskan resources. Suydam said that TGS had applied for permits from the US Government to do seismic in the US Chukchi and in international waters north of the Russian Chukchi this coming summer

Oviok re-emphasize the importance of the Marine Mammal Observers (MMO) from the North Slope villages. They are the ones that know about ice conditions and the ship's captain should listen to them.

### **Qaiyaan Harcharek—Barrow**

Barrow has many concerns about what happened in the 2012 season with Shell. Particularly with the grounding of the Kulluk, the community is wondering what now? The information Barrow is getting is from the News or on the Internet. Only assumptions can be made from there. Many people feel they are being left in the dark. Shell needs to come to Barrow and other North Slope communities to inform us what they are doing and what their plans are for 2013 and 2014. The Barrow City Council specifically mentioned that they would like more communication from industry.

Fall freeze-up was late. It was hard for fishers who were trying to catch whitefish with the eggs in them.

Caribou hunting had to be adjusted too because of the late freeze-up. Some hunters have noted that the caribou on the coast are fatter than the inland caribou. The coastal animals are probably able to get away from the mosquitoes and are not running so much.

The late fall freeze also changed plans for whaling. It was a successful fall whaling season but usually it is cold enough to leave muttuk outside to freeze. With the warm temperatures, we had to use walk-in freezers out at NARL so that the meat would not go bad by Thanksgiving time when it is served to the community. Barrow is concerned that the bone pile at the Point was

covered up. Bears know they could go out there and eat and now the community is afraid they will be coming into town more and will have to shot. Harcharek was congratulated for harpooning his sixth whale.

This summer there were a lot more brown bears in the Chip River areas and there was also an unusual amount of polar bears way inland (30 – 90 miles) away from the coast.

The Barrow City Council and NSB School District are hoping that Shell and NSB maybe do something involving high school children to spark interest in science.

Another concern was about the oiled animals that were found near St. Lawrence Island and the Bering Strait region. People are worried about the possibility of oiled animals occurring near Barrow

Barrow is also concerned about aggressive oil and gas exploration and commercial shipping that is happening in the Russian Arctic. What happens if something happens that impacts Alaska or other international waters? It may be difficult to learn about what happened. Another concern is about all the ships that are coming in and out of Barrow. It doesn't seem like Customs is keeping track of all the foreigners coming into town. We do not knowing what they are bringing in or what they are dumping.

Macrander stated that Shell is trying hard to have interactions with the NSB and City of Barrow. Shell wants to keep everyone on the North Slope informed.

Macrander asked about the condition of polar bears that were seen on shore. Harcharek thought the bears looked very healthy. Hunters are seeing polar bears do things that have not been seen before, like digging up ground trying to get squirrels. It has been very interesting. Suydam also mentioned that some of the bears caught in Barrow in the last month were really fat, at least 3 to 4 inches of fat.

Harcharek also told the committee that Barrow was concerned about the listing of ringed and bearded seals. There are many questions about the impacts of the listing. The community does not know how it is going to affect hunting. Suydam said that those concerns exist beyond the City of Barrow; there are a lot of people trying to figure out what the listing means for residents of the North Slope.

Neakok asked Macrander about upgrades to the Kulluk and Discover. Macrander assured the committee that Shell was upgrading the rigs to meet the current air emission standards. For example, diesel engines are being replaced with electric motors, and other upgrades. Shell is spending millions to upgrade the rigs to current technology standards.

**Lee Kayotuk—Kaktovik**

Kayotuk stated that he was very proud to be on the steering committee and wanted to work with other committee members to bring village concerns from Kaktovik to be considered by the committee.

One of the big concerns in Kaktovik was the number airplanes that were hurting the caribou hunts. This summer it was hard to harvest caribou because of the many planes. Some people are hunting in the mountains but there were not many caribou seen in the Brooks Range. Also, two planes landed in Kaktovik and the polar bears demolished the planes so they had to stay a lot longer than they wanted to. Planes are not supposed to land on the barrier islands.

Fishing was hindered because of high winds but some fish were caught. Mostly though people could not get out too much to fish.

