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## **Agenda #4 & 5: Committee Information**

1. Board of Fisheries Standing Committees worksheet
2. Nushagak-Mulchatna King Salmon Fishery Management Plan Special Committee October 21, 2019 Meeting Summary
3. Hatchery Committee's March 7, 2020 Meeting Summary



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## Alaska Board of Fisheries Committee Assignments

**Board of Fisheries committee and task force assignments**  
*(Updated at the October 2019 Work Session)*

	Johnson	Jensen	Wood	Carlson Van-Dort	Godfrey	Morisky	Payton
<b>Committees</b>							
Committee on Committees				X		Chair	X
Bd. of Fisheries/Bd. of Game			Chair	X			X
Federal/State Subsistence	X				X		Chair
Habitat	Chair	X			X		
Joint BOF/NPFMC Protocol	X	Chair	X				
Legislation			X	Chair		X	
Hatchery	X	X	X	X	X	Chair	X
<b>Task Forces / Workgroups</b>							
Nush/Mul King Salmon FMP						Chair	X
Naknek River Sport Comm Services and Guide Fisheries	X					Chair	

**Board of Fisheries committee and task force assignments**  
*(For updated at the October 2020 Work Session)*

	Williams	Jensen	Wood	Carlson Van-Dort	Godfrey	Mitchell	Payton
<b>Committees</b>							
Committee on Committees							
Bd. of Fisheries/Bd. of Game							
Federal/State Subsistence							
Habitat							
Joint BOF/NPFMC Protocol							
Legislation							
Hatchery							
<b>Task Forces / Workgroups</b>							
Naknek River Sport Comm Services and Guide Fisheries							



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## Nushagak-Mulchatna King Salmon Fishery Management Plan Special Committee Meeting Summary

Monday, October 21, 2019

Atwood Building Conference Center

### Meeting Participants and Attendees

#### Committee Members

##### Alaska Board of Fisheries

Reed Morisky, Committee Chair  
Israel Payton  
Marit Carlson-Van Dort (not as a committee  
member)

##### Public Committee Members

Bob Klontz  
Brian Kraft  
Bud Hodson  
George Wilson  
Nanci Lyons  
Peter Christopher Sr.  
Robert Heyano  
Tom O'Connor

##### Committee Study Team

Michael Link, Bristol Bay Science and  
Research Institute  
Jeff Regnart  
Tom Brookover

##### Alaska Department of Fish and Game

Jason Dye, Sport Fish Division

Tom Taube, Sport Fish Division  
James Hasbrouck, Sport Fish Division  
Tom Vania, Sport Fish Division  
Tim McKinley, Sport Fish Division  
Matt Miller, Sport Fish Division  
Tim Sands, Commercial Fisheries Division  
Aaron Potter, Commercial Fisheries Division  
Greg Buck, Commercial Fisheries Division  
Forrest Bowers, Commercial Fisheries  
Division  
Jordan Head, Commercial Fisheries Division  
Jack Erickson, Commercial Fisheries Division  
Bert Lewis, Commercial Fisheries Division  
Robin Dublin, Subsistence Section  
Glenn Haight, Boards Support Section

##### US Fish & Wildlife Service, Office of Subsistence Management

George Pappas

##### Additional Participants and Attendees

Neil Dewitt  
Cameron Poindexter  
John Woodruff  
Reuben Henke  
Cody Larson



## Call to Order

Chair Morisky calls the meeting to order at 10:07 am.

### 1. Introductions.

Link reviews the agenda and roadmap through the [Meeting Guide and Technical Analysis](#) presentation. The morning will include informational material and in the afternoon have an opportunity to cover questions provided in the Committee working paper. The committee may also look at a timeline going forward, readjust the committee scope of work if necessary, and select future meeting dates.

### 2. Background for the Committee.

There were two proposals ([41](#) and [42](#)) at the 2018 Bristol Bay Finfish meeting seeking to revise the Nushagak Mulchatna King Salmon Management Plan under [5 AAC 06.361](#) (Plan) to include paired restrictions between the commercial and sport fisheries in times of conservation concerns. Through [RC84](#) for the 2018 meeting, the committee's role is to find a comprehensive solution for the Plan.

