Alaska Beluga Whale Committee

Tom Gray, Chairman (907-304-2003)
Marvin Okitkun, Vice Chair (907-899-2233)
Kathy Frost, Secretary (808 987-0001)
Billy Adams, Officer at Large (907-852-0350)
Cyrus Harris, Officer at Large (907-350-7835)

DRAFT EASTERN BERING SEA Workshop Agenda

Tuesday – December 5th, 2023

Anchorage Hilton, Anchorage AK

Meeting starts at 8:30 am Tuesday in the Chart Room

1) Welcome and Introduction (Tom Gray)

2) Introductions (go around room and introduce everyone, where from)

3) Approve 2022 minutes and 2023 agenda

4) Why we are here (Tom Gray, Marvin Okitkun, Kathy Frost)
   a) Need to make sure EBS harvest stays at the sustainable level - What level of harvesting is safe?
   b) What are NMFS priorities re EBS belugas (Robyn Angliss, Barb Mahoney)

5) Genetics, harvest and samples (Kathy Frost)
   a) Recent DNA results from EBS & Kuskokwim (Greg O'Corry-Crowe)
   b) 2022 harvest and samples
   c) How do we get people to collect samples – delegates, if not delegates who? TCs?

6) Community meetings to discuss keeping belugas at a safe level (Tom Gray, Lori Quakenbush)
   a) Report: Community meetings winter 2023 (Tom & Lori Quakenbush)
   b) Should we try for meetings in 2024? IF yes, WHO will do them?
   c) Is this worth spending money on? Is there a better way to get the information to EBS communities and feedback from the communities?
   d) What about a video about EBS belugas that could be widely distributed? Ideas about who could do?

7) Aerial surveys (Tom Gray and Kathy Frost)
   a) 2022 survey results status (Robyn Angliss, Paul Wade)
   b) 2024 survey plans (Robyn Angliss, Paul Wade)

AFTER LUNCH

8) Workshop: Eastern Bering Sea Student Guide (Lori Quakenbush)
   a) Review draft

9) What science would ABWC like to see done in EBS?
   a) Drone photographs to study body condition (Madison Kosma)
   b) Samples

10) EBS Management Plan
   a) Is this too much of a science plan? Is there a better way to get this message out?
   b) If Plan is OK way to go, what is next step?

11) What next?
   a) Should we continue to have EBS workshops at the annual ABWC meeting?

12) Go around the table...

13) Final closing Comments ...

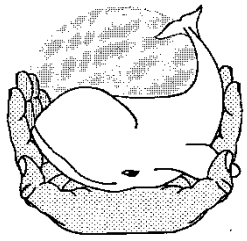
Delegates
2023 Eastern Bering Sea Workshop

Norton Sound

Brevig Mission	Elmer Seetot
Elim	Morris Nakarak Sr.
Golovin	David Brown
Koyuk	Archie Ervin
Nome	Tom Gray (Chairman)
Saint Michael	Joseph (Joe) Akaran
Shaktoolik	Raymond Hunt, Tyler Takak (young hunter)
Stebbins	Cylas Okitkun
Unalakleet	Jacob Ivanoff

Yukon Delta

AVCP	Jennifer Hooper
Alakanuk	Lee, Kenneth (Ken)
Emmonak	Brandon Kameroff
Hooper Bay	Albert Simon
Kotlik	John Tonuchuk, Marvin Okitkun (Vice Chairman)
Mountain Village	Kevin Thompson
Nunam Iqua	Edward Adams Sr.
Pilot Station	Rex Nick
Pitka's Point	Stephen (Micah) Sergie
Saint Mary's	Lyle Thompson
Scammon Bay	Wybon Rivers, Edward Prune (young hunter)



Alaska Beluga Whale Committee

c/o NSB Dept Wildlife Management
P.O. Box 69, Barrow, AK 99721

Phone (Tom Gray cell) (907) 304-2003

Minutes – Eastern Bering Sea Workshop

8 November 2022 - Anchorage, Alaska

People attending the meeting were:

Billy Adams	NSB Wildlife, Box 69, Barrow, AK 99723	885-8389 billy.adams@north-slope.org
Joe Akaran	Box 59023, Saint Michael, AK 99659	933-1110 rockskipper95@gmail.com
Robyn Angliss	NOAA AFSC, Seattle, WA	206-778-5664 robyn.angliss@noaa.gov
John Bengtson	Marine Mammal Lab, NMFS, Seattle	206-930-6271 john.bengtson@noaa.gov
John Burns	PO Box 83570, Fairbanks AK 99708	479-0204 jburnssr@gci.net
Todd Chikigak	PO Box 147, Alakanuk AK 99554	238-2156 (or 55?) toddchikigak238@gmail.com
John Citta	NSB Wildlife, Box 69, Barrow, AK 99723	699-3224 cell john.citta@north-slope.org
Vicki Cornish	US Marine Mammal Commission	703-862-9948 vcornish@mmc.gov
Anne Marie Eich (virtual)	NMFS, 222 West 7th Ave, Anchorage, AK 99513	annemarie.eich@noaa.gov
Megan Ferguson	NOAA Alaska Fisheres Science Center	206-200-9489 megan.ferguson@noaa.gov
Kathy Frost	73-4388 Pa'iaha Street, Kailua Kona, HI 96740	808- 987-0001 kjfrost@hawaii.rr.com
Tom Gray	Box 306, Nome, AK 99762	304-2003 tom@akadventure.com
Jennifer Hooper	AVCP, Box 219, Bethel, AK 99559	545-1329 jhooper@avcp.org
Frank James	Box 25, Platinum AK 99651	979-2024 frankjames99655@gmail.com
Norman John	Box 37061, Toksook Bay AK 99637	427-2505 normanjohn_04@yahoo.com
Elisabeth Kruger	WWF, 810 N St.. Ste 300, Anchorage, AK 99501	717-7714 elisabeth.kruger@wwfus.org
Kenneth Lee	Box 122, Alakanuk, AK 99554	238-2103 alaskangrown35@gmail.com
Barbara Mahoney	NMFS, 222 West 7th Ave, Anchorage, AK 99513	331-8528 barbara.mahoney@noaa.gov
Mike Miller	IPCoMM	738-9345 go2tbird@gmail.com
Greg O'Corry-Crowe	Vero Beach, FL	772-766-5793 gocorryc@fau.edu
Cylas Okitkun	Box 71155, Stebbins, AK 99671	899-2042 okitkuncylas@gmail.com
Duncan Okitkun	Box 201, Saint Marys, AK 99658	438-6500 duncanokitkun@gmail.com
Marvin Okitkun	Box 20142, Kotlik, AK 99620	899-2233 marvinokitkun@yahoo.com
Lori Quakenbush	ADF&G, 1300 College Rd, Fairbanks, AK 99701	978-2760 lori.quakenbush@alaska.gov
Wybon Rivers	Box 44, Scammon Bay, AK 99662	536-2073 ybunn_ar_2019@yahoo.com
Kayla Scheimreif	NSB Wildlife, Box 69, Barrow, AK 99723	855-1181 kayla.scheimreif@north-slope.org
Albert Simon	Box 91, Hooper Bay, AK 99604	758-2355 or 4156 albertsimon380@yahoo.com
Robert Suydam	4778 Mills Dr., Anchorage, AK 99508	559-313-4652 rssuydam@gmail.com
Kevin Thompson	Box 32051, Mountain Village, AK 99632	591-6962 kevint17@yahoo.com

Tuesday, 8 November 2022

The meeting was called to order by Chairman Tom Gray at 9:03. Frank James gave the invocation. Tom thanked the group for participating and everyone introduced themselves. Tom introduced Mike Miller, the Chairman of IPCoMM. The minutes and agenda were approved without any revisions.

Tom Gray explained that the ABWC is different because its bylaws allow non-native people to be voting members at the table. It's important to have the scientists at the table and involved in the management. Kathy Frost noted this was discussed at length at the first ABWC meeting in 1988 and after a lengthy discussion the founding group voted unanimously to include the scientists as voting members. Doing research and including scientists makes the ABWC an active player in decisions about beluga conservation and management. The inclusion of both hunters and scientists is one of the committee's greatest strengths. The ABWC conducted the first aerial surveys of belugas in western Alaska, conducted the first genetics studies and attached the first satellite tags.

Tom Gray and Lori Quakenbush plan to hold village meetings about the EBS beluga management plan at the end of 2022 or early 2023. Previous plans for meetings were canceled due to Covid. Tom has tried to involve Kawerak, but has had little success so far. The Tribal Councils of each village have appointed or approved their ABWC delegates, so the delegates have the authority to act. ABWC delegates from each of the villages that Tom and Lori visit should be involved in the meeting.

Elisabeth Kruger from World Wildlife Fund made a brief announcement that WWF has a small grants fund that will award $10,000-$25,000. Applications are due by November 15th. WWF is reviewing the interaction of marine mammals in shipping and is looking for partners to assist with this review. WWF is setting up a "Wildlife Alerts" project. They will map marine mammal presence by season and use this information to generate text alerts asking ships to slow down when they are in areas where marine mammals occur.

Kathy Frost said that about nine of the EBS delegates were delayed or had to cancel due to the storm. She reminded the group that the agenda for the day was to provide background information about the management plan and to receive input and comments on the plan from the delegates.

Status of Stock Assessment Report

Robert Suydam provided an update on the stock assessment report (SAR). NMFS and USFWS are supposed to do SARs for all marine mammal species in the US every three years if a stock is not listed, and more often if it is. The Marine Mammal Protection ACT (MMPA) established Scientific Review Groups (SRGs) to review SARs and provide advice to NMFS. The Alaska SRG includes 7-9 people. Every year, that group reviews the SARs and provides comments. NMFS revises them and puts the SARs out for public comment. The draft 2020 EBS beluga SAR that was released for public comment stated that subsistence harvest of the EBS stock was greater than the Potential Biological Removal (PBR). It designated the EBS stock as strategic without prior discussion with the ABWC. The ABWC expressed concern to NMFS that a strategic designation was not appropriate, might have unintended consequences to subsistence hunting, and should be withdrawn. NMFS withdrew the draft SAR to allow time for further dialog between NMFS and ABWC. The ABWC thanked NMFS for listening and responding.

Robyn Angliss said that Megan Ferguson reanalyzed the 2017 aerial survey data used to designate the EBS stock as strategic. The methods for the reanalysis have been sent to ABWC and the Alaska SRG for review and comment. The revised estimate is larger than the original estimate and does not result in a strategic designation. A revised EBS SAR will be released for public comment soon.

Tom Gray commented that the original 2017 abundance estimate was a little over 9,000 whales with a PBR (harvestable surplus) of about 185 whales. The average annual EBS harvest is >200. The revised 2017 estimate of more than 11,000 results in a higher PBR and the stock will not be considered as strategic.

Billy Adams stated that Native people need belugas for food. He said harvest limits or quotas can be hurtful. However, he also said that communities can agree with good science when the directive is coming from them.

Tom said the draft EBS management plan was triggered by the situations in Kotzebue Sound and Cook Inlet where there are not enough belugas left to harvest. If too many EBS belugas are harvested, it may be necessary to think differently about the harvest. Tom emphasized that the intent is not to deprive people of their subsistence food. It is to protect the whales for now and the future.

Albert Simon said when he grew up management plans weren't needed. The hunters could get what they needed and help others. Now conditions are changing. A management plan may be needed to avoid restrictions imposed from the outside. Accurate harvest reporting (not estimates) and good abundance surveys are needed. Harvest guesses are not good enough.