Kaktovik is concerned that ExxonMobil's Point Thomson will affect subsistence hunting and fishing. When they started up some time ago they did a bunch of studies and Kaktovik tried to interact with them to get results of the studies. Now that Pt. Thompson Project has started back up, there will be impacts on Kaktovik. The new pipeline, runway, and other facilities and activities will cause impacts. Kaktovik is hopeful that they can communicate with ExxonMobil regarding Polar Bear Studies, Fish Studies or any animals that do show up in the area.

Some belugas were seen this summer. One pod was about 80 miles east of Kaktovik beyond Demarcation Bay where there is a summer camp.

Two bowhead whales were harvested this fall but one was lost due to an old harpoon breaking off. Stormy weather in the fall is making it harder and harder for us to harvest bowhead.

Lots of polar bears showed up in Kaktovik in early August. They came early and stayed because there is not food. A bear patrol was needed earlier in the season. Two bears were shot because they were skinny and sick and one dead bear was found, probably because of a walrus attack, it washed ashore and had two holes in his back. Lots of tourists from all over the world are coming to Kaktovik because of the bears in September and part of October. This is a big issue and concern.

Salmon berries were good this summer. They were the best in about ten years.

River otters are showing up possibly due to increased forest fires. The otters are going to the fish spawning grounds and fishing holes and eating up the fish.

There is increasing vessel traffic between Alaska and Canada now. The ships are passing through during the summer, including vessels for science and ION doing seismic exploration. People in Kaktovik would like to know the effects of the traffic and seismic operation on the fish and wildlife. A few sailboats were seen during the summer too. There were probably three of them that came by, all were from another country and did not stop on Barter Island.

The ice was pretty thin this year. Lots of west winds opens up ice near Kaktovik and it doesn't freeze over very quickly. Even snow in the mountains is less right now. There is usually two or three feet of snow by now.

Kaktovik would like any researcher doing any kind of studies on fish, whale, or anything to do with subsistence to please notify the village. The studies should be conducted so they don't impact subsistence hunting or fishing.

Suydam thanked Kayotuk for his thorough report. One of the unique aspects of this steering committee is to have really strong representation from the villages and not just the scientists and the people from outside of the North Slope. The committee appreciates your willingness to participate and we hope you can take information from the committee back to your village.

Weingartner asked if people from Kaktovik can they identify the water that is coming over from the Mackenzie River? Kayotuk confirmed that it was possible mostly because the water from the Mackenzie River is dirty and usually has lots of wood. Weingartner followed up with a question about being able to identify Mackenzie River water under the ice. That is more difficult but the water coming from the Mackenzie is fresher than sea water.

The committee discussed polar bears showing up in August along the coast. The bears that are coming up on the barrier islands have probably swam a long way and once they reach land sleep for a couple days because they are exhausted. George stated that they first noticed that in the late nineties in Barrow. Bears come to shore and they just lay down right on the beach and are out for 24 to 48 hours. Initially people thought they were sick but it now looks like they were just exhausted.

There was further discussion about river otters. Kayotuk stated that they seem to be coming out of the interior because of the many forest fires and that is what is pushing them north to the coast. Once on the North Slope they eat lots of fish. They were not seen very often twenty years ago but now are seen regularly.

Harcharek mentioned that his aunt and family spent a lot of time at camp at Ikpikpuk this summer. In July they saw new insects that they had never seen before. Being from Barrow we are afraid of anything that is bigger than a mosquito but they noticed a lot of new insects.

## **SCIENTIST CONCERNS/OBSERVATIONS**

Barrow had an extraordinary fall season with west winds most of September and almost all of October. Winds swung back to a more typical pattern in November. October was one of the warmest on record. It delayed fall fishing and presented hazards to people going inland on snow machines because the ice was thin in some places on some lakes. We lost the great Arnold Brower Sr. in October a few years ago when he fell through the ice; partially I am sure due to this warming trend.