- Christopher, Sr. offered the original plan was for commercial and subsistence fisheries. Sport fishing was added later. Preferred former management with 70% of the king escapement achieved before a fishery occurred. Kings were bigger previously (60-70lbs). Today there is overharvest, trawler bycatch, intercept fisheries, etc.

### 3. Review of ADF&G's Escapement Goal, Management and Implications for the Plan.

Erickson led the discussion with a presentation on ADF&G's [Nushagak salmon enumeration techniques](#). (See "[Nushagak River Chinook salmon assessment program, management structure, and stock status](#)" presentation on the committee webpage.)

The current sonar system is approximately 40 kilometers upriver from the terminus of the commercial fishing district. It covers 30 meters on the North bank and 50 meters on the South bank of the river which measures approximately 300 meters wide at the sonar site, which leaves 220 meters without coverage. Gillnets are used to apportion the sonar counts and are fished with in the areas of the river that are covered by the sonar beam. The sonar is typically in operation from June 6 – July 17, however, in years where coho salmon are assessed it operates from June 6 – August 20.

Over the years the department employed both aerial and tower surveying, and [Bendix](#), [DIDSON](#), and [ARIS](#) sonars. It has used a DIDSON/ARIS sonar since 2006. In addition to aerial survey and sonar, the department has also conducted mark recapture and hydroacoustic tag studies to try and gain a better understanding of the limitations of the sonar project.

Recently, the department has created a run reconstruction model that incorporates all king salmon assessment projects to estimate king salmon abundance in the Nushagak drainage. According to the run reconstruction (1968-2017) the average king salmon escapement on the Nushagak is estimated



at 175,000 with a large amount of uncertainty associated with the annual estimates. The average estimated harvest for this same time period 75,000 among all users. The preliminary 2019 estimated escapement was 65,000 kings, low, but within the 55,000 – 125,000 escapement goal range.

There was discussion among the participants including:

- Christopher, Sr. asked if the harvest from the commercial sector were Nushagak kings.
    - Erickson - Yes, it is harvest in the Nushagak district.
  - Christopher, Sr. says allowing sport fishery to overharvest kings doesn't make sense. Need to allow 75% of kings to escape before allowing harvest.
  - Klontz asked if the harvest figure includes bycatch?
    - Erickson - Yes, it does.
  - Payton asks if ADF&G factors low and warm water that is present for the last couple of years?
    - Erickson - There isn't much overlapping data sets between sonar and aerial surveys. Aerial surveys are continuing, but even with low water the surveys did not see a lot of fish. There remains a wide confidence interval.
  - Carlson-Van Dort asks what dictates sonar survey dates? Water conditions, budgets?
    - Erickson – mainly based on sockeye salmon run timing.
  - Link raises a number of questions. What is the department's long-term plan with enumeration on the Nushagak River? In 5-years? In 10-years? What would it take to ensonify the entire channel? Is the sonar in the correct spot? What would change with additional funding?
    - Multiple answers from staff including – Unable to run a mark-recapture study every year. The Department has not determined the cost of ensonifying the entire channel, nor looked for better sites. Each sonar costs about \$100,000 to operate plus labor. There have been two major studies – a mark-recapture and acoustics study. They did not match up.
  - Christopher, Sr. asks about a slough that runs behind the sonar testing site. Has the department surveyed for kings there?
    - Head – king salmon are not known to go up the slough in great frequency.
4. **Review Technical Analysis Scope and Preliminary Results.** Tom Brookover, BBRSI contractor, provided an overview of the [Historical Review of Nushagak River Chinook Salmon Management](#). The report returns to the 1980's when there was a decline in king salmon. Former ADF&G biologist Mike Nelson provided a comprehensive report in 1987 that included recommendations for future management. Brookover's report then covers changes in escapement goals and survey techniques. The report offers challenges going forward.

There was discussion among the participants including:

- Payton notes on page 4 a discussion on previous use of 8- to 8½-inch mesh versus 6-inch mesh resulted in greater spawners.
  - Brookover- Yes, but data was collected elsewhere- maybe Southeast?
- Hodson says the escapement goal doesn't account for fecundity, size of females and the number of eggs.
  - Erickson - Escapement goals do not account for salmon size and fecundity.



