

Authored by Andy Von Duyke during the meeting and from the Zoom recording.



## 2021 ANNUAL MEETING AGENDA

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**1. Ice Seal Committee - Board Meeting (Day 1)**  
February 4, 2021                      1:30 to 5:30 pm

**1:30 – 1:45 pm**

1. Call to Order Billy Adams, ISC Chair  
1:36pm
2. Invocation  
By Cyrus Harris
3. Roll Call *Quorum for ISC Board Meeting = 7 members*

Ice Seal Committee		PRESENT	ABSENT
Bristol Bay Native Association	Sam Gosuk	X	
	Heidi Kritz	X	
Association of Village Council Presidents	Jennifer Hooper	X	
	Albert Simon	X <sup>1</sup>	
Kawerak, Inc.	Brandon Ahmasuk	X	
	Benjamin Payenna	X	
Maniilaq Association	Cyrus Harris	X	
	Emerson Moto	X	
North Slope Borough	Billy Adams	X	
	Joe Mello Leavitt	X	
<b>Total</b>		<b>9</b>	

**1:45 – 3:00 pm**

4. Meeting logistics Andy Von Duyke  
Done
5. Introductions
  - Jon Kurland – NMFS
  - Lori Quakenbush – ADFG
  - Colleen Reichmuth – UCSC/ASLC
  - Carrie Goertz – ASLC
  - Peter Boveng – NOAA Fisheries MML
  - Elisabeth Kruger – WWF
  - Michael Cameron – NOAA Fisheries MML
  - Olive Kanayurak – NSB
  - Carla Sims Kayotuk – NSB

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<sup>1</sup> Albert had some difficulties connecting to the meeting, but was eventually able to take part.

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30 Kayla Scheimreif – NSB  
31 Justin Olnes – ADFG  
32 Mayor Harry Brower – NSB  
33 Barbara Mahoney – NOAA Fisheries  
34 Michael Tuzroyluk  
35

- 36 6. Welcome Remarks Billy Adams & Jon Kurland  
37 Billy Adams - happy to have good ice.  
38 Jon Kurland – good to be here.  
39 Mayor Harry Brower – acknowledged the importance of wildlife resources.  
40  
41 7. Vote on new member Heidi Kritz (representing BBNA)  
42 The current committee members voted in Heidi Kritz.  
43 Joe Leavitt moved to approve Heidi’s membership. Second by Cyrus.  
44 Unanimously approved by the committee.  
45 Heidi excited and happy to participate.  
46  
47 8. Approve agenda  
48 Joe Leavitt moved to approve agenda. Second by Cyrus.  
49 Unanimously approved by the committee.  
50  
51 9. Approve FY2019-2020 Ice Seal Committee board meeting minutes  
52 Andy stated that he would take notes, but would also appreciate an email as a backup  
53 for the sake of accuracy.  
54 Joe Leavitt moved to approve minutes. Second by Heidi.  
55 Unanimously approved by the committee.  
56

57 **3:00 – 5:30 pm**

- 58 10. Chairman’s report Billy Adams  
59 Pandemic prevented travel to meetings. Discussions and communication are  
60 improving. Welcome to Heidi as new member of the ISC. Ice conditions and seal  
61 harvest have been good since November. Some storms, but east winds did not take  
62 ice away due to good ice ridges (qisuks – “anchors”). Very little west wind so far.  
63 Seals are very healthy. About 40 seals harvested since November for Utqiagvik. The  
64 other day Billy harvested a smaller female with a fetus. Billy was surprised at the  
65 young age of breeding. Lori Q can comment on breeding age. Male seals are in the  
66 rut now, so hunters are more picky. Even bearded seals. Also heard bowheads using  
67 a hydrophone in January. Polar bears are up north and hanging out at point.  
68 Ecosystem seems to be working good. Wainwright and Point Hope are doing well.  
69 Only 1 bearded seal harvested so far in Utqiagvik. Lots of seals are around. There  
70 are lots of Black Guillemots over wintering here due to open water.  
71 Difficult to get a tooth from harvested seal because they are shot in the head. Also,  
72 the head is typically removed to share with polar bears out on the ice.  
73  
74

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75 11. Regional and Hunter Representative Reports  
76 a. Association of Village Council Presidents

77  
78 Jennifer Hooper:

79 Since last meeting, covid shut stuff down. So many communities 56 tribes and 48  
80 communities. Lots of people and lots of uncertainty and fear of covid. Concerns  
81 about sport fishing and guided hunts, research project crews, local telephone  
82 company were all of concern for covid transmission. AVCP has had the highest  
83 covid positive rates in the state and sometimes the nation. AVCP was on remote  
84 work mandate. Still on it till at least March of 2021. 2020 weather was good,  
85 “normal”, more snow, later break up. Summer 2020 was a bit on the cool side.  
86 Fall went longer with a later freeze up. Gnats (no see ums) were active into  
87 October. Kuskokwim and Yukon records had very poor salmon returns. Winter  
88 was late, setting in mid-November, but warmed up around Christmas (40s and  
89 rain). Now it’s been a bit more normal. No reports of issues with hunting or the  
90 conditions of the animals. Gets info from social media and word of mouth for  
91 concerns, questions, issues. Saw lots of trade/barter requests. No hot water and  
92 fish die offs. Things weather-wise and activity-wise seemed to be more closely  
93 aligned with average. Current winter status is pretty average. Cooling down now,  
94 have also had decent snowfall.

95  
96 b. Bristol Bay Native Association

97  
98 Heidi Kritz:

99 Covid was disruptive and much activity was paused. Have been working with  
100 ADFG subsistence division to coordinate on Iliamna seals, marine seals, belugas.  
101 Heidi received training for surveys. Plan to start the surveys in March.  
102 A “good” winter according to elders in the region. Snow in the region is good.