The bowhead abundance estimate for 2011 will be reported to the International Whaling Commission in summer 2013. The estimate looks like it is going to be big, probably at least 14 to 15 thousand animals. We are waiting on the acoustic data but one of the really interesting things that has changed in the last 30 years is bowhead singing. It used to be very rare to hear a bowhead song in the old days. These complicated series of calls or sweeps are strung together in a song that was the norm in 2011. There were songs at least through the first half of the season almost constantly and we are at a loss as to why but the number of songs has made the analysis difficult.

Industry and the National Marine Fisheries Services flew surveys in 2012. They had some very good sightings including humpback whales, killer whales, and many bowheads. Oviok mentioned that a humpback whale was seen in 1987 by a local hunter in Pt. Hope. George referred to a sighting of a humpback by Billy Adams about five years ago in the western Beaufort Sea. These animals are capable of very rapid rates of population increase and we might be seeing a lot more in years to come. Moore responded that humpbacks have been seen for quite a number of years but most of them have been on the Russian side of the Chukchi Sea. Few surveys have gone over on that side but humpbacks have been seen there more consistently and in higher number. There is more humpback food in the southern Chukchi Sea of Russia. Recently, humpbacks have started coming across the date line as they are spreading out.

Suydam mentioned that the aerial survey, which began earlier in the year, in July, in the Beaufort was really helpful for counting belugas. The data will be helpful for estimating stock size of eastern Chukchi Sea belugas. A committee member asked about whether narwhals had been seen. Some of have been seen by hunters in Nuiqsut, Barrow and Wainwright and a couple of dead narwhals have been found between Pt. Lay and Pt. Hope but none have been seen during an aerial survey.

Some discussion was held about tagging of whales. It doesn't appear that any whales are being tagging in Russia although they do tag walruses. Many years ago they shot discovery tags, stainless steel tags with lead bullet, into bowheads. One of those was recovered in Wainwright in 1983. The shiny piece of metal said "kindly return to Moscow".

Weingartner brought up an observation concerning warm water in the northern Chukchi Sea. This summer, on the Healy in August it was very much like winter offshore but near Barrow it was remarkably warm just a few miles from the coast. Water temperatures were near 50 degrees. He found that really intriguing, it was as if the near shore was seeing this normal warming season progress but off shore it was still cold. The unusual conditions of the Chukchi this year were probably really a local phenomenon. Weingartner guessed that the ice got stuck on Hanna Shoal and it built itself up into a large mass of ice that took a long time to go away. I think one or more large floe was transported and grounded there. Then additional ice started to accumulate. The observation of lots of ice in the Chukchi Sea was counter to the historical retreat of sea ice again

in 2012. The observations also underscore the degree to which the near shore region is somewhat disconnected from further offshore in terms of the water properties. The other thing that was interesting and Oviok brought it up earlier that few salmon were caught this year. I would have thought with that warm water hugging the coast might have meant more salmon and not fewer.

Macrander asked if the surface waters stay colder and fresher in the Hanna Shoal area? Weingartner responded that it was fresher and colder because of all the ice. There was a remarkable observation on the northwest side of Hanna Shoal. Right below the surface, a band of relatively warm water was detected. It was right around 32 degrees and the water was from the Bering Sea. The ice was influenced by the band of warm water. It was remarkable that the winds were from the north and the current was coming around the northwest side of Hanna Shoal. The warm water from the central Chukchi Sea accelerated the ice melt.

There was some discussion about the timing of freeze up. Macrander stated that Shell saw an unusual freeze up this year. Normally the ice comes back from the ice pack and extends southward. The observation suggested that freeze-up would occur between November 10<sup>th</sup> – 15<sup>th</sup> but then suddenly ice just appeared on November 1<sup>st</sup>. It seemed that ice come south very quickly from the Hanna Shoal area. Weingartner mentioned that if the water remained stratified with melt water that was relatively fresh on the surface, it could freeze quicker than expected.

George mentioned that on his birthday, November 3<sup>rd</sup>, while at Barrows Café they could hear waves breaking on the beach. This was very unusual to have open water at the beach in November. There was no young ice at all in October and early November but then ice came very quickly later in November.

