**ROST-AMBC Virtual Meeting - Day 2 Chat Transcription (30Nov22)**

**General Presentations Session**

**Morning Sessions (830a-12:10p, lunch)**

**1) Avery-Gomm Et Al**

[8:56 AM] Ian Nisbet: Your presentation indicated that the outbreaks in Newfoundland occurred later than in the Gulf (July vs June). Were the colonies in NF visited in June?

A [9:00 AM] Avery-Gomm,Stephanie (ECCC): Hi Ian Nisbet (Guest). Is your question about gannets specifically?

A: [9:04 AM] Ian Nisbet: No, I noticed that there were outbreaks in eiders in the Gulf in June and in seabirds later. Was that correct?

A: [9:06 AM] Avery-Gomm,Stephanie (ECCC): Yes, that's correct. In NF, HPAI-linked mortality wasn't observable at colonies before late July. NF gannet colonies were surveyed late July and not many mortalities were seen. Many mortalities were seen in September aerial surveys of NF gannet colonies. Happy to discuss further!

[8:59 AM] Iain Stenhouse: Thank Stephanie and Jeff, sad situation but fascinating work.

**2) Wendy Puryear**

[9:13 AM] Avery-Gomm,Stephanie (ECCC): That was a fabulous presentation!

[9:14 AM] Margaret Rubega: Wendy, given the spillover to mammals, do you have recommendations for PPE in bird colonies?

A (Wendy, live):

[9:15 AM] Liam Waters (Guest): Do you know if all the birds that tested positive were species that breed in the Gulf of Maine? or were there cases in species that breed elsewhere too?

A: [9:22 AM] Puryear, Wendy: RE: species with HPAI positive and breeding areas, to the best of my knowledge the majority of species were indeed ones that breed in the region. I can't say with certainty that it's true of all though, but I'm happy to share the full list of species we detected as positive

A: [9:29 AM] Pokras, Mark: Wendy and others -- certainly some of the raptors that have been infected have been recovered during migration, so not necessarily birds that breed in the region.

[9:18 AM] Rock,Jen (ECCC): widespread issues with HPAI in Pelicans in Peru right now - its in the news

[9:20 AM] Valerie Sprinkel

Hi just wondering if you might be able to share the research on spillover to cetaceans as I work at facilities that deal with both.  I can give you my email if needed.  valeriesprinkel@gmail.com

A: [9:24 AM] Puryear, Wendy: re: references for ceteceans, nothing is yet in a reviewed publication, but I'm happy to send along a list of resources when there's a break

[9:32 AM] Puryear, Wendy: There may be a few that haven't been updated on my list, but this is what we've detected as HPAI positive:

Bald eagle

Mute swan

Brant goose

American crow

Great horned owl

Sanderling

Red tailed hawk

Turkey vulture

Herring gull

Great black backed gull

Snowy owl

Red throated loon

Northern gannet

Osprey

Common eider

Peregrine falcon

Double crested cormorant

Wood duck

Canada goose

Arctic tern

Common tern

A: [9:37 AM] Liam Waters Wendy, Thanks for that list. Do you also have a list of seabirds that you tested but came back negative?

A: [9:39 AM] Puryear, Wendy

I can assemble a list of negative species, but I don't currently have that together. I can easily pull that together later today though

**3) Alfarwi et al:**

[9:32 AM] Avery-Gomm,Stephanie (ECCC): Ibrahim Alfarwi Did you consider burying the dead birds with salt? I've heard this discussed as a natural disinfectant, but don't know if it has been used anywhere.

A: (Ibrahim, live): No, not yet, but being considered for next year

[9:31 AM] Spendelow, Jeffrey: Where there many nonbreeding/ prospecting adult ROSTs found dead? If some got infected, that might help spread the disease to other sites.

[9:35 AM] Sarah Courchesne: On Appledore Island, in Maine, we canceled our planned gull banding activities in July out of concern that we would act as vectors within the colony. So, we are also interested in thinking through the best ways to protect our colonies.