103  
104 Sam Gosuk:

105 Sam presented a written report in advance. He read his written report. Herring is  
106 important. He has concerns about the seiners and their effect upon herring  
107 abundance and subsequent effect on seal presence. No herring are spawning  
108 where they used to spawn. This is correlated with decline in seal and sea lion  
109 presence.

110  
111 Billy Adams: Asked about a previous request for a hydrophone survey of seals in  
112 the area. What ever happened with this?

113  
114 Andy Von Duyke: Reminded ISC that Michelle Fournet had done bearded seal  
115 acoustic work and would like to continue with work in Alaska.

116  
117 Cyrus Harris: Asked about seiners...are they locals or from outside? If outsiders,  
118 then this is concerning and we need to be careful of overharvest and its effect on  
119 the food chain.

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120 Sam Gosuk: Responded that the seiners are from “outside”. Also processing  
121 ships are present in the area for a long time. He was wondering whether seiners  
122 are using herring for bait.  
123

124 c. Kawerak, Inc.  
125

126 Brandon Ahmasuk:  
127 Pandemic was a challenge but people still went out to hunt. He did not hear that  
128 anybody couldn’t get out due to the pandemic. Biggest complaint was about early  
129 retreat of ice, wind, swells, all associated with changing climate. Quiet spring.  
130 Heard most people were able to harvest, but timeframe was shortened due to open  
131 water. UME seals were caught. These seals had a very strong medicinal or  
132 chemical smell inside the meat as they were being butchered. This was in all  
133 species. Also many tumors were present. Or the smell was foul and diseased  
134 smell. Use of small boats is risky with high winds and large swells-climate  
135 change.  
136

137 Billy Adams: Asked if hunters have made adjustments as conditions have  
138 changed?  
139

140 Brandon Ahmasuk: Acknowledged that this was so. Freeze up is coming later  
141 and later, break up is earlier. Traditionally, it was October when hunting  
142 conditions were good. Now it’s later and adjustments are needed.  
143

144 Ben Payenna: Good hunting, but need to adjust. Ice is leaving more quickly.  
145

146 Barbara Mahoney: Asked if hunters are reporting “smelly” seals from a particular  
147 area, or across the Kawerak region?  
148

149 Brandon Ahmasuk: Responded that it was the Nome area. Prior year there were  
150 ~ 8 reports, this year ~ 4 reports. Much concern about these seals. Hunters are  
151 fearful of contamination of boat and gear and are reluctant to haul in a potentially  
152 pathogenic seal. Also time limited.  
153

154 Barbara Mahoney: Reminded about body bags and gloves.  
155

156 Peter Boveng: Asked if smelly seals were skinny or normal in shape?  
157

158 Ben Payenna: Not aware of the body-condition of the stinky animals. Not sure  
159 that seals are getting sick in Nome, they come from all over.  
160

161 Brandon Ahmasuk: Did not recall that seals were skinny, but perhaps there was  
162 hair loss.  
163

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164 Peter Boveng: Indicated that, if seals are starving, then they can consume their fat  
165 and start to break down muscle, thereby causing a ketone or “medicinal” smell.

166  
167 Barbara Mahoney: Asked if it was the smell of males in rut (gasoline)?

168  
169 Brandon Ahmasuk: Mentioned the presence of tumors.

170  
171 Billy Adams: Mentioned about requesting a tooth for age, even if seal was killed  
172 with a head shot.

173  
174 Elisabeth Kruger<sup>2</sup>: Reported that Chukotkans have landed stinky medicinal or  
175 gasoline smelling gray whales.

176  
177 d. Maniilaq Association

178  
179 Cyrus Harris:  
180 Based on memory. Ice conditions last year was unusual, with more ice than  
181 usual. Last year in April was first time he was able to leave the shore toward the  
182 lead. Been a long time since it was like that...since his childhood days. Last  
183 spring, they had a somewhat larger window of opportunity than lately. Cold spell  
184 is good for hunting. West wind a month ago will help create land-fast ice that  
185 wasn't present in early January.

186  
187 Petition to delist ringed seals...thanks about asking questions on delisting.  
188 Community members are very concerned of impacts on subsistence. Native  
189 Village of Kotzebue did send in comments. Letter to request to align southern  
190 boundary of critical habitat with bearded seal critical habitat.

191  
192 Taqulik Hepa<sup>3</sup>: Observed in Kotzebue in June or July or August there were  
193 bearded seals in front of town. She thought they looked like they were fishing.  
194 Do bearded seals eat salmon?

195  
196 Cyrus Harris: Stated that the younger bearded seals (ugrukchat) show up in late  
197 summer, maybe also large spotted seals that eat salmon. Prefers to hunt in late  
198 October...boating season, just before freeze-up. Juvenile Natchiqs show up first,  
199 then adults, then spotted seals (others leave when spotted seals show up).

200  
201 Emerson Moto:  
202 Last year, Kotzebue Sound froze over for the first time since the 1970s. It is a  
203 cold year this year far. Large cracks and open water. Ice may leave earlier than  
204 last year? This spring he expects it to be pretty good hunting again.