Moore provided some additional insights into the movement of ice and the melting and freezing the ocean ice. A guy at NOAA, Jim Overland, is involved in watching the ice. He suggests that we can expect these events to occur over at least the next decade. That is, a big chunk of multi-year ice will continue to break off and makes its way across the Arctic. It can get hung up on Hanna Shoal and then other ice sort of aggregates around it. This can be good for walrus and polar bears. There were thousands of walrus out there but they did not haul out on land in 2012 because ice provided a platform and refuge for the walrus and bears.

George reported on two unusual ice formations in 2012. One was off of Wainwright and another just north of Barrow. The ice off Barrow was an old glacial fragment that was covered with big boulders. It was grounded in about 80 feet of water. The ice near Wainwright was similar. There is some speculation that these light ice years are allowing some of these large old pieces of ice to penetrate more deeply into the US Arctic.

Weingartner referred to a project by the Alaska Sea Life Center. They have video cameras set up to look at potential walrus disturbances at Point Lay but that didn't happen this year. The Alaska Sea Life Center also had a camera set up on one of haulouts in southwest Alaska where male

walrus haul out. They recorded several instances of disturbances from either boats and or planes and it was remarkable how sensitive these animals were to these disturbances. This type of monitoring might be something the committee wants to consider funding or supporting in the future.

Moore and Suydam talked about the recent fish surveys that have occurred in the Chukchi and Beaufort sea recently. A considerable amount of fish data were collected from the Chukchi and Beaufort seas in 2012. Some of the surveys may be repeated again in 2013, which would improve our understanding of interannual variability in fishes. Suydam stated that our understanding of marine fish is increasing rapidly and hopefully the steering committee can contribute to the understanding of fish and oceanography.

## **BRIEF UPDATE OF ONGOING PROJECTS**

### **Satellite-Tracked Drifter Measurements in the Northeast Chukchi Sea Presentation – Tom**

Weingartner explained the purpose of the study was to look at how the surface water moves in the Chukchi Sea. We examine how the currents change as the winds change or as the drifters move into different regions of the Chukchi or Beaufort Sea. Three types of drifters were used. The Microstar has a sail that sits about three feet below the surface of the ocean and has a little tiny ball on the surface that has electronics. Every hour we get a position of where this drifter is. Another type of drifter has a sail that is about 45 feet below surface of the ocean so it is going to be measuring the ocean currents at a much deeper depth than the Microstar. This type of drifter is called a SVP. The drifters are very simple to deploy. The third type of drifter's which are called I spheres and they look like basketballs. The lower half sits in the water and the upper half is exposed to the air and is influenced tremendously by the wind.

There are no plans to continue the offshore portion of the drifter program. There is some interest to deploy drifters over on the southeast side of Hanna Shoal, because of the question of where that water ultimately goes. The steering committee discussed the possibility of continuing the nearshore drifter project. Suydam mentioned that in 2012, there was lots of west winds. It would be good to deploy drifters in other years with different conditions. Weingartner thought that deployments further south of Icy Cape off of Pt. Lay would be good to understand the coastal flow in that area. Relatively little is known about water movement in that area.

George gave a presentation regarding the drifter studies, satellite tagging of ringed seals, sensory perception (i.e., hearing) of bowhead and beluga whales, bowhead ship strike and line entanglement study, stress monitoring in Arctic Marine Mammals, contaminants and biomarkers assays in beluga whales, and combining science and traditional knowledge about coastal currents and ice movement in NE Chukchi Sea.

The meeting recessed at 5:05pm.