- Brookover - The fecundity data in Nelson's report is from the Nushagak commercial fishery (page 4).
- Heyano asked if we are seeing missing age classes or are the fish smaller at the ages? Older fish are not returning like they used to. Happening statewide.
  - Brookover - Defers to staff, but this is not unique to the Nushagak River. Fish are returning sooner and not as old.
  - Lewis provides a report showing fish are returning younger and sooner. The source information is from a research article [Changes in Size and Age of Chinook Salmon \*Oncorhynchus tshawytscha\* Returning to Alaska](#), Lewis et al.
- Kraft asks what this may be attributed to?
  - Lewis - Unable to answer affirmatively, but general theories include marine conditions. For this area they have found that selective harvest is not a reason for smaller and younger fish returning.
- Kraft seeks clarification on commercial harvest of king salmon during sockeye fisheries as described on page 18. Is it all incidental?
  - Brookover - Some is from directed fisheries.
- Christopher, Sr. speculates impacts on salmon survivability could be coming from trawling.
  - Bowers - King salmon bycatch in the Bering Sea trawl fishery comes up often. In 2016 there were 20,000 kings caught in the Bering Sea pollock fishery. About 35% of that (7,000-8,000 fish) come from a group of Western Alaska rivers that include the Nushagak. Some of these are juvenile fish, of which some would be subject to other mortality.
  - Additional information on Bering Sea/Aleutian Islands bycatch information may be found at:
    - BSAI Prohibited Species, BSAI Chinook Salmon Mortality Estimates 1991-present - [https://www.fisheries.noaa.gov/sites/default/files/akro/chinook\\_salmon\\_mortality2019.html](https://www.fisheries.noaa.gov/sites/default/files/akro/chinook_salmon_mortality2019.html)
    - Genetic stock composition analysis of the Chinook salmon bycatch from the 2016 Bering Sea walleye pollock (*Gadus chalcogrammus*) trawl fishery. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-3645, 32 p. <https://www.fisheries.noaa.gov/resource/document/2016-genetic-stock-composition-analysis-chinook-salmon-oncorhynchus-tshawytscha>
- Kraft asks if there is any research on other potential mortality aside from subsistence, sportfish, and commercial harvest? Home pack, under reporting, etc.?
  - Brookover - The report was limited to the three uses, but there is other mortality including home pack, drop-outs (salmon caught in gillnets that escape, but later die), and catch and release mortality.
- Heyano comments on home pack in commercial fisheries. It is popular, but observes it happens closer to the end of commercial fishing because there is not the time to deal with it early on.
- O'Conner adds that home pack is recorded when delivering commercial harvest.
- Kraft observes a lot of fish boxes at the airport which seem to be kings.



- Link refers to Technical Analysis on slide show, slides 25 and 26, and asks if there is a better way to exploit run timing?
- Carlson-Van Dort asks if there is a way to assess take of Nushagak king salmon outside of the district? For instance around Area M.
  - Bowers indicates the [WASSIP](#) study focused on sockeye and chum. There have been some stock identification studies in the past, but nothing sustained.

### {Lunch break}

#### Review Technical Analysis Scope and Preliminary Results (continued)

- Link opens by returning to the Technical analysis on various slides – slide 21 lists four potential areas to review – Portage Creek sonar (slide 22), gillnet-based apportionment of sonar count to species (slide 23), mesh size selectivity (slide 30), and tide stage exploitation (slide 35).
- Kraft mentions restrictions have more effect at front end.
- Dye - The counts are low but what is happening isn't entirely clear. It is hard to determine what the counts mean because of environmental conditions and recent large sockeye returns which can impact the accuracy of the king salmon sonar count.
- Kraft is looking for stability in the sport fishery. Clients book ahead of time not always knowing what will be available. Managing the fishery is a delicate balance. Our industry has least impact on taking of fish- even if it was doubled it has little effect on run.
- Hodson adds sport fishing is almost self-managing. When fishing is slow, anglers don't show up.
- Heyano provides we need a different program and more information. We can manage within the escapement goal, the plan does that. We need more information. This affects users on timeliness of when we get that info from the sonar. Would like a wish list of what we can do to actually forecast kings again.
- Hodson asks how were forecasts done in the past? Were forecasts based off commercial catch?
  - Buck - Up until 2010 ADF&G forecasted Nushagak kings, but stopped when the DIDSON count wasn't what the Bendix count was. There were a couple years of bad forecasts and we switched to a running average of the commercial harvest. ADF&G doesn't even do that anymore.
- Link asks if kings are actively managed for harvest?
  - Sands - Absolutely especially in the past with forecasts and big sockeye runs. Travel time for kings from the commercial district is 2 days to the Wood River and 3 days to Portage Creek. In 2017, the sockeye harvest was delayed 36-48 hours to conserve king salmon. Estimated giving up 1 to 1.5 million sockeye salmon for 15,000 king salmon. It was worth it. Also look at pulses in the subsistence fishery.
  - Kraft asks if ADF&G has the inseason tools to manage openers to allow kings in without damaging sockeye.
  - Payton asks if there should be directed king openings.