Kathy Frost reminded everyone the EBS management plan came from the hunters, and not from outsiders. It is not a government plan. There used to be thousands of belugas in Cook Inlet and Kotzebue Sound and now these stocks are almost gone. No one wants that to happen in the EBS. The human population in EBS villages has more than doubled since 1960. Hunters have better guns and faster boats. Tom Gray pointed out that Native people can control their own destiny or they can just let things take their own course. He emphasized the importance of getting ahead of the problem and ensuring that there are still subsistence foods for our grandchildren.

Frank James said that he had never seen belugas near Platinum until the late 80s when a huge pod showed up. After that they hadn't see any until the last few years when they are showing up again more often. In September he saw belugas "as far as the eye could see." He saw belugas near the mouth near Quinhagak. Frank also said that he's realizing that although people may say we don't need them, management plans and samples can help with conservation. He wants belugas to be there for his grandchildren.

Kathy Frost said that sustainable take is just making sure that we don't harvest more belugas each year than are born. People are increasing but the number of belugas isn't. Jennifer Hooper added that this increasing human population is spread out over a huge area, and that the management plan affects many communities.

Robert Suydam repeated some points made by John Burns: 1) Belugas always come back to the same area, and are vulnerable to overharvest because of this; 2) as human populations grow, it is easy to unintentionally overharvest. There were about 7,000 people in EBS villages in 1960 and 15,000 now. No one wants to overharvest. It can happen by accident; 3) Belugas come back very slowly, if at all. 4) We need the best possible information from both the hunters and the scientists. It is very powerful when hunters and scientists work together; 5) Climate change is a big unknown, and the commercial use of salmon is affecting beluga food. The objectives of everyone are the same: that belugas are here for generations to come.

Overview of eastern Bering Sea belugas

Lori Quakenbush gave an overview of the talk she will give in the EBS community meetings about the management plan. She showed a map of the summer distribution of beluga stocks based on tagging data and explained that we know where belugas are from due to skin samples (genetics), direct observations, and tagging studies. Belugas move to different areas in the winter than in summer, but the different Alaska stocks use different parts of the Bering Sea. Satellite tagging shows that only belugas from the EBS stock are found near Norton Sound and the Yukon Delta. We need to continue tagging, because beluga behavior could change as the climate changes.

Billy Adams asked for clarification that the management plan is just for the EBS area. Kathy Frost confirmed this. Tom Gray reminded everyone that any management plan must be approved by the EBS Tribal Councils. Tom also noted that belugas are being harvested in different areas lately (Brevig Mission, Shishmaref, the Kuskokwim). Other things like tomcod are also changing. There are fewer tomcod around and Tom wondered what the belugas are eating if there are no tomcod. The ABWC needs more skin samples for genetics studies. Lori Quakenbush reminded everyone that she is accepting skin samples, and thanked Albert Simon and Norman John for bringing samples to the meeting.

Lori Quakenbush's presentation showed that of the 17 known beluga stocks worldwide, seven are extinct, endangered, or threatened. The current EBS beluga abundance estimate is 11,112, based on the 2017 Norton Sound aerial survey. The average landed harvest for the last five years was 229. It has increased from 190 in 2016 to 259 in 2020. The struck and lost information is incomplete. The human population has increased from 7,000 in 1960 to more than 15,000 now.

To estimate how many belugas can be safely harvested (a sustainable harvest), we need to know how fast belugas reproduce and how many there are. We know from Bristol Bay data that belugas can increase by 4.8% a year. To be safe, we consider half of that increase to be a safe harvest level. Currently, the average EBS harvest is considered sustainable because it is less than 2.4% of 11,112. Anything over 267 would be over 2.4% of the current population estimate.

Things the hunters can do to help include: try to harvest males instead of females, reduce struck and lost, only harvest what is needed and not extra, and support and work on the management plan. Kathy Frost said that information on struck and lost whales is collected by ABWC but it's probably underreported. She said that reducing the number of belugas struck and lost is an easy way to reduce the overall take. Educating young hunters is a way to encourage this. Female belugas don't reproduce until they are 9 years old, and then only have a calf every three years. If five females are shot that's about 16 fewer belugas ten years later (due to their lost calves and "grandcalves"). Because the annual harvest level is now so close to the safe harvest level, we need to keep an eye on this.

Albert commented that it's very hard to know if a beluga is a male or a female. He tells young hunters to be careful not to harvest whales with young babies because those are definitely females.

EBS 2017 revised abundance and 2022 aerial survey results

Megan Ferguson presented the 2017 revised abundance estimate and the 2022 aerial survey results. In 2017, the observers counted 1,897 belugas. Some belugas are missed during the surveys so different tools are used to adjust the estimate. After accounting for muddy water, belugas that were too far away to count, and other factors, the corrected number for 2017 is 4,621 belugas. Megan used an "availability correction factor" of 2 to account for the belugas that weren't seen because they were diving (this means half of the belugas were estimated to be under water when the plane flew over so the counts were multiplied by 2). She also used a second "detection correction factor" to account for belugas missed by the observers. This was calculated by comparing counts from photographs with counts by observers in the same area. The final corrected abundance estimate was 12,269. This number is still conservative, because newborn gray calves and yearlings are very difficult to detect from 1000 ft and are undercounted. Also, any belugas in the Yukon River weren't counted because the plane didn't fly there.

Albert asked how the observers know they are not counting the same beluga twice. Megan replied that with this type of analysis, as long as belugas are moving randomly and aren't going systematically away from or towards the counters, it doesn't matter. Albert asked if this is then just a guestimation, and Megan responded that it is their best estimate.

Tom Gray asked how confidence intervals affect things. Megan said when there is a lot of uncertainty about the surveys (windy conditions, not very many lines flown, clumped distribution of belugas) the scientists are less confident about the population estimate. The estimated safe harvest level will be lower when the abundance estimate is less certain. NMFS calculates what is called Nmin (minimum population estimate) by taking into account the uncertainly. Nmin is smaller than the actual abundance estimate. The ABWC and NMFS are discussing which abundance estimate will be used to calculate the safe beluga harvest level for EBS – the actual estimate (12,269) or Nmin (11,112) . NMFS prefers Nmin. The ABWC prefers the actual estimate because it is already conservative.

Billy Adams said that North Slope hunters trust Megan Ferguson's work. He thanked Megan and her crew for all of their work on the bowhead surveys in Barrow. Norman John asked if the PBR will change with a new abundance estimate. Tom replied that it will. Albert Simon said that the most belugas are seen near Hooper Bay in April or May and he wondered if the surveys could be done at that time. Megan responded that there is too much ice at that time, especially in areas farther north.

The results are not yet available for the 2022 EBS surveys. Megan said the analysis methods must be changed somewhat to account for how the belugas were distributed. Tom Gray commented that the team flew less than half the transects in 2022 spread over a larger area than it did in 2017. He asked if there would be less confidence in the abundance estimate because of this. Megan said they had good survey conditions, surveyed all lines in the high-density areas, and got good coverage in both 2017 and 2022. However, the weather was great in 2017 and they flew almost every line twice. According to NMFS guidelines, an abundance estimate is considered adequate for management if the CV is 0.3 or less. The ABWC and NMFS need to discuss what CV is acceptable for beluga management.

Robert Suydam reiterated that we're looking for both a good estimate and one that we have confidence in. In 2022, a substantial part of the survey area was not covered. Lori Quakenbush was particularly concerned by poor coverage off Unalakleet and Stuart Island. Historically, many belugas have been sighted in the areas that could not be surveyed. Because flights occurred on only four days, it's concerning that the population estimate may not be as good as hoped for. Even if the confidence limits are small, many belugas may have been missed. Robert suggested that another survey be flown in 2023 or 2024 because of those concerns.

Kathy Frost said that 2017 was an exceptionally good year. We need to expect bad weather and not just plan one survey for a three-year period. She said the survey team did the best they could in the given situation, but didn't think it was sufficient. Tom stressed that we are managing people's food and need to be very careful.

Robert Suydam asked about the review process for the survey analysis. Megan replied that it will go through internal NMFS MML review, review by the Alaska SRG and by the ABWC. She can request that the International Whaling Commission Scientific Committee (IWC SC) review the methods. Robert Suydam recommended that be done.

John Citta pointed out that Megan's spatial model has been reviewed by the IWC for bowheads. Nonetheless it is important for the ABWC to review the survey methods. It is also important to have multiple surveys through time. There is no perfect answer from one survey. Robert Suydam said that an IWC review is a dialogue between the person who submits the estimate and the reviewers. The ABWC's questions and concerns should be included.

Stock identity of Kuskokwim belugas

Kathy Frost said that which stock Kuskokwim belugas belong to is unknown. John Burns thinks they may have been a separate stock in the past. Kathy encouraged hunters from the Kuskokwim Delta to collect skin samples to help determine what stock they belong to.

Norman John said it would be good if NMFS could survey from Toksook Bay to Platinum for the Kuskokwim area belugas. Tom Gray replied that if everyone sent samples in, genetics could determine what stock those belugas belonged to and whether they should be included in EBS aerial surveys. Lori said Norman brought Kuskokwim samples to this meeting.

Eastern Bering Sea beluga management plan

John Burns said that drive hunts harvest many females and may orphan their calves. He reminded everyone that belugas are pregnant for 14-15 months on average, and the calves nurse for more than a year. A female only has a calf every 3-4 years. This slow reproduction means that it is important to be cautious when managing belugas. Aerial surveys are not

invincible. Knowing about calf production, body condition and mortality is also important for tracking whether a beluga stock is healthy.

Kathy Frost explained the background for the EBS management plan. At the first EBS workshop in 2018, the delegates discussed whether it was a good idea to develop a management plan, and what it should contain. They directed the Executive Committee to draft a plan. The draft plan sent out to hunters and Tribal Councils for review and comment. The plan was also distributed to beluga hunters through an EBS newsletter. The revised plan shows how each section of the plan relates to customary and traditional values.

Tom Gray went through the draft management plan line by line and asked for comments.

Albert Simon noted that the villages are losing their traditional knowledge. He said it is important for the communities hear the plan. Tom Gray stressed that the IRAs that will adopt the plan, not the ABWC (also the ABWC EBS delegates will also approve it). Tom said it will be hard to keep a management plan alive. When he talked to people in Elim, they said there was already an Elim-Shaktoolik-Koyuk beluga plan. They said they didn't need a new plan, but when the ABWC asked to see the existing ESK plan, no one could find it.

Tom Gray cautioned that we need to be careful what goes in a management plan. For example, the science may recommend not killing females, but hunters will still kill some females. Kathy Frost explained that hunters can harvest females, it just has a bigger impact on the population than harvesting males. The total harvest can be larger, with less effect, if hunters harvest more males than females. It is about tradeoffs – these are guidelines and not mandates.

Albert Simon stated that violations and enforcement are difficult topics. Robert Suydam suggested that ABWC does its own internal enforcement, unless there are problems the ABWC and local TCs can't solve. The ABWC can request NMFS assistance if needed. Tom Gray said that NOAA came to the ABWC years ago looking for input on an enforcement issue. He thinks it's smart for ABWC to step in and help to addresses any enforcement issues.

John Bengtson said that he cannot commit on behalf of NMFS to supporting an aerial survey every five years since funding is not guaranteed. He estimated that a survey costs about $350,000. Kathy replied that NMFS must support the science in order for the hunters to be able to manage their harvest. The agencies say they support co-management, but they want the ABWC to operate on the same budget it did 20 years ago.