## MINUTES

### NSB/SHELL Baseline Studies Program

#### Steering Committee Meeting

#### Hilton Iliamna Room

January 16 -17, 2013 9:00am

January 17, 2013

#### MEMBERS PRESENT:

<u>Name</u>	<u>Representing</u>	<u>Name</u>	<u>Representing</u>
Robert Suydam	NSB	Ron Oviok, Sr.	City of Pt. Hope
Tom Weingartner	Independent Scientist	Victoria Broje	Shell (Phone)
Sue Moore	Independent Scientist	Willard Neakok	Pt. Lay Primary
Michael Macrander	Shell	Craig George	NSB
Qaiyaan Harcharek	City of Barrow	Lee Kayotuk	Kaktovik Primary

#### Members Not Present:

<u>Name</u>	<u>Representing</u>	<u>Name</u>	<u>Representing</u>
Ransom Agnasagga	AIN Primary	Danny Piko, Jr.	Alternate Pt. Lay
Enoch Oktolik	Alternate AIN	Hajo Eicken	Independent Scientist
Brandon Southall	Independent Scientist	Jack Schafer	Alternate Pt. Hope

#### Non Members Present:

<u>Name</u>	<u>Representing</u>	<u>Name</u>	<u>Representing</u>
Malissa Langley	NSB Wildlife	Janell Kaleak	NSB Wildlife
Erling Westlien	Shell		

INVOCATION: Willard Neakok

#### OPENING REMARKS:

Suydam welcomed everyone back for the second day of the meeting.

#### PENDING PROJECTS

Suydam provided an update of pending projects.

1. Paperwork for the Sea Ice and Ocean Current workshop project is being processed with the University of Fairbanks and the contract is almost in place. Those workshops should occur in the coming months.
2. Helicopter Disturbance Scoping Study – An RFP will be sent out to different entities soliciting a proposal. Committee discussed who to target for the RFP.
3. Forage Fish and Oceanography Study – George and Macrander have worked on a RFP. They provide the committee and summary of the status of that RFP.

This project came about in large part because elders and hunters from the villages expressed concern and interest in how marine mammal food may be impacted from things such as seismic surveys and climate change. Some of the most important forage fish species provide food for the marine mammals that are hunted. Three of the most important ones are arctic cod, capelin and sand lance. The RFP would look to a successful candidate to: (1) conduct a literature search of what is known about forage fishes in the Beaufort and Chukchi seas, and (2) conducting ecological studies at sea with the focus on two main things; the life history of forage fishes and distribution and the abundance. The field study will likely be very expensive because of the cost of large vessels. The project could also take advantage of the number of fish samples that are currently in hand. Those samples could be analyzed for a variety of things including energetics.

There was some discussion of whether the project could move forward in 2013 but there was general agreement that it would likely need to wait until 2014 for any type of field work. Boats couldn't get on the water in summer of 2013 but substantial progress is possible for studies in 2014.

The committee talked about the need to understand fish that may be close to shore. Weingartner suggested that people in the villages may be able to run much of the sampling, such as using a fyke net near a village. This approach could require a low to modest level of effort and funding and would be a way to get hunters involved in baseline studies. Moore agreed that we should consider shore based sampling, such as has been done in Barrow by the NOAA folks, who conducted beach seines near Barrow in about 2007 to 2009. They have plans to continue beach seines in the coming years. Suydam also agreed that trying to expand nearshore fish surveys to Pt. Hope and Pt. Lay is a great idea. Instead of using a fyke net, another approach might be to have people sample with a gill net to try to collect some of the larger fish.

Macrander agreed that working in near shore areas, particularly close to the communities, is important but there are significant data gaps in offshore areas of the Chukchi and Beaufort seas. Some of the gaps include knowing survey and inventory work and the role they play as

marine mammal food. Near shore work is critical but the offshore is also vital but more vexing.

The committee has set aside about \$1.5 million for this forage fish project. Additional funds could be used in the future for a second or third year, if desired. Understanding annual variation may become very important and thus require additional funding. Sampling some of the stations that have already been surveyed by other projects may be a good solution too.

Macrander highlighted the value of asking fish experts to propose the best approach for filling data gaps related to forage fish in the Beaufort and Chukchi seas. The committee agreed to move forward with finish drafting the RFP and then seeking proposals.

The committee had additional discussion about fish sampling from fishers in the villages. Typically gill nets are used by a lot of people. This program could approach them and ask if they could help collect data. The project would be very economical since people are out catching fish anyway. The committee liked the idea of documenting what people are catching, especially if effort can be well documented. Some committee member thought it might be worth fishing in some new areas that people don't usually fish. Sampling those areas over the course of the summer would provide information on within season variation. George shared information about a successful NSB project that documents fish catches in Elson Lagoon. That may be a good model for us to pursue.