[9:37 AM] Peter Paton (Guest)

what was the age distribution of tern chicks that died?  in your photo, looks like lots of older chicks were dying. On Great Gull, we are mainly seeing chicks less than 4 days old dying.  Thanks Peter

[9:50 AM] Ibrahim Alfarwi: Hi Peter, I found chicks of varying ages from days to 4 weeks (after fledging)

[9:37 AM] Mostello, Carolyn (FWE): Ibrahim Alfarwi and Puryear, Wendy Do symptomatic HPAI birds ever recover? If not, would you recommend immediate euthanasia for all sick birds to slow the spread in the colony?

A: [9:39 AM] Avery-Gomm,Stephanie (ECCC)

Recovery of gannets was noted by Rail,Jean-François (ECCC) on Bonaventure.

A: [9:42 AM] Puryear, Wendy: re: HPAI recovery, to date, we've seen one gull that was asymptomatic, and just recently a green winged teal had HPAI and recovered. Otherwise, we have not observed any animals (bird or seal) to recover from HPAI

A: [10:00 AM] Ibrahim Alfarwi: On Coquet, I am unable to confirm any recovery cases. It is not uncommon to kill or euthanize sick birds, but the disturbance may cause the virus to spread more widely. The virus needs to be researched more in order to gain a better understanding of its spread in the wild birds

A: [10:03 AM] Pokras, Mark Several rehabbers across the US and Canada have reported survival of a few individual birds...but it's definitely the exception. The vast majority of admitted birds die. And of course maintaining positive birds in rehab for support and treatment has its own set of costs & risks.

A: [10:07 AM] Sarah Courchesne: I do think the question of recovery from HPAI is intriguing--birds sick enough to be captured, and ones with severe signs pretty much always die, but I don't think we're great at noticing potentially less severe signs in the field. Is there variability in how sick individuals get? Probably. The ones we notice with signs are pretty much actively dying at that point, but milder cases might not even attract our notice. We're pretty interested in surveying birds next year for evidence of exposure and recovery in our colony.

A: [10:27 AM] Prosser, Diann J: Agreed, Sarah. We have also been watching COTE and LETE at Poplar Island, Chesapeake Bay, Maryland. We had a pretty good year with nest success and fledging, but we halted our banding just after peak hatch when we noticed for the first time ever, neurological signs in 3 tern chicks. Specimens were sent to USGS NWHC lab and came back negative. We also worked opportunistically with USFWS and obtained samples from gulls on the island, and they came back negative for HPAI current infection (swabs), and >50% samples with antibodies for avian influenza, although we do not know if those detections were the normally circulating low-pathogenic virus strains. Sadly, looking to Europe which seems to be about 2 years ahead of us in the HPAI situation, will help us prepare for what may come in the next couple of years for our species.

[10:11 AM] Mostello, Carolyn (FWE)

Are there any signs that there may be a reduction in HPAI virulence/mortality rate as the virus evolves?

[10:23 AM] Prosser, Diann: Diann Prosser, USGS Eastern Ecological Science Center, Maryland. Following up on the HPAI discussions – this Clade 2.3.4.4b HPAI in Europe and North (and most recently South) America currently affects different species in very different ways. Some challenge studies (in review), and large-scale surveillance data show that waterfowl species (particularly dabbling ducks) are often asymptomatic; for the seabird species (gannets, murres, pelicans, cormorants, terns) and raptors we are seeing heavy mortalities. Some sites where surveillance or monitoring data can be obtained: : [USDA](https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-wild-birds), [USGS NWHC maps](https://www.usgs.gov/centers/nwhc/science/distribution-highly-pathogenic-avian-influenza-north-america-20212022), [WHISPers](https://whispers.usgs.gov/home%22%20%5Ct%20%22_blank%22%20%5Co%20%22https%3A//whispers.usgs.gov/home). Thank you, all for the talks today. As well as for the entire schedule – I have meeting conflicts this week but am grateful to be able to look at the recordings, and look forward to continued communications in the future.