Tom Gray and Robert Suydam suggested that ABWC should request more funding from Congress. Mike Miller said that IPCoMM, jointly with the USFWS and the ANOs, prepared a budget and met with congressional offices about funding for co-management. He suggested the ABWC could do the same for belugas.

Robert Suydam suggested adding a section, 9.2.3, about stock structure (genetics, TK, tagging, uncertainty of which stock Kuskokwim Delta belugas belong to) which he and Greg O'Corry-Crowe will work on. He also suggested adding a section, 9.2.4, about struck and lost, and harvest. Kathy asked how that section would be different from harvest reporting and sampling. Robert replied that it will make the section on beluga population trends complete.

Billy Adams said that he is not from the EBS, but this draft management plan looks good to him. Kathy said the plan has been sent to every EBS hunter on ABWC's list. She will send a revised version out to all of the hunters later.

Closing comments

Robert Suydam thought the workshop was productive, even it repeated material from last year. **John Bengtson** thought the meeting was productive. He appreciates the partnership with ABWC. **Robyn Angliss** said this was her first ABWC meeting and she thought it was productive. **Greg O'Corry-Crowe** noted that co-management is a lot of hard work.

Jennifer Hooper likes that the ABWC is proactive and talking about things before they are a problem. She liked taking the time to go through the plan line by line. **Megan Ferguson** thought asking the hard questions when everyone is there is good. **Barb Mahoney** said she appreciates that this is a long hard process.

Duncan Okitkun said he always learns from the other hunters and the scientists. He thinks the management plan is a good idea. **Ken Lee** said this was an eye-opening experience for him. He looks forward to teaching the young hunters how to have a sustainable harvest. **John Citta** thanked everyone of their hard work and knows there is more work to come. **Joe Akaran** thought this meeting was really good with everyone getting together and saying what they have to say. This is about the belugas.

Lori Quakenbush said she is looking forward to the village meetings about the management plan. **Albert Simon** said it is good to get hunters and scientists together. The only way we are going to learn is through teamwork. We teach other

and collaborate. This is the only way to go. It is always good to see different people and old friends. **Frank James** thanked everyone for their hard work. **Billy Adams** said he was honored to be at the workshop. It is important to iron out differences when everyone is together.

John Burns said this is the only meeting he attends. This is an unusual mix of people working together for a common cause. There is no dead wood here. This group is very integrated. This is a very good group and worth my time. **Elisabeth Kruger** observe the ABWC is a very different co-management group. It was humbling to be here. WWF hopes to support an acoustics study in the Yukon and perhaps help to incentivize sampling. **Mike Miller** said the discussion about co-management is a big topic. This ABWC workshop is the biggest group of Alaska Natives n the state talking about a single topic like this.

Marvin Okitkun appreciated the diversity of people in the group – it's good to have scientists and hunters together. **Kathy Frost** thanked everyone for their hard work to keep the EBS from ending up like Kotzebue Sound someday. The harvest reports are really important. **Tom Gray** said the line-by-line review of the management plan was hard work, but worth it. He hopes there is a time the plan is adopted. There are hurdles ahead to make this happen.

These minutes were prepared and submitted by Kathy Frost, ABWC Secretary with assistance from Kayla Scheimreif.

Community _____

Alaska Beluga Whale Committee

2023
Beluga Harvest Report

Reporter _____Phone_____Email_____

1) **TOTAL belugas harvested in your community in 2023, all seasons combined?** _____

   Number of whites?_____ Number of grays? _____ number unknown color?_____

   How many by boats? _____ How many in nets? _____ How many at the lead?____

   Do you know How many Males? _____ How many Females? _____

2) **SUNK: How many belugas were sunk and lost in 2023? This is important!** _____
   To make sure the harvest is at a safe level, we need to know how many total belugas were killed.

3) **WINTER:** Were any belugas harvested in winter (January-March)? How many?

4) **SPRING:** Number harvested in SPRING? _____ What months (circle) Apr May Jun
   _____ whites _____ grays _____ STRUCK & LOST
   _____ by boat _____ by netting _____ from the lead/ice edge ___ shallow water ___ deep water

5) **SUMMER:** Number harvested in summer?_____ What months (circle) Jul Aug
   _____ whites _____ grays _____ STRUCK & LOST
   _____ by boat _____ by netting _____ from shore___ shallow water ___ deep water

6) **FALL:** Number harvested in fall?_____ What months (circle) Sep Oct Nov
   _____ whites _____ grays _____ STRUCK & LOST
   _____ by boat _____ by netting _____ from shore ___ shallow water ___ deep water

7) **If no belugas were harvested this year, why not** (write a comment about why no hunting)

8) Were there unusual beluga deaths or belugas washed up on the beach?

9) Did anyone see **Killer Whales** this year? If so, when and how many?

10) If you looked in any stomachs, **what were the belugas eating this year?**

11) **Is there anything interesting or unusual to report about belugas this year**? Write a comment about this year's hunting (write more on back)

12) If you know **harvest information about another village**, please write it.

Please mail to Kathy Frost, Alaska Beluga Whale Committee, 73-4388 Paiaha Street, Kailua Kona, HI 96740
Phone (808) 987-0001. email kjfrost@hawaii.rr.com OR Bring to the ABWC meeting in November

Village _____ **YEAR** _____

Hunter names

1. _____
2. _____
3. _____
4. _____
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6. _____
7. _____
8. _____
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10. _____
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Eastern Bering Sea Harvest data

Harvest date for the eastern Bering Sea, 1988-2021, including landed harvest, belugas struck and lost, total landed + lost and percent harvest is of the estimated population. Data are from the Alaska Beluga Whale Committee (9-19-2022).

	1988	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
Harvest	309	223	212	246	103	202	158	118	160	143	152	139
S/L	n/a	n/a	n/a	n/a	n/a	n/a	8	6	18	32	42	25
Total							164	124	178	175	194	**164**
% Pop	>2.8	>2.0	>1.9	>2.2	>0.9	>1.8	1.5	1.1	1.6	1.6	1.7	1.5

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Harvest	211	292	263	147	173	224	166	231	119	170	174	190
S/L	24	35	21	8	9	18	7	28	7	6	8	24
Total	**235**	**327**	**284**	**151**	**182**	**242**	**173**	**259**	**126**	**176**	**182**	**214**
% Pop	**2.1**	2.9	2.6	1.4	1.6	2.2	1.6	2.3	1.1	1.6	1.6%	1.9%

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Harvest	184	213	236	191	176	183	188	213	245	230	218
S/L	12	5	17	14	14	14	25	19	14	15	**24**
Total	**196**	**218**	**253**	**205**	**190**	**197**	**213**	**232**	**259**	**245**	**242**
% Pop	1.8%	2.0%	2.3%	1.8%	1.7%	1.8%	1.9%	2.1%	2.3%	2.2%	2.2%

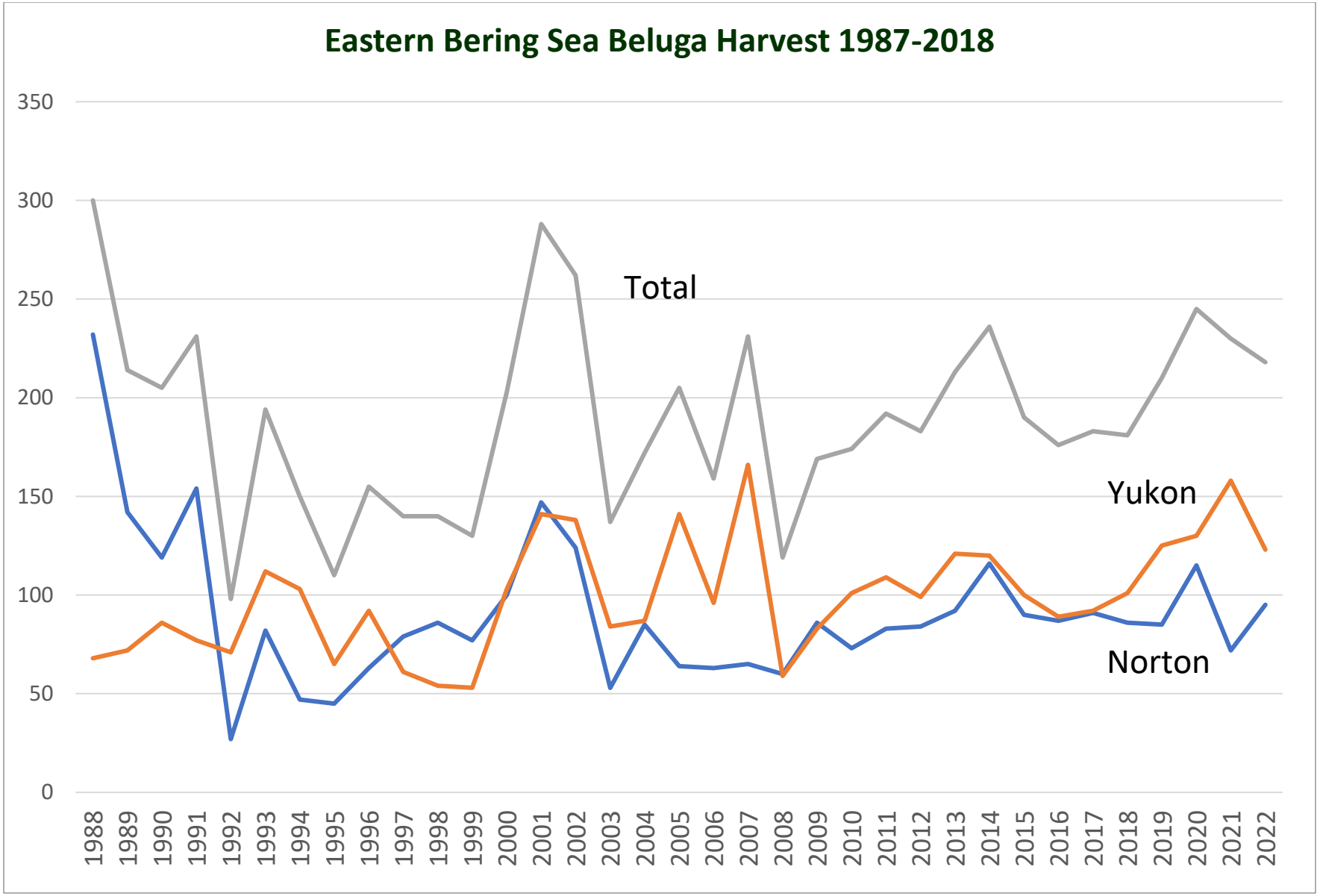
- The federal government uses a conservative number called nMin, which is 11,112. It is meant to account for uncertainly. This is the number that appears in the revised Stock Assessment Report (SAR) to calculate the sustainable take. **The take is considered sustainable if it is 2.4% or less.**

- The actual population estimate is 12,269 (from Megan Ferguson based on the reanalysis of aerial surveys conducted cooperatively with the ABWC in 2017). This number is already conservative because it did not extend as far south as belugas do, used a low correction factor, and did not correct for unseen newborn and yearling calves which are rarely seen at 1000 ft survey altitude.

- We know that struck and lost is underestimated, so the percentage is higher than the table shows.
-

BOTTOM LINE

Average harvest last 5 yrs has been 2.1% of the minimum population estimate


Eastern Bering Sea Beluga Harvest 1987-2018
350
300
250
200
150
100
50
0
Total
Yukon
Norton
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022

5. Reproduction and female harvest

Female belugas are old enough to have calves when they are about 9 years old.