### **OTHER PROJECTS TO BE CONSIDERED BY THE NSB/SHELL BASELINE STUDIES PROGRAM FOR 2013**

Suydam reviewed the list of projects previously considered by the steering committee that have not yet been completed or funded. This review was in anticipation of prioritizing projects for 2013. Committee members suggested other possible projects to be funded for 2013.

#### *Oil Spill Study:*

Broje discussed a possible oil spill study in Chukchi and Beaufort sea. Shell has asked a researcher at UAF to collect offshore and near shore samples to look at biodegradation. Suydam asked Broje to send a very brief summary regarding oil spill studies. Suydam also mentioned an oil seep near Cape Simpson. This seep has filled a pond with oil, but the pond broke through and oil may have been flowing into the ocean. This may be a great opportunity to actually get some field measurements of how the bacteria in the environment respond to spilled oil. Todd Sformo, with the NSB, is working to develop a proposal on this study.

winter or whether it ends up getting block by snow and ice in the winter time and then there is a rush of oil into ocean in the spring time breakup but because of those things if don't take advantage of this soon we may not have the opportunity.

Victoria: I think it is interesting study but I don't think it will be relevant to offshore oil spill.

#### *Camden Bay Study*

Suydam provided a concept for a collaborative study of Camden Bay. This project would try to summarize how whales are responding to anthropogenic sounds and the presence of vessels and drill rigs in Camden Bay. The information would be used to help inform decisions related to understanding and mitigating potential impacts to bowheads and to the availability of whales to hunters. Discussion about this possible project was prompted because Kaktovik wasn't able to get all of its whales early on in September in 2012. Weather and deaths in the community prolonged the whaling season. Shell really wanted to get started drilling but Kaktovik wanted them to wait until whaling was finished. There was considerable discussion among Kaktovik, the AEWG and Shell. The AEWG suggested that AEWG, NSB, and Shell work together to better understand what is happening in Camden Bay with whales with sound propagation. This project could be a synthesis of the data that exists, including survey data, acoustics data, traditional knowledge and other pertinent data.

Macrander stated that the Baseline Studies Agreement was created precisely to address these types of information needs and to answer important questions that are coming from the communities about the impacts. Involving the whaling community and others in discussions and the conduct of studies would be a good thing. Kayotuk said that the Camden Bay project is a pretty high priority for Kaktovik.

#### *Ocean Currents*

Oviok talked about the movement of ocean water was particularly important for understanding where spilled oil would go. The current can be very strong and it is a big issue for oil spills. In the last couple of years, Oviok saw how the movement of the current disturbed the community when the ice starts piling up fast. On the east side of Pt. Hope there are four or five layers of different movement of the current. There are concerns about transporting the lead from Red Dog Mine as it drops into the ocean from the barges. That area is where the salmon are traveling from the south to the north.

The committee might want to continue the surface drifters study to gain a better scientific understanding of how the water moves. Using ice drifters to look at ice movements may also be valuable.

#### *Marine mammal population estimates*

Macrander mentioned the continue data gap related to the size and trends of marine mammal populations and distribution. For example, it is difficult to challenge the proposed listing of species because of the lack of good population estimates and baselines about distribution and habitat use. Arguably it should be U.S. Fish and Wildlife Service or NMFS to gather population

data but somehow the information is needed. Perhaps our Baseline Studies program could help that process along, which would be beneficial to all of us.

George mentioned that quite a bit is known about the bowhead population size and trend. We do have some rough estimates for polar bears but for ice seals and beluga, there is little known. It would probably be difficult to detect a 50% drop in population size with the existing scientific information. George agreed with Macrander but expressed concern about the availability of tools to get estimates. Macrander mentioned that aerial surveys may be a good approach. Moore cautioned the committee that stock size estimates would be difficult for the program to handle. As a baseline study group, it may be better to improve understanding of the ecology of marine mammals.