205

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<sup>2</sup> World Wildlife Federation

<sup>3</sup> North Slope Borough Department of Wildlife Management

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

206 e. North Slope Borough

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Joe Mello Leavitt:

Good summer bearded seal hunting season. He got 5 last summer, enough to cover skin boat. Going to re-skin his boat. Ice froze in November. No real heavy ice yet. There are ice bergs. Ice should build up in February and March. No west wind yet. West winds will pile up the ice and cause the need to break trail. Small tide coming in will lift this thin ice up right to the beach. Some grounded ice present. 7 miles from point was where they were getting bearded seals. They don't want to put bearded seal in their ice cellar and will mistake it for ringed seal or whale meat and accidentally eat it quak and get trichinosis. Don't put bearded seal in ice cellar. Ringed seal blubber is good for water proofing, like mink oil. Beaufort side is available when ice blows out of the Chukchi. West winds, close the Chukchi, east winds close the Beaufort. Short window for hunting. Hunters going out in June, instead of July. Cold weather, healthy seals, polar bears outside of town, glad to hear about bowheads wintering here (thin ice). Lots more salmon being caught than whitefish. They prefer whitefish.

Mayor Harry Brower:

Not much to add. Billy and Joe covered most of it. Walrus hunting is difficult and you have to go way out 40-60 miles out. Harry couldn't get to a walrus due to the moving ice pack in fast currents. Need to be careful about the ice melting from the bottom, even in cold weather.

**Adjourned at 5:11pm**

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**Ice Seal Committee – Board Meeting (Day 2)**  
February 5, 2021 9:00 am – 5:30 pm

**5-Feb**

Join via Zoom online:  
<https://zoom.us/j/99214212652?pwd=bGpCWkxYeFluaWN1Y0o2bmZsVk1uQT09>  
Meeting ID: **992 1421 2652**  
Passcode: **3iQ5p8**

Join via phone:  
+1 253 215 8782 US\* \*see pg. 6 for other numbers  
Meeting ID: **992 1421 2652**  
Passcode: **124431**

**9:00 – 9:15 am**

12. Call to order Billy Adams, ISC Chair  
Called to order at 9:03

13. Introductions & roll-call

- Peter Boveng
- Jon Kurland
- Michael Cameron
- Heather Ziel
- Vicki Cornish
- Barbara Mahoney
- Rowenna Gryba
- Lori Quakenbush
- Donna Hauser
- Carrie Goertz
- Colleen Reichmuth
- Jillian Sills
- Justin Olnes
- Nicole Kanayuruk
- Elisabeth Kruger
- Carla Kayutuk
- Kayla Scheimreif
- Justin Crawford
- Anna Bryan
- Sam Gosuk
- Heidi Kritz
- Jennifer Hooper
- Albert Simon

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

280 Benjamin Ahmasuk  
281 Cyrus Harris  
282 Emerson Moto  
283 Billy Adams  
284 Joe Mello Leavitt  
285 Mayor Harry Brower  
286 Lauri Leach

287  
288 **9:15 – 10:30 am**

289 14. Agency Updates

290 a. NMFS

Jon Kurland, Barbara Mahoney

291  
292 Open discussion for ISC to ask questions about critical habitat and 5-year review

293  
294 Barbara Mahoney: Presented her slides of strandings on maps and tables  
295 38 stranded this year, much less than previous years.

296 Good coverage this year (confident in ability to detect strandings).

297 Gray Whale UME is still ongoing, consistent numbers.

298 For ice seals, there were 100 strandings in June (ice seals).

299 2020 was “average” for ice seals. Good coverage, but lower numbers of ice seal  
300 strandings.

301 UME investigative team...includes villages. Meetings occur on the 3<sup>rd</sup> Thursday  
302 of the month.

303  
304 Cyrus Harris: Received an email from outlying village on public comment  
305 period. There were questions about ESA with respect to hunting/subsistence  
306 practices. Native Village of Kotzebue submitted comments already. Cyrus was  
307 asked to look into this particularly a change of the southern boundary for critical  
308 habitat. Alex asked if ISC could request this southern boundary change in critical  
309 habitat.

310  
311 Jon Kurland: Mentioned that Tammy Olson is the person who receives these  
312 comments and he will check with her to ensure she has received these from  
313 Native Village of Kotzebue.

314  
315 Billy Adams: Asked about flyers for outreach. Fact sheet? These are useful tools  
316 for outlying villages.

317  
318 Jon Kurland: NMFS shared a “frequently asked questions” sheet when the  
319 proposal came out. Brandon suggested flyers on public hearings.

320  
321 Sam Gosuk: Stranded seals correlated with abandoned military bases?

322 Barbara Mahoney: Stranded seals were “skinny”. All age classes, but dominant  
323 age classes were younger seals. This year is a more normal year. This year’s  
324 stranded seals are not as thin.

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

325 Sam Gosuk: Wondered about warm weather if it's correlated to the stranded seal  
326 numbers? If there was runoff from abandoned military sites, then that may be  
327 worth investigating. Recent warm winters may allow for more runoff of  
328 contaminants.

329  
330 Barbara Mahoney: Yes, warm winters and lack of ice are correlated with the high  
331 numbers of stranded animals.

332  
333 Billy Adams: Comment timeline and help communities to learn about this is  
334 important in the near term. Good way to do this is via radio talk shows. Public  
335 service announcements on the radio would also provide opportunities for people  
336 to get key information pieces.

337  
338 Jon Kurland: Willing to work with partners on this. Brandon has done this in the  
339 past.

340  
341 Cyrus Harris: likes the PSA idea

342  
343 Barbara Mahoney: press release has been issued 1-Feb-2021.

344  
345 Jennifer Hooper: Social media is use a lot. Flashy flier that lends itself to social  
346 media would be good to reach more people. Succinct is good...not too wordy.  
347 AVCP has a facebook page. She agreed that radio is good. Newspaper may not  
348 be quite as fast or effective. Social media is fastest. AVCP is willing to share  
349 outreach products.

350  
351 Peter Boveng: Likes PSAs on the radio. Plan ahead to coordinate  
352 communications specialists from feds to sit in on the meetings. Invite  
353 communications folks to participate in the meeting.