They have a calf about every 3 years.

How the Harvest of Female Belugas Affects the Future

When females are shot, you lose the females PLUS their future calves and grand-calves, too. When males are shot, you just lose that male.

If a female beluga is shot, there will be about 16 fewer belugas 30 years later. She would have had 10 calves (6-7 would live more than 1 year). The female calves would have calves, too.

Number of future calves not born when one female is shot

	Daughters	Sons	Total
1st generation living more than 1 year (her own calves)	3	3	6
2nd generation (Grandkids)	4	4	8
3rd generation (Great grandkids)	1	1	2
Total calves	8	8	16

* This is conservative. It could be more.

If 5 female belugas are shot, there would be:

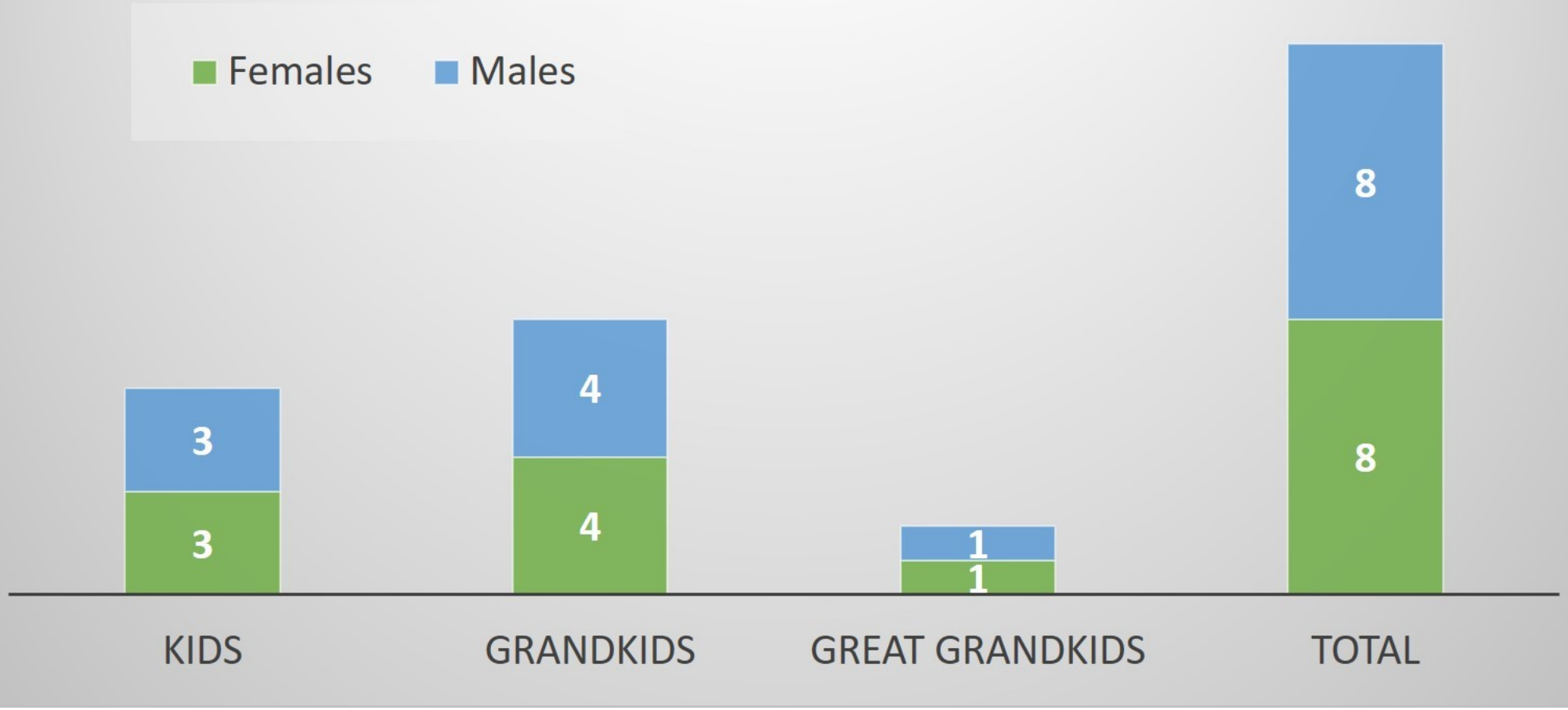
15 fewer belugas after 10 years

20 fewer belugas after 15 years

35 fewer belugas after 20 years

80 fewer belugas after 30 years

Effect of harvest of one female beluga - 16 less belugas 30 years later



Status of Beluga Stocks

Alaska	**4 of 7 OK**
Cook Inlet	Endangered
Kuskokwim	Very few left, no abundance data
Eastern Bering	OK but concern because harvest high
Kotzebue	Very few left, no abundance data
Bristol Bay	OK
Eastern Chukchi	OK
Eastern Beaufort	OK, shared with Canada
Canada	**4 of 10 OK**
Saint Lawrence	Reduced, no recovery (900)
Cumberland	Declining (1100)
E Hudson Bay	Reduced but may be increasing or stable (3800)
West Greenland	Reduced from original numbers (9,000)
SW Greenland	Extirpated
E High Arctic Baffin	OK (21,000)
Ungava Bay	Endangered (50)
W Hudson Bay	OK (50,000)
James Bay	OK (10,600)
Eastern Beaufort	OK (39,000)
Russia	Mostly unknown, little or no data on abundance
Barents-Kara-Laptev	Status unknown
White Sea	Status unknown (5,000)
Anadyr	Status unknown
Okhotsk Sea	Some areas reduced
Norway	
Svalbard	Unknown status, low populatioon (550)

How many belugas is it safe to harvest?

WHAT MAKES BELUGA NUMBERS GO UP OR DOWN?

- If more belugas are born than die, the population will go up
- If more belugas die than are born, the population will go down

WHAT MAKES BELUGAS DIE?

- Disease
- Predation
- Ice entrapments
- Hunting
- Getting caught in fishing nets

WHAT MAKES BELUGAS HAVE FEWER CALVES?

- Not enough food
- Disease
- Environmental contaminants
- Disturbance of important habitats
- Hunting, especially of adult females

WHAT IS SUSTAINABLE TAKE?

- This is the number of belugas that can be harvested without making the population decline over time. It includes harvested plus struck and lost.
- Sustainable take considers how many belugas are born each year and how many die from natural causes.
- If more belugas are born each year than die, then there can be a safe harvest.

HOW IS SUSTAINABLE TAKE CALCULATED?

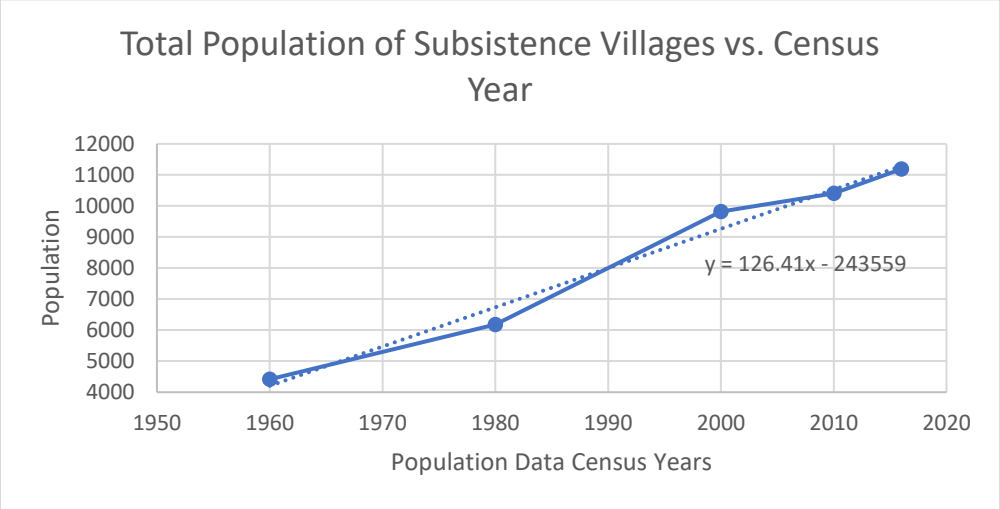
- Biologists estimate 2.4% of the abundance estimate is the safe harvest level.
- The conservative abundance estimate for EBS belugas based on 2017 surveys is 11,112.
- The average harvest over the last 5 years, plus struck and lost, is 229. This is 2.1% of the estimated abundance. It is in the safe zone, but getting near the top.

HOW CAN HUNTERS MAKE A DIFFERENCE?

- Harvest big white animals and avoid harvesting females with young.
- Reduce struck and lost as much as possible.
- Support a Beluga Management Plan for the eastern Bering Sea to make sure that beluga harvests stay sustainable.

Census data, 1960 – 2016 for communities that may or do harvest belugas of the eastern Bering Sea stock