**4) Martinsen Et al:**

[9:53 AM] Sarah Courchesne: Ellen--do you think there's much point to surveying blood smears at all, in marine birds especially, since it seems like PCR can detect infections that do not turn up on blood smears? We have done smears in our gull population, never found any hemoparasites, and reading smears is time intensive. Do you think there's a use for smears in general, or best to just use molecular methods if there's interest in exploring these things?

A: [9:54 AM] Ellen Martinsen: Hi Sarah. For our PCR positive birds we do see the parasites in the blood smears. Smears are valuable and should be collected in addition to blood samples for molecular analysis.

**5) Hilling Et al:**

No chats

**6) Anna Robuck Et Al:**

[10:40 AM] Jennifer C Bloodgood: Great talk! Sorry if I missed this, but are you based in MA? I know you're with EPA, but how is this great necropsy effort funded?

A: At EPA in Narragansett, RI ; Funding largely from NOAA Stellwagen

[10:41 AM] Valerie Sprinkel: Great talk!  Would love to chat with you more- we collected many shearwaters last season that we only did gross on but would be happy to share with you

A: Would love to connect -- robuck.anna@epa.gov

[10:43 AM] Jennifer C Bloodgood: There's a good amount of literature on PFAS in cetaceans

A: [10:44 AM] Robuck, Anna:I'd love to see any pairing measurements with disease metrics, if you don't mind pointing me in the right direction. I've seen one in otters and one in dolphins that extrapolated a bit.

[10:45 AM] Mostello, Carolyn (FWE): Robuck, Anna Great talk! Were you able to analyze the wrong-end pipped tern eggs I sent you a few years ago and did the results show elevated levels of PFAS? Thanks!

A: [10:45 AM] Robuck, Anna: I did! Let me find that data. I lost that thread when I started doing the postdoc focused on humans.

**7) Cleaves Et Al:**

[10:59 AM] Welch, Linda: Great job Joe!! what is the potential to keep this monitoring effort going in future years?

A: [11:02 AM] Joe Cleaves: Thanks Linda! I've been talking with a few folks from the Gardner Tick Lab who are interested in continuing this research and perhaps taking blood samples directly from infested hosts, and the lab involved in the pathogen analysis was particularly interested in getting more information on these ticks that they rarely get the chance to handle. I might consider also doing more with this in grad school.

[10:59 AM] Spiegel, Caleb: What sort of numbers of ticks were found on a single host? were they mostly chicks or do adults also host them?

A: [11:05 AM] Joe Cleaves: Caleb to answer your question, the highest tick load the crews found was 118 nymphs on one puffin chick, but the average was between 3-8 tick nymphs per chick with some outliers in the 20s and 30s. They do also parasitize adult seabirds (I forgot to mention that part), an adult puffin had one adult Ixodes uriae this season, but the rest of the ticks came from humans or alcid chicks.

[11:03 AM] Joan Walsh: We had a recent record of a range extension of Gulf Coast Tick (A. maculatum) to Great Gull Island NY. One tick in 2021 on a human, and more than 4 in 2022. We need to try to eradicate the ticks, but am interested in any diseases they may carry that can be transferred to terns.

A: [11:05 AM] Pokras, Mark: Joan, for tick disease questions you might query Chuck Lubelcyzk . vector ecologist in Maine...LUBELC@mmc.org

**8) Lavoie & Champoux**

[11:15 AM] Pokras, Mark: one theory (and there's evidence in CA) is that some of these contaminants are being released when old, illegally dumped barrels are rusting through and releasing chemicals into water, soil, etc.

A: (Raphael, live): many of these contaminants have been banned for decades, but possible. Seems like issue is more widespread though than a few barrels

[11:20 AM] Kate Williams: Raphael, BRI and Stony Brook University are planning a gannet tracking effort starting in 2023 in the eastern U.S. that will involve capturing at least 60 gannets at sea to deploy transmitters - we're planning to do some ancillary sampling to look at stable isotopes, contaminants, etc. but it would be great to get your thoughts on what additional sampling would be most valuable. I may reach out via email if that's OK?