- Link highlights actual and optimal king harvest from slide 17 that shows the average exploitation of Nushagak District Commercial fishery is 22%. Appears to have managed well for sockeye.
  - Sands - With the 2018 massive sockeye run, the fishery did fine on kings. In 2019 there was forgone sockeye harvest to save kings.
- Link asks about the king run timing from fishery to sonar?
  - Kraft - They see net marks on fish same day as opener.
  - Hodson - Once they hit beaches in Dillingham, they hit Portage.

## 5. Defining Scope of work, Part B, Goals/objectives of Plan revisions

Chair Morisky opens by highlighting the charge statement described in detail under RC 84, and its link to Proposals 41 and 42 as outlined in the Board's policy [2018-291-FB Charge Statement for the Nushagak-Mulchatna King Salmon Management Plan](#). It is Morisky's intent to stick with the subject of paired restrictions as sought in Proposal 41 and 42.

There was discussion among the participants including:

- Regnart opens by asking if the changes made to the plan in 2018 worked for the 2019 fishing season?
  - Dye - The nice thing about triggers is they tell you what to do (and that makes it simple), but without triggers managers can consider other factors and everyone likely benefited this year.
- Regnart asks if the change in management jeopardized making the escapement goals? Does maximum flexibility make sense?
  - Dye - It did not jeopardize the goals. Dye and Sands both affirmed flexibility makes sense.
  - Regnart comments that with experienced managers a lack of triggers is not as problematic, but it could be different with different managers.
- Payton mentions further that with contentious, competitive fisheries between user groups, often managers appreciate prescribed triggers.
- Kraft added the impact of sport user is minimal.
- O'Connor provides the king bycatch in commercial sockeye fishery is between 20-30,000 kings based on fish tickets. If those are sent upriver, how many get would get counted on the sonar, 15-20,000? In the sport fishery with harvest and mortality from catch and release it has an impact. Subsistence further reduces escapement. The playing field gets even pretty quick.
- Kraft disagree citing the sport fishery takes 6% of the kings. He is not trying to shut down the commercial fishery, but currently sport fish customers take the brunt of conservation.
- Heyano offers that the idea the commercial fisheries isn't involved in conservation of kings is incorrect. Restrictions are taken day one when the fishery could be opened, but isn't. Restrictions are put on each fishery at different times. Changes applied to the sport fishery in the management plan have been more liberal. We get it that we can't have a directed fishery. But now you are going beyond that. The average weight of kings caught in the commercial sockeye fishery is 15 lbs. These are small kings. He has difficulty making adjustments to the management plan when the information is wrong. We recognize the position of the state



with financial issues, but we have a history in the Bay of helping out. He would like to see some discussion on what we need to do to get better information. He sees the differences, commercial fisheries has gillnets, sport fishery has a single hook.