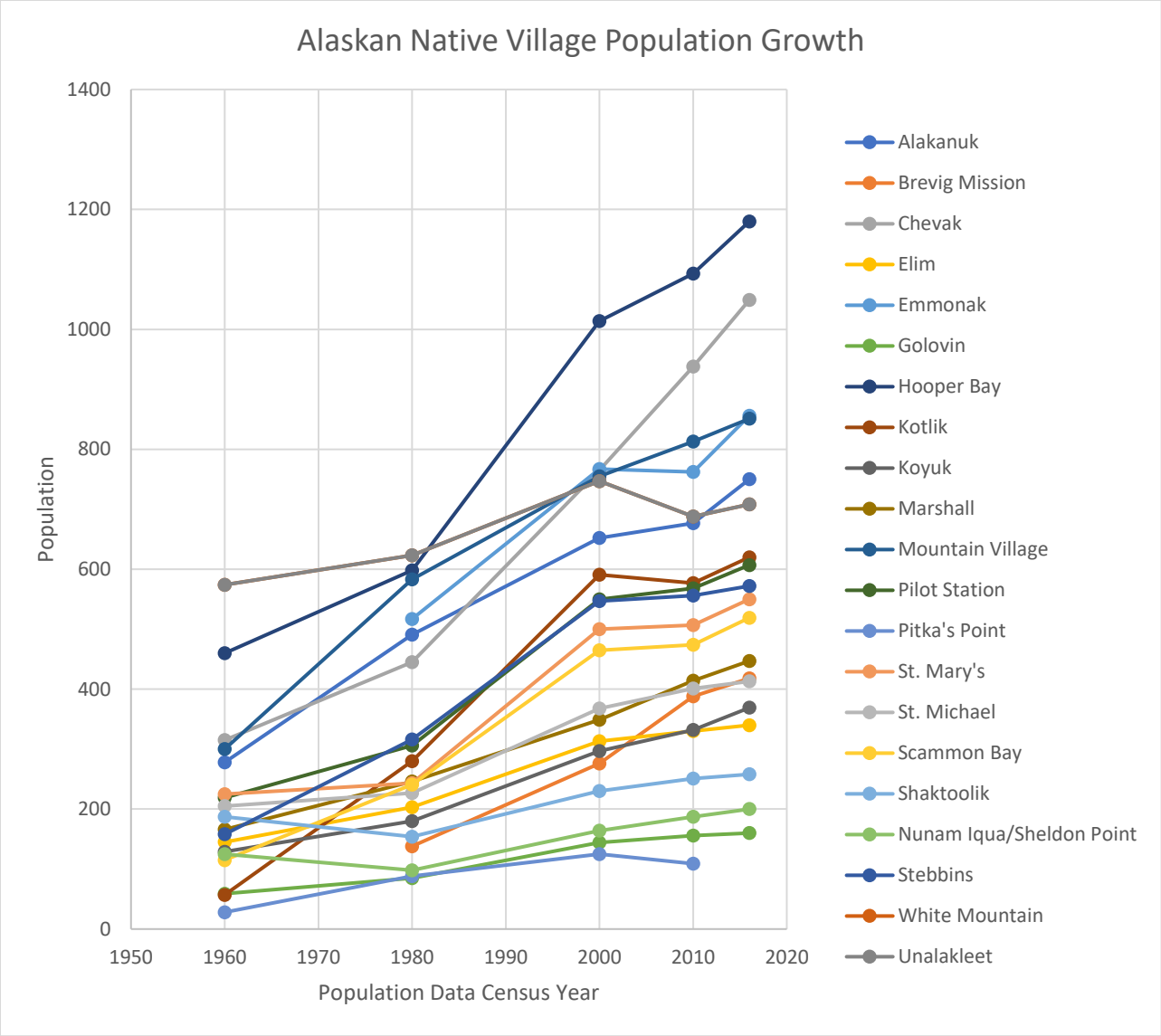
Community	Population/Year					
	1960	**1980**	**2000**	**2010**	**2016**	**2020**
Alakanuk	278	491	652	677	737	813
Brevig Mission	130	138	276	388	418	384
Chevak	315	445	765	938	1194	1037
Elim	145	203	313	330	340	341
Emmonak	390	517	767	762	808	855
Golovin	59	85	144	156	132	142
Hooper Bay	460	598	1014	1093	1180	1141
Kotlik	57	280	591	577	620	637
Koyuk	129	180	297	332	369	291
Marshall	166	246	349	414	447	261
Mountain Village	300	583	755	813	851	784
Pilot Station	219	306	550	568	607	573
Pitka's Point	28	88	125	109	117	155
Saint Mary's	225	243	500	507	550	747
Saint Michael	205	227	368	401	413	427
Scammon Bay	115	241	465	474	519	594
Shaktoolik	187	154	230	251	258	302
Sheldon Point/Nunam Iqua	125	98	164	187	200	158
Stebbins	158	316	547	556	572	615
Unalakleet	574	623	747	688	708	707
White Mountain	151	116	203	190	203	156
TOTAL/Census Year	4416	6178	9822	10411	11187	11120
Nome	2316	2301	3505	3598	3866	



Sources-

1) US – Census Bureau Statistics (various census years)
2) Alaska Places. Alaska Population Overview 2016, Chapter 4, laborstats.alaska.gov

Compiled by Ryan G. Rostad and John J. Burns



Compiled by Ryan G. Rostad and John J. Burns

Report – Eastern Bering Sea beluga meetings

Norton Sound

10-14 January 2023

Tom Gray and Lori Quakenbush participated in meetings with Norton Sound beluga hunters to provide hunters with information that showed:

1. Belugas hunted by Norton Sound and Yukon hunters belong to the same stock.
2. The population estimate of that stock is currently 11,112 belugas.
3. The harvest plus struck and loss averages 2.1% of the population.
4. The harvest is at the higher end of what is considered a sustainable level (i.e., 2.4%).

Tom passed out a draft Eastern Bering Sea Beluga Management Plan. They went over it at the meeting. A management plan developed, supported, and accepted by the hunters of the region will provide a framework for making sure that belugas are around for future generations.

Meetings were held in Nome, Unalakleet, St. Michael/Stebbins, and Elim. Few hunters attended except in Elim.

Nome (3)
Unalakleet (7)
St. Michael/Stebbins (5)
Elim (19)

It was quite evident that hunters have always thought that they hunt from multiple stocks that migrate by. It was a surprise that all Norton Sound and Yukon hunters hunt from a single stock. Some hunters accepted the idea right away, others were skeptical. Getting this word out more broadly will be important so that hunters understand the need for a management plan.

Yukon Delta

April 2023

Meetings were planned to discuss the status of Eastern Bering Sea beluga stock and the need for a management plan. They were scheduled for April 11 (Kotlik), 12 (Scammon Bay), and 14 (Hooper Bay) 2023. Lori Quakenbush (ADFG) and Marvin Okitkun (ABWC Vice Chairman from Kotlik) planned to lead the meetings. The meetings did not occur due to bad weather and volcanic activity.

Lori Quakenbush arrived in Bethel on April 10th and left for Kotlik on the 11th. She made it to Emmonak but had to wait there all day for weather (fog and low visibility) to improve to allow flights into Kotlik. The weather did not improve in Kotlik, and Lori returned to Bethel. Marvin Okitkun was going to fly from Kotlik to Bethel after the Kotlik meeting so they could get to Scammon Bay on April 12th. Travel was not possible due to weather.

Lori tried to fly to Scammon Bay, without Marvin, on April 12th and found that all flights were grounded due to a volcanic eruption in Russia, and the ash plume was forecast to pass over southwest Alaska. Anchorage also grounded flights.

Marvin and Lori tried to get to Hooper Bay for the meeting on April 14th. Marvin could not get to Hooper Bay from Kotlik and Albert Simon, who had been in Anchorage for a medical appointment, could not get to Hooper Bay either. Because no ABWC beluga hunter could be present to assist with the meeting, the Hooper Bay meeting was canceled and Lori returned to Fairbanks. Lori's role in these meetings is to present the biology while an ABWC hunter talks about the conservation concerns and the need for a management plan. Lori did not think it was appropriate to hold the meeting in Hooper Bay without an ABWC hunter present.

Lori reached out to the three village representatives in Kotlik, Scammon Bay and Hooper Bay to see if meetings could be held this summer. She was told that beluga hunters were busy in summer and even if meetings were held the turnout would be low.

Elim Beluga Hunters!

Come to a meeting about making a Beluga Plan for our Eastern Bering Sea belugas

"The subsistence harvesters are the ones interested in protecting the whales. We are the managers. We have to do the best for the whales." *Tom Gray, Alaska Beluga Whale Committee Chairman*

Wednesday 11 January 2023 Noon
City Building Basement

We will discuss belugas and the need for a Beluga Plan for Norton Sound and the Yukon

NOAA FISHERIES

Distribution and Estimated Abundance of Eastern Bering Sea Belugas from Aerial Line-Transect Surveys in 2017

M. C. Ferguson[1], A. A. Brower[1,2], A. L. Willoughby[1,2], and C. L. Sims[1,2]

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National Marine Fisheries Service
National Oceanic and Atmospheric Administration
7600 Sand Point Way NE
Seattle, WA 98115

[2]Cooperative Institute for Climate, Ocean, and Ecosystem Studies
University of Washington
Seattle, WA 98105

U.S. DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Fisheries Science Center

NOAA Technical Memorandum NOAA-TM-AFSC-471

July 2023

ABSTRACT

The Eastern Bering Sea (EBS) beluga (*Delphinapterus leucas*) stock inhabits the waters of Norton Sound and the Yukon River Delta, Alaska, during the ice-free period from spring sea ice breakup to autumn freeze-up. During June, July, and August, belugas aggregate near the Yukon River Delta, where they feed on seasonally abundant salmon (*Oncorhynchus* spp.). EBS belugas are an important nutritional and cultural resource to Alaska Natives, and are harvested by more than 20 communities in Norton Sound and the Yukon. To collect data for an updated abundance estimate for EBS belugas, aerial line-transect surveys were conducted in Norton Sound and off the Yukon River Delta from 16 through 29 June 2017. During the 14-day survey period, 16 survey flights were conducted on 12 days, covering more than 8,500 km of transect effort. Throughout the study area, 741 beluga groups totaling 1,897 belugas were sighted. Similar to previous aerial surveys, the highest densities of belugas extended approximately 25 km offshore along the Yukon River Delta to the west of Pastol Bay, broadening to approximately 120 km offshore northward to Unalakleet. The first step in estimating abundance was a geographically stratified, multiple covariates distance sampling analysis that examined the effects of group size, turbidity, Beaufort Sea State, and perpendicular sighting distance on detection probability. The resulting abundance estimate for the EBS beluga stock, prior to correcting for belugas within the observers' field of view but below the water's surface and unable to be detected (availability bias) and for belugas at the surface near the transect but not detected (transect detection probability), was 4,621 belugas (CV = 0.116; 95% CI [3,635-5,873]). We estimated the correction factor for availability bias to be 2.0 based on historical beluga surface and dive interval data and an estimate of the viewing time for a marine mammal observer during the 2017 aerial survey. Data were not collected during the 2017 aerial survey to estimate a transect

detection correction factor specific to the survey. Therefore, transect detection probability was estimated from imagery and marine mammal observer data collected during similar aerial line-transect surveys for marine mammals in the eastern Chukchi and western Beaufort seas during 2018 and 2019. To accommodate uncertainty in matching belugas detected in the imagery with belugas detected by the aerial marine mammal observers, a sensitivity analysis was conducted that considered three different assumptions critical to the matching process. The sensitivity analysis resulted in three estimates of transect detection probability ranging from 0.648 to 0.785, which produced three estimates of EBS beluga abundance (and associated uncertainty) in 2017 that ranged from 11,768 (CV = 0.117) to 14,243 (CV = 0.231) belugas. We used expert judgment to select a single best estimate of transect detection probability. Given the transect detection probability estimate that the experts believed to be most appropriate, the resulting abundance estimate for EBS belugas in 2017 was 12,269 belugas (CV = 0.118).