A: [11:23 AM] Lavoie,Raphael (ECCC): Yes, absolutely! You can contact me at raphael.lavoie@ec.gc.ca

**9) Haney Et Al (GoMMAPPS)**

[11:40 AM] J. Christopher Haney (Guest): Flight heights in the NOAA input program SEEBIRD are estimated in bins categorized as 0 (sitting, unknown, not applicable), 0-2 m, 2-10 m, 10-25 m, 25-50 m, 50-100 m, 100-200 m, and >200 m. As mentioned, 4 of those height bits are at the eye height of the observer, or below.

A: [11:53 AM] Spendelow, Jeffrey: Chris Haney: With regard to flight heights, when avian predators such as PEFAs come into staging areas, terns typically react by flying up into the rotor-swept zone for up to 10 or more minutes after the falcon has departed.

A: [11:57 AM] J. Christopher Haney: Jeff Spendelow: we see Sooty Terns also spending a LOT of time at heights corresponding to rotor swept zones. The Gulf, like other subtropical oceans, is characterized by having mostly an aerial seabird community, and by no means do all of them stay close to the sea surface (e.g., boobies, frigatebirds, tropicbirds are also usually high).

[11:33 AM] Pickens, Bradley: Looks like I could see a major hypoxia area in your cumulative dataset- any investigation in this?

[11:34 AM] Zitske, Brad: What were/are the primary funding sources for the surveys?

A: [11:43 AM] J. Christopher Haney: The primary funding resource for GoMMAPPS was BOEM. In many aspects, this Gulf project is directly analogous to the AMAPPS surveys on the Atlantic side.

[11:35 AM] Spiegel, Caleb: What sort of tracking work is taking place for common GoMex species in combination with survey work?

A: J. Christopher Haney (Guest): No tracking work for seabirds was directly supported by/from GoMMAPPS. There are tracking studies for some Gulf marine birds, but this remains a large gap in our current level of knowledge. There has been some preliminary discussion to narrow the list of target taxa for such tracking studies to include at least one representative from each of several functional groups (e.g., nearshore forage fish, offshore tuna-associated, offshore meso-pelagic associated, and so on).

[11:36 AM] Loring, Pamela: Have you observed terns resting on offshore platforms in the GOM? We are wondering if they may rest on wind turbine foundations post-construction and how that might relate to collision risk. Do you have any thoughts on this?

A: [11:39 AM] Joan Walsh: Pam, I think Rafa has a contract to do that off Brazil starting this year.

A: [11:42 AM] J. Christopher Haney: Yes, we have observed terns, gulls, boobies, pelicans (and probably other species) routinely using offshore oil and gas structures. Rather commonly, in fact. Indeed, the 'benefits' from this using this resource (resting, preening, prey localization) remaining one of the biggest gaps in our knowledge of Gulf seabirds.

A: [11:47 AM] Spendelow, Jeffrey: Pam: Pedro Lima has photos of hundreds of terns resting (between feeding bouts?) on oil platforms off Brazil.

[11:39 AM] Kate Williams: Thanks for the talk, Chris! There are a variety of methods for identifying hotspots that take different levels of spatial and temporal variation into account, and can produce quite different outcomes in some cases. It may be worth considering other approaches in addition to Getis‐Ord Gi\* for examining hotspots at smaller (e.g., lease area) scales: <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/2041-210X.13209>

A: J. Christopher Haney (Guest): Thanks Kate for the reference on hotspots - at least two of the authors are on the aerial team doing the hotspot analyses!

[11:55 AM] Kate Williams: Yes, I know Alli and others are also involved in the GoMex effort, but just wanted to mention it! I have been consistently surprised by how hotpot analyses can turn out so differently based on analytical method and choice of threshold

[11:48 AM] J. Christopher Haney: Some of the GoMMAPPS survey tracklines did cross the Gulf's 'dead zone' on the LATEX shelf west of the Mississippi Delta. However, vessel survey coverage in shallower waters was relatively light - the aerial team would have more data from that portion of the Gulf.