- Klontz agrees with everyone around the room. He sees a generally declining run and all need to share in shutdowns, but we are missing the point on the big picture. Should the overall escapement goal be addressed?
  - Sands- there were big runs in early 1980s. Is it all a cyclic pattern? On Nushagak River overescapement of king salmon is a very bad thing.
  - Regnart notes the trend is still downward.
- Regnart asks if it is worth pursuing a better assessment tool?
- Morisky offers the board has no fiscal authority but would encourage projects and industry has stepped forward.
- Payton indicated even if money wasn't an issue new assessment would be difficult.
  - Erickson concurred it is a tough location to enumerate salmon. There isn't an easy quick fix.
  - Lewis discussed ways to improve including aerial surveys and biometric review of netting program which intended to count sockeye. Also looking at how to fix sonar issues.
- Kraft offers looking look at it a different way. The bulk of run has passed sonar by July 6. What are the restrictions to sport fishery at that time?
  - Dye - 100's of fish.
- Kraft mentions what if we up the number of the Wood River goal (on sockeye) to 250,000 and no restrictions to kings after July 6. I'm selling opportunity for my clients to have a line in the water. What does a sport fish closure do for conservation of kings? Impact from a fleet closure are much more significant. What about a step down, but don't close?
- Hodson the first plan occurred because ADFG was concerned about fish size. These restrictions let fish pass. Sport fishing occurs inriver while they are on the beach so commercial fishing shares the burden early in the season. There is no need to shut us down totally down inriver.
- Link asks how does that play with the public? How do you sport fish when the goal isn't going to be met?
  - Payton - This happens in other places.
  - Taube - Across the state ADF&G closes sport fisheries because subsistence needs aren't going to be met.
- Kraft asks where the Wood River 100,000 sockeye trigger came from?
  - Hodson - There were tough years for Nushagaka sockeye too, not just for kings.
  - Brookover - It happened in 1996 because of age class problems. The board wanted to see pulses of fish go through.
  - Sands - The 100,000 sockeye is actually a projection. For instance, if the projection for inriver king salmon in the Nushagak is under 95,000, we wait until 1000,000 sockeye pass the Wood River tower to begin fishing.
- In closing, Regnart provides an overview of possible next steps including
  - Demonstrate the conservation each group has done.
  - How significant is the conservation effort by the sport fishery by July 4.
  - Consider leaving the sport fishery alone after July 6.



- Look at the impact of homepack.
- Explore enumeration improvements – sonar project.

## 6. Project Timeline and Future Meeting Dates

The group discussed future meeting dates of December or January. There was discussion about a board generated proposal for this or next cycle. Payton questioned whether the plan statement in [5 AAC 06.361](#) remains valid? What do the users think? Heyano offers the plan goal is still good and would prefer to see tweaks to the plan. Payton mentions the escapement goal memorandum by the department speaks to an inriver goal that is not in the plan.

The committee closes by determining the next meeting date will be determined by the board at the work session.

## 7. Other business

None

## 8. Adjourn

The committee adjourned at 3:19pm.



ALASKA BOARD OF FISHERIES

HATCHERY COMMITTEE MEETING

Saturday, March 7, 2020, 8:30 a.m.  
Egan Civic and Convention Center, Anchorage

MEETING SUMMARY

**COMMITTEE MEMBERS:**

Reed Morisky, Chair	John Wood
Märit Carlson-Van Dort, Vice-chair	Israel Payton
John Jensen	Fritz Johnson
Gerad Godfrey	

**OPENING BUSINESS**

Call to Order – Chairman Morisky calls the meeting to order at 8:42 am.

Introductions of Board Members and Staff. The committee members introduced themselves. Member Jensen was absent initially, but arrived shortly thereafter. Alaska Department of Fish and Game (ADF&G) staff included:

Commercial Fisheries

Sam Rabung – Director  
Forrest Bowers – Deputy Director  
Bill Templin – Chief Fishery Scientist  
Andrew Munro – Statewide Fisheries Scientist  
Chris Habicht – Principal Geneticist  
Kyle Shedd – Fisheries Geneticist

Jeff Milton – Statewide Hatchery Coord.

Boards Support

Glenn Haight – Board of Fisheries Exec. Director  
Jessalynn Rintala – Publications Specialist  
Charity Lehman – Southcentral Region Coordinator  
Joe Corona – Office of Information Technology

Sport Fisheries

Tom Taube – Deputy Director  
Tim McKinley – Southcentral Research Coord.

Department of Law

Aaron Peterson, Assistant Attorney General

Chairman Morisky opened the meeting by reviewing the Joint Protocol on Salmon Enhancement (Finding/Policy #2002-FB-215).

Tom Carpenter of the Copper River/Prince William Sound Advisory Committee was in attendance and received his Certificate of Excellence in Service from Chairman Morisky.

**ADF&G STAFF REPORTS**

The department provided the following reports.

