

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



2021 ANNUAL MEETING AGENDA

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 ¹	
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	
Total		9	

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

¹ 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 Kruger²: 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 Hepa³: 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

² World Wildlife Federation

³ North Slope Borough Department of Wildlife Management

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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

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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 3rd 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.

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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?

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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-managment 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

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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

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

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 AEWC 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 **1:45 – 3:00 pm**

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

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

759

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 ISC⁴.

808
809 Eg., Indigenous Sentinels Network (ISN), SMART, SIKU, etc.

810
811
812

⁴ 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-Laws⁵

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*⁶

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

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

⁶ 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 2nd meeting “as needed” and not mandatory
- 903 • Jon Kurland respond to critical habitat comments

DRAFT