354  
355 Billy Adams: Put communications on the agenda.

356  
357 Andy Von Duyke: New NSB outreach person should communicate directly with  
358 feds' communication people.

359  
360 Billy Adams: Work together, with good attitude, don't let worry drag you down.

361  
362 Lori Quakenbush: No change to policy on rehab policy for ice seals (not released  
363 into the wild)?

364 Barbara Mahoney: That is correct. Caveats relating to UME / spill response. It  
365 may not be a blanket statement for all options. But normally, if animal is  
366 removed from region, then it will not come back.

367  
368 Mayor Harry Brower: What is cost of stranding program operations in Alaska?

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

369 Barbara Mahoney: NMFS works much with volunteers. Also Prescott Grant (up  
370 to \$100K; needs match) to fund analysis, staff time. NMFS staff dedicated to  
371 this. She did not have a precise dollar figure at hand.

372  
373 Mayor Harry Brower: Concerned about an “ecosystem approach” with respect to  
374 how animals are used for food by subsistence communities. Concern about use of  
375 animals for food without understanding of cause(s) of UME. What are data gaps?  
376 Another question about critical habitat designation...what about Port Access  
377 Route (ice breaking)...how will this be monitored? How will this affect species?  
378 Train wreck because this stuff is beyond local control. Large tankers and  
379 shipping container vessels will break up suitable sea ice habitat, but no  
380 consideration of impacts on seals.

381  
382 Jon Kurland: Didn’t think that there were plans for ice breaking channels, rather,  
383 navigation during open water. However, if icebreaking with federal permits, then  
384 there would be section 7 consultations.

385  
386 Billy Adams: Many future discussions will need to be devoted to shipping.

387  
388 ~~b. US Army Corps of Engineers and/or State of Alaska (DNR) \_\_\_\_\_ YTBD~~  
389 ~~Permitting for mining in the Nome region~~

390  
391 No shows. COE declined to attend but provided informational links.  
392 State of AK DNR did not respond to invitations.

393  
394 Ice Seal Committee needs to follow up on this. Of particular interest in the  
395 Bering Straits region.

396  
397 **10:30 – 12:00 noon**

398 15. Research & Management Updates

399  
400 a. (10:30 – 10:45) NOAA Fisheries MML Peter Boveng / Michael Cameron

401  
402 Peter Boveng: Presented MML’s research update report.  
403 No new abundance estimate yet. Still working on this, particularly on haul-out  
404 timing. This is used as a correction factor to account for the number of seals that  
405 are not at the surface. Ringed seals are very challenging because they not only  
406 dive, but also some are in their snow lairs...and therefore there is a need to  
407 account for this. Also working with Kristen Laidre and Jessica Lindsay for using  
408 haul-out and lair emergence to assist with abundance estimation and future ice  
409 seal monitoring capabilities. Peter summarized the following three new  
410 publications:

411

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412 **Boveng et al. (2020) Body condition of phocid seals during a period of rapid**  
413 **environmental change in the Bering Sea and Aleutian Islands, Alaska.**  
414 **<https://doi.org/10.1016/j.dsr.2020.104904>**  
415 Relative fatness with respect to length declined from 2007-2018. Older seals'  
416 condition declined during that period. Spotted seal adults did not decline (maybe  
417 even increased a little bit). Sea ice declined during this period. End of study was  
418 a record low sea ice extent year with ecosystem effects. This was an extreme  
419 event. Interpreted as evidence showing of an effect. Warming conditions affect  
420 sea ice edge, where pupping tends to occur. Good to compare with other results  
421 on indices of body condition and health presented by ADFG to the ISC.  
422 Expectation is that extreme warm years will become warmer and more frequent.  
423

424 **Lang et al. (2021) Re-examination of population structure in Arctic ringed seals**  
425 **using DArTseq genotyping. <https://doi.org/10.3354/esr01087>**  
426 Paper on ringed seal genetic structure, suggesting that there are more populations  
427 than have been previously recognized. These may be considered to be “stocks”.  
428 If reproductively separated, then we need to think of this from a management  
429 perspective. **Previously genetic differences in ringed seals were not detectable.**  
430 **New genetic analyses of larger genetic sequences suggest that they are not as**  
431 **highly mixed as previously suggested.** No conclusions about boundaries. Seals  
432 are still pretty well mixed and are highly genetically diverse.  
433

434 **Ziel et al. (2021) Serologic survey for exposure to potential pathogens in ribbon**  
435 **seals (*Histiophoca fasciata*), spotted seals (*Phoca largha*), and bearded seals**  
436 **(*Erignathus barbatus*) in the Bering Sea. <https://doi.org/10.1111/mms.12787>**  
437 Disease survey of spotted, bearded, and spotted seals using blood serum.  
438 Looking at antibodies for 8 pathogens. Some positive tests for 5 of the 8. All  
439 samples were negative for 3 of the 8. **These pathogens have been previously**  
440 **detected in Alaska.** Not a completely novel finding, more of an update. Should  
441 not be considered cause for taking new action by subsistence users, but rather it  
442 suggests the need for continued awareness, potentially yielding insights on UMEs  
443 and also with respect to disease in humans.  
444

445 **Billy Adams:** Recognized the value of monitoring and partnerships with federal and  
446 state agencies. Also cited the knowledge of elders. Also local knowledge and  
447 Indigenous Knowledge is important source of information.  
448

449 **Cyrus Harris:** Asked about timing. Brought up the temporal changes in body  
450 condition. I.e., body-fat fluctuates over time according to an animal's life-history.  
451 Interested in the time of year.  
452

453 **Peter Boveng:** Samples were all collected in the spring at the ice edge from a vessel  
454 when seals are pupping, nursing, and just after pups are weaned.  
455

456 **Sam Gosuk:** Asked about the dots on the graph and what they represent.