Moore suggested another approach too. Neakok and Oviok provided observations in the Chukchi Sea that are really interesting. Documenting traditional knowledge on population size, trend, habitat use, and ecology may be really useful. Additionally, we could bring together hunters and oceanographers or biologists to better understand the system. The low hanging fruit would be to develop a method to routinely document hunter observations about marine mammals. The Arctic is in a new state or condition. We can expect range for extensions of various species and other new things. The best way to document those changes is to record what people who live there are seeing. Developing a community-based monitoring system would be valuable. Neakok, Oviok, and other committee members enthusiastically agreed.

Suydam summarized the discussion about information needs. Four topics were identified. 1. Population estimates of marine mammal; however, that may be difficult because of the size and scale of the problem. 2. Document the ecology of marine mammals by documenting traditional knowledge. 3. Changes of marine mammal distribution and relative abundances, including observations of new species showing up. 4. Developing a network for documenting community-based observations.

#### *Documentation of subsistence use areas*

Harcharek discussed his current GPS project that is funded from another source. He is giving GPSs to hunters to document their travel routes and hunting areas. The committee may want to continue that type of project. Macrander agreed that it is a good candidate project to put out as a RFP for suggestions on how to do this type of project.

#### *Measure of the acoustic soundscape.*

Suydam asked whether this project was on that the committee wanted to keep on the list. There was general agreement to keep the project on the list and see where it might be rank among other study priorities.

#### *Caribou surveys*

Neakok asked if we wanted to support caribou surveys? Suydam mentioned that he had asked the NSB terrestrial biologist this question. They thought it would be valuable to document the distribution of caribou, particularly calving caribou in areas where a pipeline might be constructed between the Chukchi Sea coast and existing infrastructure.

There are many caribou surveys in the existing oil fields. There are also regular surveys of areas where caribou traditionally have their young. Some results suggest that oil field infrastructure and activities have caused caribou to change their calving location. They move away from the infrastructure to have their calves. After they have their calves they move past the roads and pipelines. Before the Kuparuk oil fields were built a lot of the caribou calved in that area, once the oil fields built they are no longer calving in that area.

#### *Fox, wolf, and wolverine study*

Similar to caribou, there may be reasons to document potential pipeline routes for foxes, wolves and wolverines. Now may be the time to get baseline information.

#### *Tide gauges*

The committee discussed the limited data on tides on the North Slope. There is one at Prudhoe and one at Red Dog Mine. No other tide gauges are regularly deployed. Additional information is needed about tidal ranges and conditions to plan for possible future events.

#### *Hydrology studies*

Harcharek expressed concern about a pipeline in the northern foothills of the Brooks Range. Is there enough information about stream flows and other hydrology issues in the rivers and creeks? Suydam stated that Shell had started to do some hydrology work between Wainwright and Atqasuk but had postponed further work in 2013. This type of project would be worth the committee considering. Macrander agreed that it would be beneficial if the committee could help address this type of data need.

Suydam asked the appropriate people to write a brief paragraph for each of the possible projects to be considered for funding with 2013 monies. Each write-up should include an estimate of the potential cost of the project. The committee will review these write-ups and rank the projects in the coming months.

### **ACTION ITEMS**

Action items were reviewed:

Committee members will be asked to rank potential projects to be funded for 2013.

### **TIME AND PLACE OF NEXT MEETING**

The committee will try to hold monthly teleconferences over the course of the spring and summer.

### **IN-PERSON MEETING AGENDA**

The committee would like to hear more about:

- A thorough review of already funded projects.
- Details about the hearing study on bowhead and beluga whales.
- Presentation from Shell on their social impact study.

### **PLACE OF NEXT IN-PERSON MEETING**

The committee would like to meet in Wainwright if at all possible for its next meeting. This would entail chartering a plane from Barrow to accommodate committee members. Perhaps we could try for the next meeting to be in early April.

### **CLOSING REMARKS**

Suydam again thanked everyone for attend the meeting. Good progress was made.

**ADJOURNMENT – 4:05 pm**