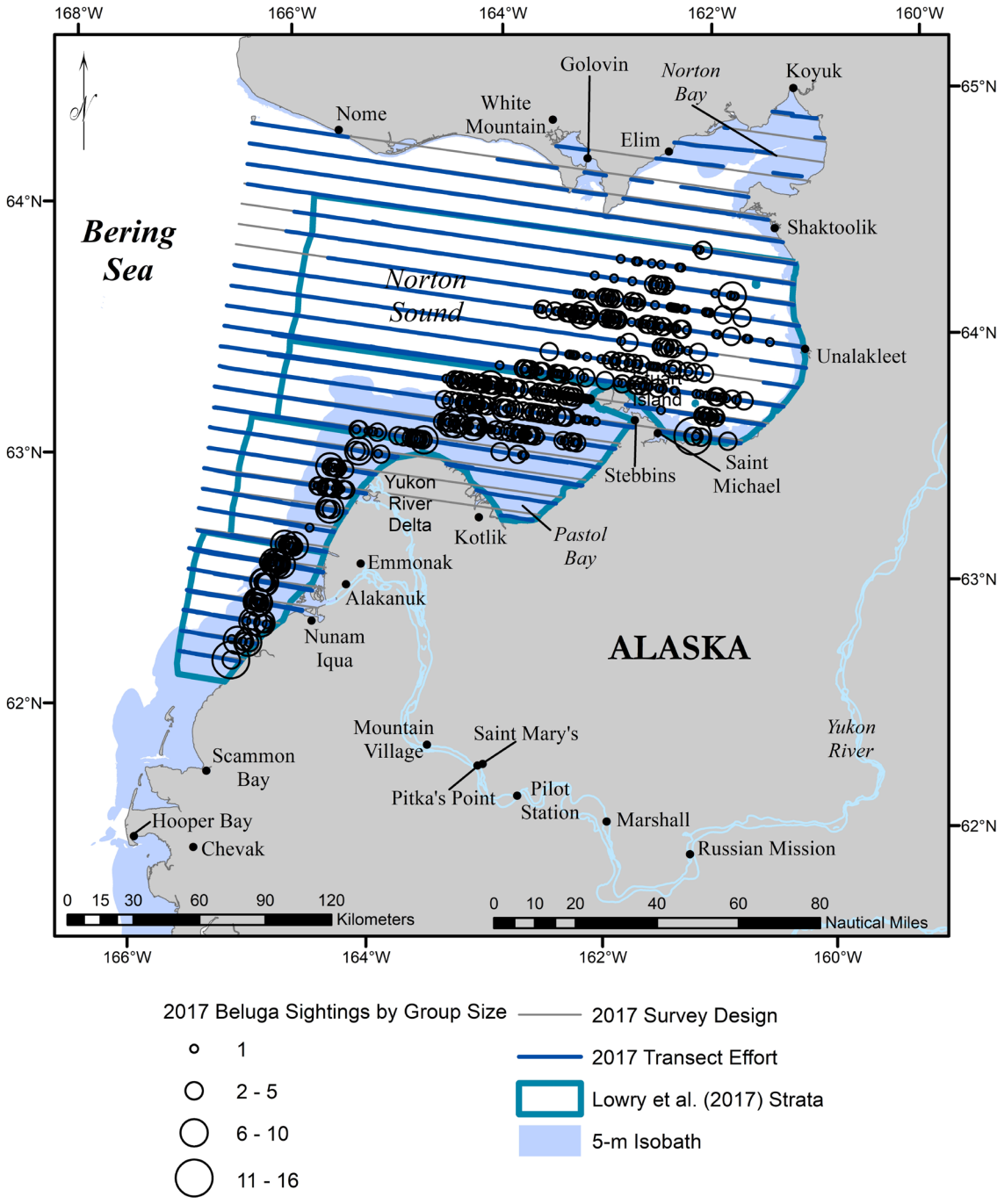


Figure 1. -- 2017 Eastern Bering Sea beluga aerial line-transect survey study area and survey design. Beluga sightings and transects flown during Beaufort Sea State ≤ 4 are shown. Waters shallower than 5 m are shaded, and the outlines of the geographic strata defined in Lowry et al. (2017) and used in the present analysis are shown in teal.

DRAFT

Eastern Bering Sea Beluga Management Plan

This draft plan for discussion. Anything in this draft can be changed, added or subtracted.

TABLE OF CONTENTS

1. MANAGEMENT OBJECTIVES & GUIDING PRINCIPLES

1.1 Management Objectives. The primary management objective of this Eastern Bering Sea Management Plan (hereafter called the Plan) is to promote the safe and sustainable harvest of Eastern Bering Sea (EBS) belugas, continuing benefit to subsistence users, and to ensure that the population stays healthy in numbers.

1.2 Guiding Principles. This Plan is based on our customary and traditional values. These values have guided Native people since time immemorial and they will continue to guide us in the future. The values that are important to this Plan include:

- Respect for others, for nature, and for elders
- Love for children
- Sharing
- Cooperation
- Conflict avoidance
- Hard work
- Hunter success

2. LEGAL FRAMEWORK AND AUTHORITIES

2.1 Legal Framework. This Management Plan is empowered by and consistent with the following:

- Tribal civil regulatory authority over members;
- The Marine Mammal Protection Act (MMPA);
- The Agreement Between the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) and the Alaska Beluga Whale Committee (ABWC) for Co-Management of the Western Alaska Beluga Whale Population;
- The Alaska Beluga Whale Committee Management Plan.

2.2 Authorities. Through this Plan, the Eastern Bering Sea Beluga Plan Team ("Plan Team", defined in Section 4), with assistance from the ABWC, will have management planning and decision-making authority about subsistence harvests from the EBS population of belugas.

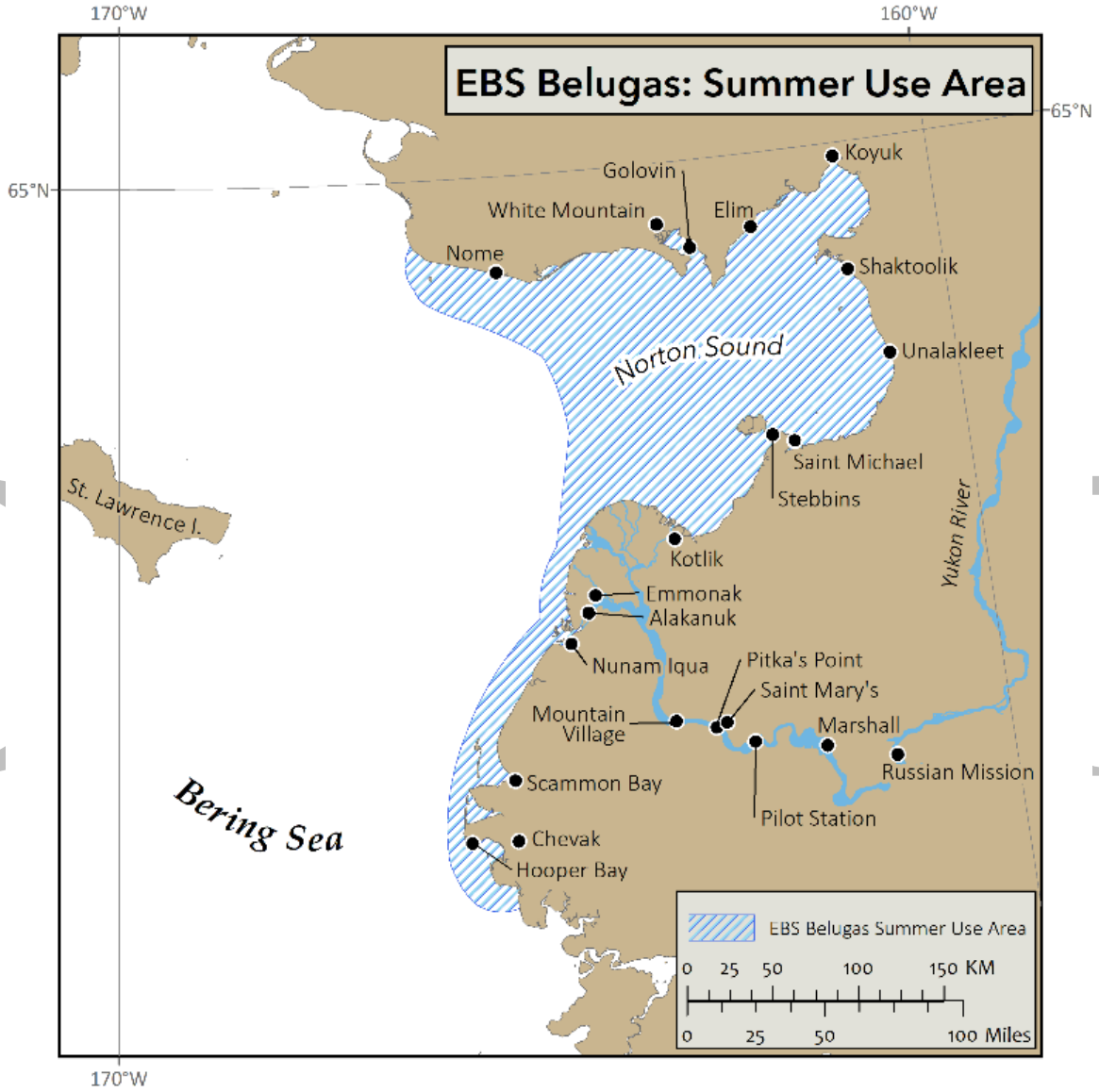
3. MANAGEMENT AREA AND ELIGIBILITY

- ***VALUE: Cooperation***, among the communities that hunt belugas and cooperation through the ABWC with NMFS.

3.1 Management Area. This plan includes the Tribal Councils in the region and those representing the following villages of Norton Sound and the Yukon River Delta. It includes the villages in the region that hunt from the EBS stock of belugas and the Tribal Councils that represent them. In Norton Sound that includes Brevig Mission, Elim, Golovin, Koyuk, Nome/Council, Saint Michael, Shaktoolik, Stebbins, Unalakleet and White Mountain. In the Yukon it includes Alakanuk, Chevak, Emmonak, Hooper Bay, Kotlik, Mountain Village, Marshall, Nunam Iqua, Saint Mary's, Scammon Bay, Pilot Station, Pitka's Point and Russian Mission. Villages in the Kuskokwim delta region will

be added to this Plan if genetics studies show the belugas they harvest are from the EBS stock.

3.2 Eligibility. In accordance with the MMPA, there are exemptions for Alaskan Natives that allow the harvest of EBS beluga whales for subsistence.



Twenty-two villages and communites in the eastern Bering Sea (Norton Sound and the Yukon Delta) that harvest belugas from the Eastern Bering Sea stock.

4. THE PLAN TEAM

VALUE: Conflict avoidance, by creating a mechanism for revising the Plan to address problems and find solutions.

VALUE: Hard work, recognizing the effort that work like this requires. This is not easy.

4.1 The Plan Team will consist of the tribally appointed ABWC delegates from Norton Sound and the Yukon Delta, as well as regional delegates from Kawerak, Inc., the

Association of Village Council Presidents (AVCP), and others as determined by the tribal councils of beluga harvesting communities and the ABWC.

4.2 The Plan Team will annually review information about the EBS beluga harvest, abundance of the EBS stock, changes in abundance, recent EBS beluga studies, and other factors affecting EBS beluga whales.

4.3 The Plan Team will communicate with each Tribal Council annually about the status of the EBS belugas, harvest, and recent studies.

4.4 The Plan Team will strive for consensus, but will make the best possible decision at the time.

5. HARVEST MANAGEMENT

- ***VALUE: Respect for others, for nature, and for elders***, by treating the whole EBS beluga stock with respect, in addition to respect for individual animals, individual hunters, and individual communities.
- ***VALUE: Sharing***, among communities and also with future generations by making sure they have a sustainable beluga population and belugas can continue to be part of their subsistence life.

5.1 Safe Harvest Level. A safe harvest level is implemented by this Plan to ensure that the EBS beluga whale population remains healthy and subsistence practices are sustainable. The estimated safe harvest level is 2.4% of the best and most recent population abundance estimate. (In 2022, this is **266** based on the current 2017 abundance estimate of **11,112**.) The following processes will aim to keep removals of beluga whales from the EBS population within the safe harvest level. For the purposes of this section, removals of beluga whales from the EBS population include subsistence harvest and struck and lost whales. The Plan Team will strive for consensus, but will make the best possible decisions at the time.

5.1.1 Harvest Monitoring. On an annual basis, the Plan Team will evaluate the combined numbers of harvested and struck and lost beluga whales from the communities that harvest EBS belugas. The harvest and struck and lost information will be provided to the Plan Team through the process described in Section 7 of this Plan: Harvest Reporting and Sampling. The Plan Team will also evaluate trends in overall population abundance levels for the EBS beluga whale population.