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457 Peter Boveng: Explained the meaning of the graphs.  
458  
459 Justin Olnes: Asked about plot with x=year vs y=body-condition and misalignment  
460 of fit line with data points.  
461  
462 Peter Boveng: Explained that the output is from model averaging that included 2-  
463 way interactions and that this is difficult to convey in a 2-d figure. Noted a  
464 significant overall decline in body-condition with age and species effects.  
465  
466 Justin Olnes: Reiterated that fit line outside the data points is misleading, but  
467 understands that there are multiple variables in the models.  
468  
469 Albert Simon: Finally was able to call in to the meeting.  
470  
471 Billy Adams: Indicated where we are in the agenda.  
472  
473 Lori Quakenbush: ADFG has some concern about this paper because it is different  
474 from what ADFG has found looking at spotted and ribbon seals annually. High  
475 variability affects output, also model averaging. Has concerns on the analyses,  
476 and also now that the news has gotten hold of this it is causing potentially alarm.  
477 Also has concerns with model averaging that also includes harbor seals. Looking  
478 at individual species, remove harbor seals, etc. how would these results change?  
479 ADFG intends to look this over in detail in the future.  
480  
481 Taqulik Hepa: Concerned about local subsistence needs and how new scientific info  
482 can affect people in the Arctic.  
483  
484 Billy Adams: Doubtful about adding another species from somewhere else into the  
485 analysis. Spoke of frustration by Indigenous users when research departs from  
486 what they observe, yet other info (harbor seals) changes the perception of how  
487 things might actually be. This encourages extremist environmentalist groups to  
488 get involved and complicate things for everybody. Frustrated as a Native who  
489 relies on subsistence who constantly needs to fight for his rights. This can be  
490 hurtful to all Indigenous groups in the Arctic. Expressed frustration. Local  
491 hunters will first approach local leaders in villages (e.g., Billy, Joe, Taqulik) who  
492 have to answer for this.  
493  
494 Brandon Ahmasuk: Data can be misinterpreted. In the Nome region several years  
495 ago had agencies with a mission to save species (who knew better than the locals).  
496 Much hype was made. Brandon and Gay were inundated with calls (e.g.,  
497 “rescues” of perfectly healthy seals). Agencies want to help, but don’t really  
498 know the animals. There were a few unhealthy seals too. Prompted the need for  
499 update on letter to agencies with instructions for who to contact with respect to  
500 “helping” seals.  
501

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502 Peter Boveng: Responses to wide ranging discussion...  
503 Regarding Lori’s questions on the analyses...willing to have a workshop to work  
504 through this...does not think there is as much of a conflict as perhaps thought by  
505 ADFG. ISC meeting with limited time is difficult forum to clarify highly  
506 technical analyses. Maybe ISC can facilitate this and possibly participate?  
507  
508 Regarding “messaging” issues that create an awkward (or worse) interaction, yes,  
509 it could have been handled better. Often there is not much control once the  
510 message gets out.  
511  
512 Disagrees with Billy’s concern about the inclusion of harbor seals—this is  
513 ecosystem based approach and part of a data set that they have and these data are  
514 relevant to the major ecological perturbations including a heat wave in 2014, in  
515 2018-19 (seabird die-off, seal UME). This is real and can be seen in other species  
516 besides ice seals. Wants to try to make use of *all* available information (e.g., IK).  
517 With increased frequency of even more extreme conditions it is naïve to think that  
518 this won’t affect seals. It’s important to use all information we have and get best  
519 sense for what’s going on moving forward.  
520  
521 Billy Adams: Suggesting to be very clear about the mission of MML that includes  
522 other pinniped species and that regions are different.  
523  
524 Mayor Harry Brower: Communications were lacking with results vs interpretation vs  
525 public dissemination. Co-managemant should be at the forefront of the co-  
526 management body, not after the fact (i.e., after publication, press, etc.). Federal  
527 agency has its responsibilities, but co-management body does exist and the feds  
528 need to work with co-management. Clarification of the interpretations is needed  
529 when releasing this info to the public. If “true” co-management, then this should  
530 be covered BEFORE it gets released. Current practices by the federal  
531 government imply no user group (co-mgmt). Also, when will abundance  
532 estimates be completed? Need to work WITH the co-mgmt partner to develop  
533 these findings. The mayor further spoke at length on a wide range of topics.  
534  
535 Peter Boveng: Extensive comments on many topics and can’t respond to all. But  
536 communication was a major theme that he has received from Mayor Brower.  
537 This long conversation is evidence for poor communication. In MML’s defense,  
538 they had presented preliminary work earlier in 2019 and 2020 meetings and other  
539 forums (Straight Science presentations). Previously, there was not this level of  
540 alarm expressed by the ISC. This was not just dropped on the ISC as a peer-  
541 reviewed publication. But MML will adapt and learn from this experience about  
542 including more steps for communication with ISC.  
543  
544 Pathogens have also been reported previously. Paper is technical (it must be to be  
545 in the science literature). It is not a new finding. Hopes that new findings are of  
546 interest to the ISC. About what to do?...concerning the a need to do something

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

547 about risk to subsistence users' health...not sure what to do (expertise on this is  
548 not in MML group). This is not unexpected, but is an effort to keep the ISC  
549 informed. Maybe best to see what is out there, try to prioritize, and make plans  
550 based on what is known.

551  
552 Brandon Ahmasuk: Agrees with Peter on the body-condition findings. He and Gay  
553 Sheffield made similar observations in the Nome area. "The time is now". His  
554 niece (a commercial fisher) has seen "hundreds to thousands" of floating dead  
555 skinny seals. These observations were forwarded on to the agencies.