**10) Pickens Et Al:**

[11:55 AM] Pokras, Mark: radar ornithology and sound recognition are sometimes used to monitor nocturnal migrant birds...folks at Cornell Lab of O would know more.

A: [11:59 AM] Gemma Clucas: Yes a postdoc just started here (Cornell) who is going to be looking at radar data for monitoring migration along the coast in relation to wind energy. From my understanding, they are mainly going to be focusing on passerines during spring/fall migration, but I could put anyone in touch for more info

A: [12:03 PM] Diehl, Robert H: FYI, USGS will lead a couple research projects in the Gulf deploying portable radars to study flight height and distribution. One will be a vessel-based survey slated for October and the other a longer term deployment planned for several o&g platforms.

**11) Winship Et Al:**

[12:11 PM] Evan Adams: Great talk! Do you worry about overfitting the GAMs to current conditions when making projects into the future?

A: [12:16 PM] Arliss Winship: Thanks for the question, Evan. Yes, in general, the possibility of GAMs overfitting is very much on our mind. Not only in the context of forecasting, but even spatially during the modelled retrospective period. Extreme or novel environmental values compound that issue. I guess maybe all I can say at this point is that we are looking for evidence of that in our results and are attempting to avoid it as best we can. One element of our modeling that hopefully helps is the variable selection (based on an information criterion), which theoretically hedges against overfitting somewhat.

**PARTICIPANTS & AFFILIATIONS ENTERED IN CHAT**

Ruth Boettcher, VA Dept. of Wildlife Resources

-----

**Afternoon Sessions (1:00p-3:55p)**

**Tracking Studies Chat:**

Spendelow, Jeffrey A

Kevin: Do you have any data on sand lance distribution for 2017, the year when menhaden by the billions came ashore (as did the shearwaters) on the outer beaches of Cape Cod?

Kevin Powers (Guest)

Jeff - Sand lance is not a target species for the NMFS groundfish surveys. So it's not a great source for abundance. And I don't have anything further for 2017.

Mostello, Carolyn (FWE)

Tammy Silva (Guest) Really interesting concept. In the field, do you know what % of HB whale obs have co-occurring GRSHs?

Tammy Silva (Guest)

Mostello, Carolyn (FWE) Thanks! We do not have those numbers from the field. In this work we also looked at overlap using shearwater satellite telemetry and humpback telemetry and quantified the % of GRSH distribution within the humpback distribution (the opposite of what I presented today) and it's usually much lower.  GRSH overlap with whales but the UDs are pretty big, so there's a lot of shearwater UD where there are no whales. One of our future goals is to formally quantify this - or get at how good GRSH are at locating whales . Hope that makes sense

Liam Waters (Guest)

what's the download range and time on these vhf gps base stations? (ie. would it be possible to have them on boats?)

Studholme,Katharine (elle, la | she, her) (ECCC)

Yakola, Keenan I'm working with a large tracking dataset (GPS and GLS) from LHSP breeding in Canada and would love to connect! We have some GPS data from Kent Island, NB, and Bon Portage Island, NS, this year and it would be very interesting to compare. I'll send you an email if that's ok? Awesome work!

Shea Fee

vonOettingen, Susi (External)Yakola, Keenan Did you get any observations from the Norton Point/Muskeget area? Shea Fee observed thousands of COTE and ROTE at Norton Point.

Feel free to reach out if you are interested in Martha's Vineyard or want some more info on Norton Point (sfee@thetrustees.org)

Yakola, Keenan

Addison, Lindsay (External)We had to keep our PathTrack base stations still and level (more or less) so boats were challenging. But the tags performed very well.

Would love to connect and hear more about your lessons learned!

Yakola, Keenan

Shea Fee Feel free to reach out if you are interested in Martha's Vineyard or want some more info on Norton Point (sfee@thetrustees.org)

Thanks! I certainly will!

Yakola, Keenan

vonOettingen, Susi (External)Yakola, Keenan Did you get any observations from the Norton Point/Muskeget area? Shea Fee observed thousands of COTE and ROTE at Norton Point.

None of our birds seemed to head that far SW., however since we didn't have basestations there it's hard to say!