5.1.2 Classification of Harvest Level. Based on the evaluation described in Section 5.1.1, on a regular basis the Plan Team will classify the harvest level into one of the following categories:

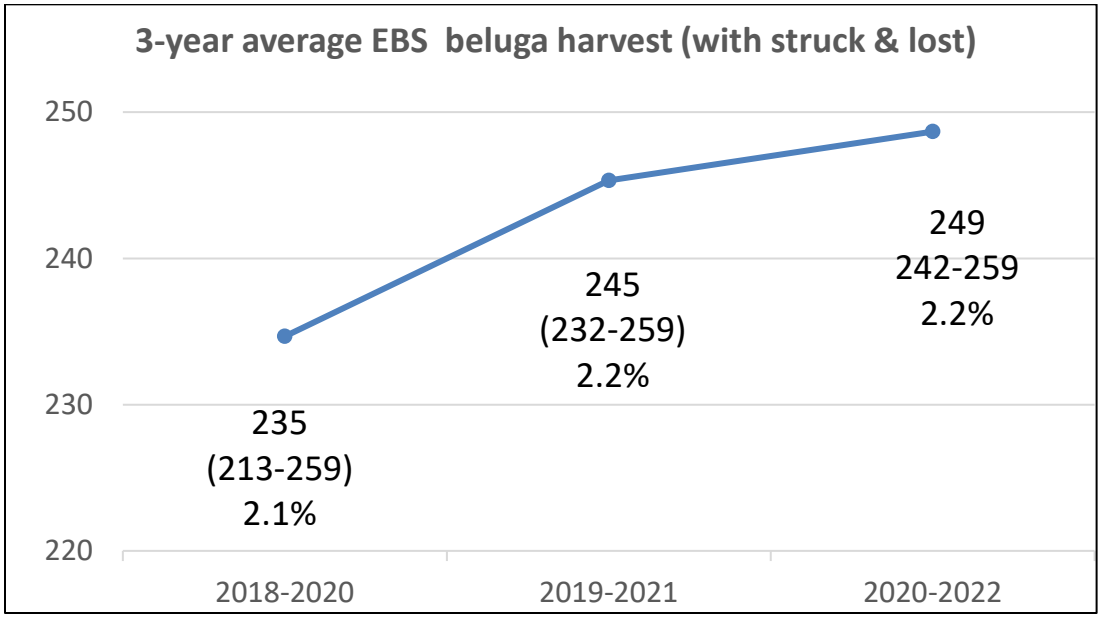
GREEN **Harvest level is sustainable and at a safe level.** If the average level of harvested plus struck and lost belugas over the previous three years is no more than 2.4% of the population abundance (**266**, based on abundance of 11,112) for all EBS villages combined, harvest can continue as normal. This assumes that the abundance estimate is reliable and obtained within the previous five years, and depends on scientists and agencies being able to fund and conduct regular surveys.

YELLOW **Harvest level may not be sustainable, caution is needed.** If the average harvest plus struck and lost over the previous three years is greater than 2.4% (**266** based on abundance of 11,112) OR if the abundance estimate for the population declines by 15% to 9,400 or less, protective actions will be put in place.

- If the harvest level is classified as YELLOW, the Plan Team, working closely with the ABWC and communities within Norton Sound and the Yukon Delta, will implement actions to reduce harvested plus struck and lost belugas to no more than 2.4 % of the estimated abundance (**266** per year). For example, this could include limiting the number of belugas that could be harvested by each village. The Plan Team and ABWC will also discuss and recommend additional scientific studies that may be needed, including more frequent population abundance surveys.

RED **Harvest level is unsafe and not sustainable.** If the average harvest plus struck and lost over the previous three years is greater than 3% (333) of the latest estimated abundance OR if the abundance estimate for the population declines by 30% since the previous estimate to 7,800 or less, then harvest restrictions will be put in place. This could include limiting the number of belugas that could be harvested by each village.

- Future decisions will be based on the best and most recent abundance estimates.
- If the harvest level is classified as RED, the Plan Team, ABWC, and NMFS will work jointly to address the low population abundance. The frequency of abundance surveys should be increased to every 3-4 years to more closely monitor the population and how it recovers.



Rolling 3-year average beluga harvest data, including reported struck and lost, range, and percent of population harvested for the eastern Bering Sea, 2018-2022.

6. HARVEST GUIDELINES

- ***VALUE: Hunter success***, by following good practices for safety and successful, non-wasteful harvests
- ***VALUE: Sharing***, within and among communities and also with future generations
- ***VALUE: Hard work***, reflecting what it takes to provide for your family and community

Hunters are encouraged to use the following guidelines to ensure that subsistence harvests of beluga whales are conducted in a safe, respectful, and sustainable manner.

6.1 Hunting Guidelines.

6.1.1 Abide by local hunting traditions and practices. Each community should develop its own guidelines about the best methods for harvesting belugas, including recommended equipment. This can ensure the safety of the hunters, prevent wasteful take, and reduce the number of belugas struck and lost.

6.1.2 Reducing the harvest of large females and females with calves helps to minimize population impacts.

6.1.3 As much as possible, reduce the number of belugas that are struck and lost (shot but not landed) to maximize the number that can be landed.

6.1.4 Captains should ensure that adequate hunting equipment (e.g., harpoons, hooks, and markers) is ready and available in boats to reduce the number of belugas struck and lost. Each community should determine what is appropriate for their hunters.

6.1.5 Encourage hunters to abide by and support this Plan, including participation in harvest reporting and monitoring.

6.2 Use of Belugas.

6.2.1 Hunters should only harvest what they can use and ensure that belugas are used as fully as possible.

6.2.2 Harvesting shall not be conducted in a wasteful manner, in order to comply with customary and traditional Alaska Native values, the MMPA, and the ABWC Management Plan (See 15.2 Definitions).

6.2.3 In accordance with the ABWC Management Plan, the commercial sale of beluga meat or muktuk/muktaak/mungtak is prohibited. The ABWC Management Plan states: “Priority use shall be local consumption which includes traditional and customary use. This includes sharing, bartering, and customary trade of beluga products with other Alaska Natives that are non-commercial in nature.

7. HARVEST REPORTING & SAMPLING

- ***VALUE: Cooperation***, by working with scientists and managers to get the best information
- ***VALUE: Sharing***, by sharing what we know and what we can learn from the belugas

7.1 Reporting. To ensure that management decisions are made with correct and recent information, hunters must report their subsistence harvests, and any instances of struck and lost beluga whales, in the following process:

7.1.1 To report harvests and/or struck and lost beluga whales, hunters should notify their local ABWC representative, or their Tribal Council. The ABWC delegate or the Tribal Council should report the number of whales their community harvested and/or struck and lost to the ABWC before or during its annual meeting meeting each year. Contact information for local representatives and the ABWC is listed in Appendix I of this Plan.

7.1.2 The harvest report should include information on: harvest numbers and struck and loss and, as possible, color, sex, area hunted, equipment used (rifle or net), and season. An example harvest reporting form is included in Appendix II of this Plan.

7.1.3 Each year, the ABWC will send an annual harvest report back to each community so that communities know their total reported annual harvests and 3-year average harvests, as well as overall EBS beluga population and harvest numbers.

7.2 Sampling. Collection of samples and other information by hunters can help managers to better understand belugas and their habitat requirements. To assist with this effort, hunters are encouraged to collect the following samples and others as requested such as teeth and reproductive tracts.

7.2.1 Skin. A small sample of skin should be collected from every harvested beluga, if possible, for genetics studies. Hunters can provide the samples to their local ABWC representatives or Tribal Council for shipment, or mail them directly to Lori Quakenbush at the Alaska Department of Fish & Game (ADF&G). The ABWC will make vials with preservative solutions and labels for shipping available to Tribal Councils or ABWC delegatesSamples can be frozen until vials are received. Contact Lori Quakenbush for payment of shipping costs.

Lori Quakenbush, ADF&G Wildlife
1300 College Rd**.,** Fairbanks, AK 99701
(907)-459-7214 lori.quakenbush@alaska.gov

7.2.2 Stomach. When possible, hunters should collect stomachs from harvested belugas to learn more about beluga diets. Stomachs should be frozen and shipped freight collect to Lori Quakenbush at ADF&G. Stomachs can be packaged in trash bags placed inside a bucket or tote for shipment via air cargo. To make arrangements to ship out stomachs, contact Lori Quakenbush.

7.2.3 Other. When possible, it is also desirable for hunters to collect teeth and the ovaries from females to learn about age at first reproduction and how many calves females have.

8. VIOLATIONS & ENFORCEMENT (To Be Developed)

- ***VALUE: Conflict avoidance***, by creating a mechanism for addressing problems

9. RESEARCH & POPULATION TRENDS

- ***VALUE: Cooperation***, by working with scientists and managers to get the best information
- ***VALUE: Sharing***, by sharing what we know and what we learn from the belugas

9.1 Research. Traditional Knowledge and scientific information necessary to manage and conserve beluga whales should be documented on an ongoing basis. To ensure that this happens, the following priorities and practices are encouraged under this Plan.

9.1.1 Hunters, ABWC, communities and scientists should cooperate and communicate as much as possible. Combining Traditional Knowledge and science produces the most reliable information about belugas.

9.1.2 As much as possible, biological information and local observations should be collected and documented to inform management.

9.1.3 The Plan Team, ABWC, and NMFS will request regular abundance surveys of EBS belugas, preferably at a minimum of every 5 years, and more often (every 3-4 years) if the population declines. This is needed to estimate safe harvest levels.

9.1.4 Collection of information about calving and molting areas for EBS belugas is encouraged. This should involve both Traditional Knowledge and science.

9.1.5 Satellite tagging of belugas is encouraged to improve understanding of the presence, timing, and migration of EBS belugas, and to improve understanding of the impacts of climate change and/or direct human activities. As possible, hunter-tagger training should occur so that tagging can be done by local people.

9.1.6 Research and collection of information should be done with the involvement of local people whenever possible.

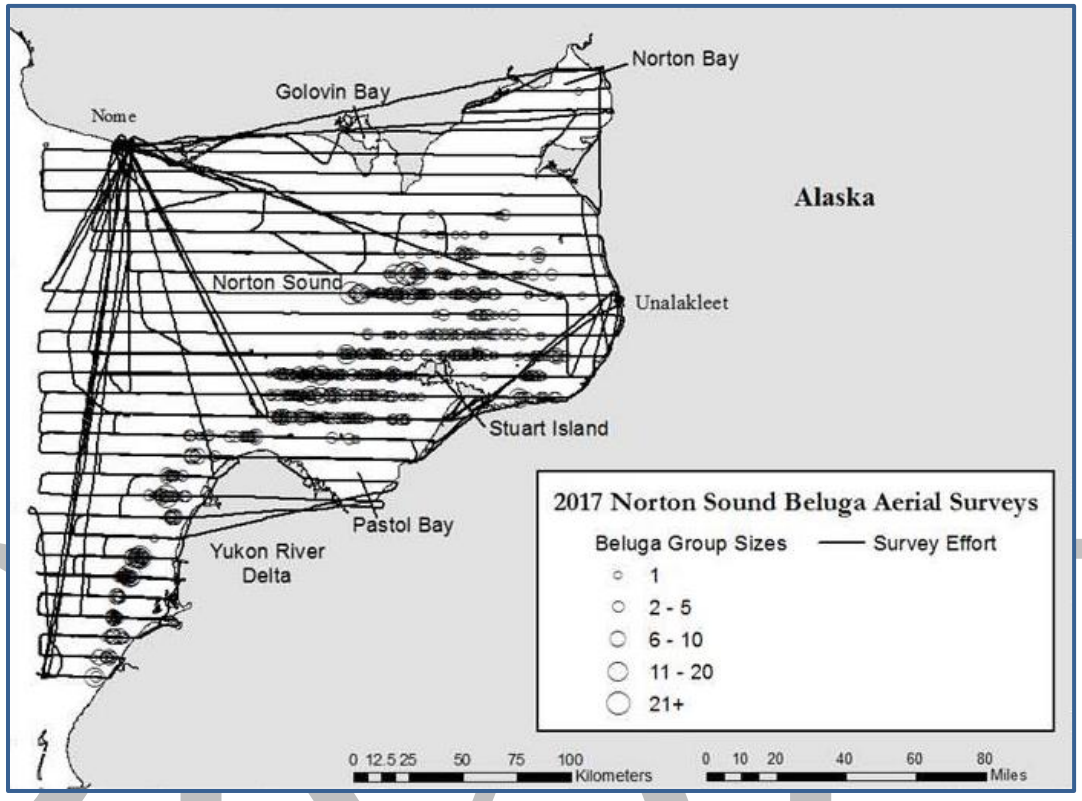
9.2 Population Trends and Stock Structure. Management of the EBS beluga population should take into consideration trends of both beluga whale population numbers and subsistence harvest levels, in order to ensure the hunt remains sustainable. This includes examining trends or changes in beluga abundance estimates, subsistence harvest levels and stock structure along with trends in human population levels in EBS communities. Trends in human population levels influence subsistence needs and may affect the management actions needed to ensure subsistence needs can be sustainably met.