556  
557 Nicole Kanayuruk: Similar question to Mayor's first question on abundance  
558 estimates. Regarding haulouts and snow-lair emergence. Are there preliminary  
559 results? Confused about the snow-lair research. Why delay release of abundance  
560 estimates?

561  
562 Peter Boveng: Acknowledges frustration for time to get final estimates. Some  
563 preliminary estimates have been put out there (with uncertainty), and MML has  
564 had to backtrack because they were incomplete. He now prefers to release final  
565 results rather than interim results. They are very close to final results. Why so  
566 long?... This is the first time this has been done over such large areas...very  
567 challenging task to get it done correctly, requiring logistical development, new  
568 technology (camera imaging system), and newly developed statistical  
569 approaches...figuring them out as they move forward. Anticipate that next  
570 surveys will go more quickly.

571  
572 Nicole Kanayuruk: Confused about the addition of haulout and lair emergence  
573 because these are separate issues.

574  
575 Peter Boveng: Dive and snow lair data are needed to "correct" for seals that cannot  
576 be seen from the air. Using the data on haulout, diving, denning will allow for  
577 estimating the number of seals that are not visible, and so must be included in the  
578 methods for abundance estimation.

579  
580 Raphaela Stimmelmayer: Abstract results are informative for a veterinarian but  
581 potentially confusing, misleading, and alarming for "non-technical" people.  
582 Serology only shows "exposure" (i.e., presence of antibodies), not sickness. No  
583 clinical cases observed in ice seals. Recommends a **workshop** on disease with  
584 public health experts. Previous work shows that the chance of contracting a  
585 disease even from infected animals is low.

586  
587 Peter Boveng: Plans for new work in 2021.

- 588 • Peter Boveng presented plans for aerial survey of seals and polar bears in the
- 589 Beaufort Sea (2 pager)
- 590 • Michael Cameron presented plans for airborne methods to measure body
- 591 condition of seals using drones. This will bump up the sample size. And it

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592 complements other work and long-term data sets. Hoping to hire a Native  
593 hunter as a participant.

594

595 Brandon Ahmasuk: Asked about working with Kawerak to hire a hunter rep?

596 Requested clarification. Was this working with Kawerak Corp. or working in the  
597 Kawerak region?

598

599 Peter Boveng: This conversation occurred back in 2019 as part of planning for 2020  
600 cruise – cancelled due to COVID-19. Still some need for discussion of the role  
601 that a Native hunter would play as part of MML’s activities. Peter indicated that  
602 these discussions happened with Kawerak Corp. Julie, Rose, Merlin, Austin and  
603 several NOAA staffers have had these conversations.

604

605 Joe Mello Leavitt: Asked if MML was planning to fly the aerial surveys during the  
606 summer? Also asked about ASAMM.

607

608 Peter Boveng: Yes. Will be working with whalers to avoid conflict. Most of flights  
609 will be to the east in the Beaufort Sea. Peter offered to try to provide info about  
610 ASAMM.

611

612 Billy Adams: MML should ask AEWG for how they can fly in the exclusion zones,  
613 because it will help with polar bear numbers and because planes already fly in  
614 these zones. Also was happy to hear about local participation. Early June is  
615 excellent time to see seals when they’re molting on the ice.

616

617 Mayor Harry Brower: Use hunters to take photos for seal body-condition analysis.

618

619 Peter Boveng: Thinks this is a good idea and stated that this is already under way in  
620 the Pribilofs.

621

622 b. (10:45 – 11:00) ADFG-AMMP

Lori Quakenbush

623

624 Justin Crawford - presented Ice Seal Movement maps

625

626 Billy Adams: asked about how much more tagging will occur?

627 Objectives for tagging? (asked by Harry Brower)

628

629 Lori Quakenbush: Answered Billy’s question...

630 To understand what they do, where, and to determine why. This is important for  
631 activities like seismic, shipping, oil spill trajectories, feeding areas, haul-outs.

632 General objectives but can answer specific questions about seal biology relative to  
633 human activities.

634

635 Peter Boveng: Also added that it can help with haul-out timing, which is critical for a  
636 correction factor used in abundance estimation.

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- 637 Justin Olnes - presented harvest monitoring:  
638 Requested that the ISC discuss prioritization of harvest monitoring (e.g. pursuing  
639 funding, etc.) – **Billy suggested tabling this as an action item until the end of**  
640 **the meeting.**
- 641  
642 Anna Bryan - presented on the use of harvest-based monitoring to assess the status of  
643 ice seals.
- 644  
645 c. (11:00 – 11:15) NSB-DWM R. Stimmelmayer and/or A. Von Duyke  
646
- 647 Raphaela Stimmelmayer: Presented her research update. COVID-19 in seals was not  
648 detected (using a PCR test, just like with people).
- 649  
650 Andy Von Duyke: Presented his most recent seal map, mentioned other research that  
651 he is part of, and provided a quick summary of 2021 anticipated seal research  
652 activities (tagging and working on a manuscript about spotted seal movements).
- 653  
654 Brandon Ahmasuk: Commented on hunter’s observation of a different type of worm  
655 throughout the stomach and intestines of an ugruk. He thought it looked  
656 “different”. Not a tapeworm. It was skinny and round.
- 657  
658 Albert Simon: Commented on the need to study fish to help understand seals.
- 659  
660 Elisabeth Kruger: Asked Raphaella to identify the source of plastic in the polar bear’s  
661 stomachs.
- 662  
663 Raphaela Stimmelmayer: Mostly finding plastic grocery bags, heavy duty trash bags,  
664 gloves, clear plastic. Believe that the bears are eating food waste and the plastic  
665 bags in which it’s stored.
- 666  
667 d. (11:15 – 11:30) Long Marine Laboratory-UCSC Colleen Reichmuth / Jillian Sills  
668
- 669 Colleen Reichmuth: Introduced recent research and studies in the last year. Focus is  
670 on ringed, spotted, and bearded seals. Main themes are bioacoustics and  
671 physiology. Studies on captive seals to address research questions that cannot be  
672 done with free-ranging animals. Study handouts have the bulk of the info.  
673 Highlights are on studies that have been completed in the past year.
- 674  
675 Jillian Sills: Provided an update on the following two recent acoustics research  
676 publications that included bearded seals:
- 677  
678 **Sills et al. (2020) Auditory biology of bearded seals (*Erignathus barbatus*).**  
679 **<https://doi.org/10.1007/s00300-020-02736-w>**  
680