1. [Alaska Fishery Enhancement Program](#) by Lorraine Vercesi
2. [Sport Fish Enhancement Program](#) by Jeff Milton
3. [Introductions and Concepts](#) by Bill Templin



- a. Straying and Homing in Salmon Life History by Templin and Chris Habicht
- b. Alaska Hatchery Research Project by Templin and Habicht
4. [Study Question 1: Genetic structure of Chum and pink salmon in Prince William Sound and Southeast Alaska](#) by Sara Gilk-Baumer
  - a. Chum salmon in Prince William Sound and Southeast
  - b. Population structure of pink salmon in Prince William Sound
5. [Study Question 2: What is the Extend and Annual Variability of Straying?](#) By Templin and Habicht
6. [Study Question 3: Update on pink and chum salmon hatchery /wild relative fitness](#) by Kyle Shedd
  - a. Southeast Alaska Chum Fitness Study
7. [Assessing Mechanisms Driving Relative Reproductive Success](#), Chris Habicht
  - a. Review of Evidence of Genetic Interaction Between Hatchery and Wild Pink Salmon in Prince William Sound
  - b. Application of Science to Policy by Templin and Andrew Munro

Board members asked a number of questions to staff on the presentations.

#### DEPARTMENT OF LAW BRIEFING

The Department of Law provided a briefing of the extent to which the Board of Fisheries has authority over hatcheries. Assistant Attorney General Aaron Peterson offered the advice from Law has not changed from that given in the 1997 which is that the board has authority to modify releases in a hatchery permit. A review of legislative intent behind AS 16.10.440(b) did not find that authority was limited to wild capture broodstock.

#### OPEN FORUM DISCUSSION

The board held an open forum for discussion on set topics. The information below summarizes the public discussion.

Is hatchery research in Alaska adequately independent? Comments included:

- Original money for the Alaska Hatchery Research Project came from the State of Alaska. Hatcheries were asked if they wanted the appropriation, but they asked to have it go to ADF&G to keep the funding with a neutral facilitator. Additional hatchery operator comments indicated they contributed to project funding, but do not recall having any oversight on the research.
- The Douglas Island Pink and Chum hatchery indicated the funding they provided was from a large windfall that came to the hatchery. At the same time, they were able to fund a graduate program with the university unrelated to hatcheries.
- There was support for research to receive peer review and an independent body to help oversee the effort.
- Additional comments related to peer review suggested traditional peer review was appropriate for academic research, but applied research required oversight by more knowledgeable sources such as ADF&G.

How could the hatchery research be more independent? Comments include:

- Having an accurate assessment of escapement goals in rivers where straying is occurring would help to determine the impact of the straying.
- There are examples of other industry-led models that future work could emulate including the Bristol Bay Science and Research Institute and the Pollock Conservation Cooperative Research Center.



- Independent peer reviewed work is not helpful if it does not understand the subject matter.
- One hatchery board member discussed that within his board, who is composed of mainly fishermen, there is a culture of care and caution for the wild stocks over hatchery production.
- It should be expected that even without a formalized peer review process, all the work that comes from the Alaska Hatchery Research Project will receive a significant amount of external review.
- There was concern that certain employees within ADF&G were not able to publicly voice concerns about hatcheries.

## **BOARD DISCUSSION**

The board finished the committee meeting by discussing three specific questions.

Should the annual Hatchery Committee meeting be two days in length to accommodate the potential length of presentations, or should it be shortened?

- There was general agreement one day was adequate. One request was for department presentations to be done ahead of time and posted on the Internet to allow board members to review them in advance and be prepared to ask questions. The material was quite a bit and some subject matter was complex. An opportunity to review in advance and study would help.

Should the Joint Protocol on Salmon Enhancement be adopted into regulation? What purpose would it serve?

- There was general concurrence that putting the policy into regulation would have no practical purpose. It was agreed to continue to have annual hatchery committee meetings.

Is the precautionary approach being implemented when reviewing hatcheries? Is it working?

- The only comment from the board was the belief that the precautionary approach is built into the permitting plans and research currently underway is evidence of that approach.

## **SCHEDULING THE NEXT HATCHERY COMMITTEE MEETING**

The board determined to hold the next Hatchery Committee meeting the day prior to the 2021 Statewide meeting, March 4, 2021.

**The meeting adjourned at 4:33pm.**