Shilo Felton

Aren't other types of aquaculture (like mussels etc.) less likely to use netting?

**Colony Management & Monitoring Chat:**

Elizabeth Craig

Lucas Savoy Any thoughts on non-lethal gull control methods that might have some efficacy?

vonOettingen, Susi

Lucas Savoy Following up on Liz's question, any push back from the public about the lethal gull control?

Sarah Courchesne

I can say that us gull biologists make a lot of sad faces about it.

[2:48 PM] Sarah Courchesne I know this paper was making the rounds this year--lot of people pushing to note these gull declines while there's still time to do something about it. [Global population and conservation status of the Great Black-backed Gull Larus marinus | Bird Conservation International | Cambridge Core](https://www.cambridge.org/core/journals/bird-conservation-international/article/global-population-and-conservation-status-of-the-great-blackbacked-gull-larus-marinus/B28273D6799857AEE1B10B1E4B9EB0B2) Global population and conservation status of the Great Black-backed Gull Larus marinus | Bird Conservation International | Cambridge Core Global population and conservation status of the Great Black-backed Gull Larus marinus

Lucas Savoy The consensus among non-lethal approaches is it does not remove the adult gulls that are consuming eiders. The public has been very supportive of gull control - we interviewed many folks and their concerns have been watching gulls decimate eider broods. The approach would not be a range-wide management program, rather isolated efforts to areas of concern for eiders.

Elizabeth Craig Thanks, Lucas. I can understand why the public would have those concerns!

Mostello, Carolyn (FWE) Reducing bag limits for eiders may be a more direct and effective way to stem eider decline than lethal control of gulls. Many of the gulls removed may not even be preying on eiderlings.

Sarah Courchesne Agreed,

Mostello, Carolyn (FWE) (Guest). We find that individual gulls develop specializations of sorts. As with tern conservation, we know there are some murder gulls that eat a lot of terns, but most gulls don't ever eat any terns. So a general gull control program might not, as you say, remove the right gulls.

Lucas Savoy Yes, the bag limits and reduction of sea duck hunting days have been reduced in recent years and I know that is up for constant debate.

Rail,Jean-François (ECCC) Could the population trends be influenced by immigration from elsewhere? For example, RAZO and COMU are increasing everywhere in the Gulf of St. Lawrence.

Spendelow, Jeffrey A One of your HY COTEs showed up on Cape Cod in Sept. 2022.

Spendelow, Jeffrey A And at least 3 COTEs from prior years were seen nesting on Poplar Island in Chesapeake Bay this year (again, have scope, will travel).

Loring, Pamela H Ruth - awesome project! sorry if I missed it but any estimates of fledge success from the new sites versus hampton rd site? also are there many vehicle collisions?

Boettcher, Ruth (DWR) (External)3:32 PMHey Pam - I did not present info on fledge success. Unfortunately, we have very little productivity info from South Island because it was an incredibly difficult site to monitor and productivity info from Ft. Wool and the barges are still preliminary. Sorry - stay tuned! Yes, there were a lot of vehicle collisions on South Island. We had to construct a bunch of barriers around parking lots, etc. The management history of South Island is a stand-alone presentation.

Arielle Santos (she/her) (Guest) Hi Archer Larned, great presentation! How did you all choose the location for the platform? Thank you!

Spendelow, Jeffrey A How did the terns respond to the lights at night?

Julie McKnight How many years do you anticipate the rafts will last?

Kevin Kalasz Great project Archer! How much time was needed to pull and deploy the raft between seasons?

Susi von Oettingen: Boettcher, Ruth (DWR) Did I understand correctly the barges were removed during the winter?

Boettcher, Ruth (DWR) Hey Susi - yes the barges are removed following the breeding season.

**Community Science Chat**

No chats

**PARTICIPANTS & AFFILIATIONS ENTERED IN CHAT**

Yvan Satgé, Clemson University, South Carolina Cooperative Fish and Wildlife Research Unit

Shilo Felton, Renewable Energy Wildlife Institute