9.2.1 Beluga Population. The best and most recent abundance estimate for EBS belugas is from aerial surveys conducted by NMFS in June 2017. The final minimum population estimate is 11,112 belugas.

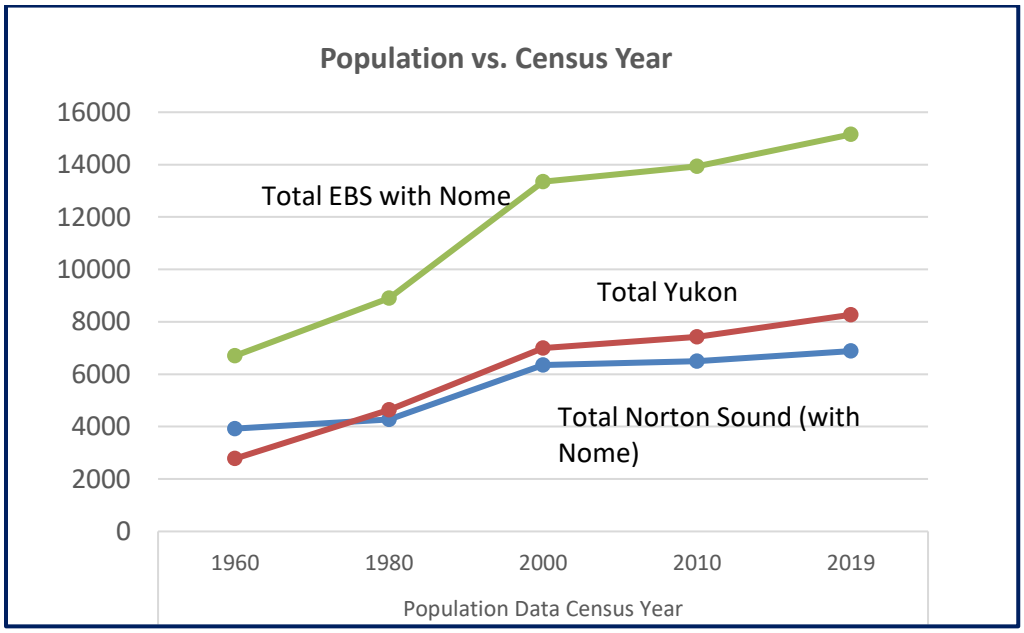
9.2.2 Human Population. The number of people who live in the EBS beluga subsistence villages has grown steadily. From 1960-2019, the number of people living in the 21 Norton Sound and Yukon villages (including Nome) more than doubled, from 6,704 in 1960 to 15,153 in 2019.

9.2.3 Stock Structure. Belugas in Norton Sound and the Yukon belong to the Eastern Bering Sea stock. This is based on information collected by the ABWC hunters and scientists about genetics and movements. Because climate change affects ice conditions and prey availability for belugas, it is important to continue to monitor stock structure by collecting and analyzing samples from harvested belugas (see Section 7.2). Additional information from tagging, Traditional Knowledge, diet and other data would also be useful for monitoring stock structure.

9.2.4 Harvest and struck and lost. Monitoring of the number of harvested and struck and lost belugas is needed to assess whether the harvest of EBS belugas is sustainable. See Section 7.1.



Survey lines and beluga sightings during abundance surveys for Eastern Bering Sea belugas in June 2017.



Human population of Eastern Bering Sea beluga villages that hunt belugas, US census data 1960-2019.

10. CONSERVATION

- ***VALUE: Sharing***, with future generations by sustaining the beluga population
- ***VALUE: Respect for others, for nature, and for elders***, by taking care of the belugas in all ways possible

In order to maintain a healthy beluga whale population for subsistence use and enjoyment by future generations, the Plan Team, in partnership with ABWC, will conduct the following conservation actions.

10.1 Protect Important Habitat. Identify and support the protection of areas that are important for beluga calving, feeding, migration, or other biological processes, as appropriate and agreed to by adjacent communities.

10.2 Reduce Industry Impacts. Identify industrial and commercial activities that may adversely affect beluga whales and the ability of subsistence users to hunt belugas. Make recommendations about how to reduce industrial and commercial impacts on belugas and beluga subsistence hunting.

11. EDUCATION & COMMUNICATION

- ***VALUE: Love for children***, by involving youth and others in hunting, research, management, and all aspects of caring for belugas and community
- ***VALUE: Respect for others***, by making sure hunters and communities have the information they need to take care of belugas for now and in the future

11.1 Education. To ensure the success of this Plan and beluga management overall, the following education strategies are encouraged.

11.1.1 Educate youth and others about beluga harvesting, management, and science.

11.1.2 As much as possible, youth and young adults should learn from elders and other hunters about belugas, traditional hunting rules, and good harvesting practices. To encourage this type of education, elders and older hunters should bring youth on beluga hunts to pass on knowledge about traditional hunting areas and practices.

11.1.3 Promote hunter education to improve harvest methods and reporting.

11.1.4 Involve youth in beluga planning and meetings, including ABWC meetings, collection of beluga samples, and other related beluga and marine research.

11.2 Communication. To ensure the success of this Plan and beluga management overall, the following communication strategies are encouraged.

11.2.1 EBS area beluga hunters and communities should talk regularly, or communicate in other ways, to keep up to date on harvest levels, new information about belugas, and efforts to satellite tag belugas. Communication is the key to successful management.

11.2.2 The use of technology (e.g., Facebook, cell phones, apps) is encouraged to help with communication about beluga conservation and management.

12. PLAN REVIEW & AMENDMENT

- ***VALUE: Cooperation***, among the communities and through the ABWC with NMFS
- ***VALUE: Conflict avoidance***, by creating a mechanism for revising the plan to address problems

12.1 Review. This Plan will be reviewed by the Plan Team every 5 years to ensure that it continues to serve the management objectives.

12.2 Amendment. This Plan is a living document, and can be amended at any time. The process for amending this Plan shall be:

12.2.1 Tribal Councils signatory to this Plan shall pass resolutions authorizing amendments to this Plan;

12.2.2 Amendments will be in effect upon receipt of signatures from two thirds (2/3) of the certifying Parties listed under Section 13 of this Plan.

13. CERTIFICATION

- ***VALUE: Cooperation,*** among beluga hunting communities in Norton Sound and the Yukon communities and with the ABWC

This Eastern Bering Sea Beluga Management Plan shall be in effect after ratification by two thirds (2/3) of the Tribal Councils of the communities listed in section 3.1 of this Plan: Management Area.

We do hereby certify that this Eastern Bering Sea Beluga Management Plan was adopted at a duly convened meeting of the Eastern Bering Sea Beluga Plan Team on (DATE) by the authorized Tribal representatives listed under Signatories.

14. SIGNATORIES

The Parties hereto have executed this Agreement as of the last written date below:

Tom Gray, Chairman Date	Kathryn Frost, Secretary Date
Alaska Beluga Whale Committee	Alaska Beluga Whale Committee

APPENDIX I: Contact Information

Alaska Beluga Whale Committee

Tom Gray, Chairman: Cell phone (907) 304-2003 tom@akadventure.com
Marvin Okitkun, Vice Chairman: Cell phone (907) 899-2233 marvinokitkun@yahoo.com
Kathy Frost, Secretary: Cell phone (808) 987-0001 kjfrost@hawaii.rr.com
Billy Adams, Member-at-Large: Office phone (907) 852-0350 billy.adams@north-slope.org
Cyrus Harris, Member-at-Large: Cell phone (907) 350-7835 charris@maniilaq.org

Local ABWC Representatives (as of 2021)

Norton Sound			
Elim	Morris Nakarak Sr.	880-5109	mnakarak2018@gmail.com
Golovin	no delegate		
Koyuk	Archie Ervin	310-9836	kka_baller_12@hotmail.com
Nome/Council	Tom Gray	304-2003	tom@akadventure.com
Saint Michael	Joseph Akaran	933-0110	rockskipper95@gmail.com
Shaktoolik	Raymond Hunt	956-1140	raymond_hunt_2010@hotmail.com
Stebbins	Cylas Okitkun	899-2042	okitkuncylas@gmail.com
Unalakleet	Jacob Ivanoff	625-1435	environment@unkira.org
White Mountain	no delegate		
Yukon Delta			
AVCP	Jennifer Hooper	545-1329	jhooper@avcp.org
Alakanuk	Kenneth Lee	238-2103	alaskangrown35@gmail.com
Chevak	no delegate		
Emmonak	Brandon Kameroff	949-6641	Brandonkameroff@gmail.com
Hooper Bay	Albert Simon	758-2355	albertsimon380@gmail.com
Kotlik	John Tunuchuk	899-2078	johntonuchuk@gmail.com
Mountain Village	Kevin Thompson	591-6962	kevint17@yahoo.com
Marshall	no delegate		
Nunam Iqua	Edward Adams, Sr.	498-2001	edadamssr53@gmail.com
Pilot Station	Rex Nick	549-2112	rexjnick@hotmail.com
Pitka's Point	Micah Sergie	438-6008	m.sergie23@gmail.com
Russian Mission	no delegate		
Saint Mary's	Duncan Okitkun	438-6500	duncanokitkun@gmail.com
Scammon Bay	Wybon Rivers	536-2073	ybunn_ar_2006@yahoo.com

APPENDIX II: Definitions

From the Marine Mammal Protection Act

Eligibility. Except as otherwise provided in part 403 of this title, any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean may take any marine mammal without a permit, subject to the restrictions contained in this section, if such taking is: (1) For subsistence purposes, or (2) For purposes of creating and selling authentic native articles of handicraft and clothing, and (3) In each case, not accomplished in a wasteful manner. **(**50 CFR § 18.23)

Wasteful manner. "*Wasteful manner*" means any taking or method of taking which is likely to result in the killing of marine mammals beyond those needed for subsistence, subsistence uses, or for the making of authentic native articles of handicrafts and clothing, or which results in the waste of a substantial portion of the marine mammal and includes, without limitation, the employment of a method of taking which is not likely to assure the capture or killing of a marine mammal, or which is not immediately followed by a reasonable effort to retrieve the marine mammal." (50 C.F.R. § 216.3)