Authored by Andy Von Duyke during the meeting and from the Zoom recording.

681 **Sills et al. (2020) Evaluating temporary threshold shift onset levels for**  
682 **impulsive noise in seals. <https://doi.org/10.1121/10.0002649>**

683  
684 Measured hearing abilities of bearded seals under quiet and masking noise  
685 conditions. How do seals perceive sound in their environment?

686  
687 Major findings were presented.

688  
689 Suggests that current NMFS regulatory guidelines are appropriate for Alaskan  
690 seals.

691  
692 Next studies will consider low frequency noise detection in bearded seals.

693  
694 Also, studying sound production in ice seals (vocalizations and their ecological  
695 importance and relevance to passive acoustic monitoring). This is being prepared  
696 for publication.

697  
698 Colleen Reichmuth: Presented on the PHOCAS program (i.e. Arctic seal physiology)

699  
700 Hits a long list of topics on basic biology, energetics, seasonality, molting, resting  
701 metabolic rate, oxygen storage in blood-muscle-lungs, energetics of movement,  
702 dive and foraging limitations, thermoregulation. (yellow highlights show topics of  
703 Colleens presentation).

704  
705 **Thometz et al. (2021) Molting strategies of Arctic seals drive annual patterns**  
706 **in metabolism. <https://doi.org/10.1093/conphys/coaa112>**

707  
708 **Hermann-Sorensen et al. (2021) *In vivo* measurement of lung volume in**  
709 **ringed seals: insights from biomedical imaging.**  
710 **<https://doi.org/10.1242/jeb.235507>**

711  
712 e. (11:30 – 11:45) Alaska Sea Life Center Jane Belovarac & Carrie Goertz

713  
714 Carrie Goertz: Provided a brief summary of their work at the ASLC.

715  
716 f. (11:45 – 12:00) UPDATE: Rowenna Gryba (UBC)  
717 Integration of Local or Traditional Knowledge and Western Science using a Bayesian  
718 approach for fully formed models

719  
720 Rowenna Gryba: Presented on the status update for this project.

721  
722 Billy Adams: Suggested the Icy Cape regions (Pt Lay and Wainwright) as well as  
723 Nuiqsut and Camden Bay for more work like this. Other regions have  
724 experienced more from climate change and we should study them too. Considers  
725 this work to be useful and meaningful.

Authored by Andy Von Duyke during the meeting and from the Zoom recording.

726 **1:00 – 1:45 pm**

727 g. (1:00 – 1:30) UPDATES: Donna Hauser (UAF)

- 728 • Evaluating novel assessment approaches for coastal ice seal haulout areas and  
729 behavior in the Alaskan Beaufort Sea  
730 • Alaska Arctic Observatory and Knowledge Hub (AAOKH)  
731 • Ikaagvik Sikukun ugruk hunting season publication  
732

733 Donna Hauser: Presented on AAOKH. Observations obtained in partnership with  
734 Indigenous community members. Suggested that it would be good to collaborate  
735 with ISC. Also interested in expanding and co-developing observational  
736 products.  
737

738 Kimberly Pikok: Presented about her role with AAOKH. Asked if these types of  
739 local observations are of interest to ISC and what type of outreach products are of  
740 interest?  
741

742 Brandon Ahmasuk: Added to chat a comment about warming weather as observed by  
743 his father during the late 1970s.  
744

745 Sam Gosuk: Glad to hear that young people are being involved. Young people need  
746 to learn the traditional ways in order to keep getting food from the land. Learning  
747 to observe the environment is a good way to pick up traditional knowledge. Sam  
748 requested that he be added as a contact for AAOKH.  
749

750 Carla Sims Kayotuk: Provided summary of her experience as an AAOKH observer.  
751 She thinks that this is a really good program.  
752

753 h. (1:30 – 1:45) Polar Bear Co-Management Katya Gray (ANCC)

754 Katya Gray: Presented on ANCC.  
755  
756

757 **1:45 – 3:00 pm**

758 16. Old Business (Action items from 2020 Board Meeting)

759 a. Ice seal population status updates from MML (Chukchi Sea)

760  
761 Info provided by Peter Boveng. See MML presentation above.  
762

763 b. Does the ISC wish to pursue funding for an ESA listing workshop(s) in the upcoming  
764 grant proposal for FY2021-22? (Recommend tabling until agenda item #17b)  
765

766 This question is about what, if anything, the ISC would like to include in the  
767 upcoming grant proposal beyond status quo.  
768

- 769 • Expand the scope of our annual meeting (e.g., travel to ASLC in Seward)  
770 • Expand “youth” involvement (meeting travel, cover costs to AMSS)

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

- 771
- Workshop of various topics (science, sampling, tagging, necropsy)
- 772
- Round-table outreach with the public (IK told to the public).
- 773
- Tour facilities, see animals, drone practice(?)
- 774
- Tagging training (train the trainers)
- 775
- 776

777 Brandon Ahmasuk: Likes the idea. Another suggestion to meet in one of the regions  
778 for better public feedback.

779

780 Albert Simon: Liked the tagging training in person. Certified tagger trainer (train the  
781 trainer). Refresher for those who have been trained.

782

783 Jennifer Hooper: All good ideas. Have we spoken with NOAA?

784

785 FY22 grant proposal:

- 786
- Face to face meeting in Anchorage (adjacent to AMSS)
- 787
- Travel for 5 “youth” (one from each community)
- 788

789 Try for a day trip (unanimous consent)

790 Youth involvement (travel, AMSS)

791

792

- 793 c. Would the ISC like to proactively work toward facilitating the concurrent use of  
794 Indigenous-Knowledge and Scientific-Knowledge for co-management? Examples  
795 may include supporting research, requesting research, and/or direct participation.

796

797 Tabled

798

799

- 800 d. Does ISC want to request information and/or research into the rate in which various  
801 sedatives and other drugs are metabolized by ice seals that have been handled?

802

803 Tabled

804

805

- 806 e. Does the ISC want to explore the potential use of an app to conduct harvest  
807 monitoring and other ice seal documentation as needed by the ISC<sup>4</sup>.

808

809 Eg., Indigenous Sentinels Network (ISN), SMART, SIKU, etc.

810

811

812

---

<sup>4</sup> Time for evaluating the use of apps for local observations has been included in the budget for FY2020-2021

Authored by Andy Von Duyke during the meeting and from the Zoom recording.

813 **3:00 – 5:30 pm**

814 17. New Business

815 a. Proposal to amend By-Laws<sup>5</sup>

816 Allows for electronic (email) voting by ISC Board. Vote on inserting the yellow  
817 highlighted text into Article VII (Poll Vote) as shown below (or variants):

818

819 **Article VII - Poll Vote**<sup>6</sup>

820 *Action of this organization may be taken by teleconference in accordance with State Law. When, in the*  
821 *judgment of the Chairman, any questions arise that should be put to a vote of the membership, and*  
822 *when he/she deems it inexpedient to call a special meeting for that purpose, he/she may, unless*  
823 *otherwise required by these Bylaws, submit the matter to the membership by phone **or electronically***  
824 *(e.g., via email) for vote and decision, and the question thus presented shall be determined according*  
825 *to a majority or unanimity of the votes received as required by these Bylaws by phone within three (3)*  
826 *days after such submission to the membership, provided that, in each case, votes of at least three-fifths*  
827 *(3/5) of the total membership shall be received. Action taken in this manner shall be as effective as*  
828 *action taken at a duly called meeting, and shall be ratified at the next meeting.*

829

830 **Unanimously approved.**

831

832

833 b. FY\_2021-22 Section 119 grant proposal

Andy Von Duyke & ISC

- 834 • Review, amend?

835

836 [See above under action items](#)

837

- 838 • Unspent funds, workshops, more youth-participation, capacity building, etc.

839

840 [See above under action items](#)

841

842 c. 2021 ISC Action Plan (review)

Barbara Mahoney

843

844 [This has been covered already during the co-management committee meeting](#)

845

846 18. Upcoming teleconference

847 a. Schedule date (near end of May 2021)

848

849 b. Potential topics (just examples)

- 850 • Ice Seal Management Plan – how to proceed?

851

- 852 • ISC Board membership – Develop process to recruit members with schedules  
853 that allow them to commit to attending and fully participating in ISC meetings  
854 and activities.

855

<sup>5</sup> A notification was sent to ISC >30 days prior to vote on potential amending of By-Laws

<sup>6</sup> Text is from the ISC By-Laws (dated November 19, 2012)

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

- 856                   • ISC Website – Standing request to the ISC, NOAA, and ice seal researchers,  
857                   partners, and friends for photos, information, publications, and local  
858                   observations.  
859

860 19. Closing Comments

- 861     Jennifer Hooper  
862     Albert Simon  
863     Sam Gosuk  
864     Heidi Kritz  
865     Brandon Ahmasuk  
866     Billy Adams  
867     Andy Von Duyke  
868     Cyrus Harris – table some agenda items for June meeting.  
869     Jon Kurland – Shawn’s advice is good so stick to that.  
870     Barbara Mahoney – plug for ISC website  
871     Michael Cameron  
872     Vicki Cornish (MMC)  
873     Lori Quakenbush  
874     Carrie Goertz  
875     Colleen Reichmuth  
876     Rowenna Gryba  
877     Carla Sims Kayotuk  
878     Justin Olnes (via chatboard)  
879     Kayla Scheimreif  
880     Donna Hauser  
881     Peter Boveng

882  
883 20. Schedule next meeting

- 884  
885     About June 7, 2021. When it gets closer, we will send out a poll to get an “exact” date.  
886

887 21. Adjourn Meeting

- 888  
889     Next teleconference
- 890         • Investigate ways to concurrently use IK and Western Science for co-mgmt
  - 891         • Investigate duration that sedatives remain within a seal
  - 892         • Recap on on the proposal and grant award
  - 893         • We need a secretary/treasurer
  - 894         • Donna’s Ikagvik Sikukun
  - 895         • Action plan report card
  - 896         • Ice management plan
  - 897         • Research tracking method so we don’t forget what has been presented.
  - 898         • Disease workshop
  - 899         • Karyn Rode

*Authored by Andy Von Duyke during the meeting and from the Zoom recording.*

- 900           • Harvest monitoring
- 901           • ADFG paper
- 902           • Make 2<sup>nd</sup> meeting “as needed” and not mandatory
- 903           • Jon Kurland respond to critical habitat comments

DRAFT