Western Alaska Salmon Stock Identification Project
Joint Meeting of Advisory Panel and Technical Committee
17 March, 2011
Hilton Hotel
Anchorage, Alaska

AGENDA

(Meeting will commence at 8:30 AM)

Chair: Eric Volk, ADFG

Call to Order: 0830

Attending: (Name and affiliation)

Eric Volk, ADFG
Robin Waples, NOAA Fisheries, (Technical Committee; TC)
Bruce Weir, UW (TC)
Thomas Quinn, UW (TC)
Tim Baker, ADFG
Doug Eggers, ADFG
Chris Habicht, ADFG
Mark Witteveen, ADFG
Lisa Creelman, ADFG
Serena Rogers, ADFG
Tyler Dann, ADFG
Larry DuBois, ADFG
Paul Gronholdt, Sandpoint
Jim Jasper, ADFG
Heather Hildebrand, ADFG
Chuck McCallum, Lake and Penn Borough
Michael Link, BBNA/BBSRI/LGL
Art Nelson, BSFA
Beth Stewart, AEB
Rose Fosdick, Kawerak, Inc.
Andrew Munro, ADFG
Denby Lloyd, Alaska Resource Consultancy
Jill Klein, YRDFA
Bill Templin, ADFG
Sam Cotton, AEB and AC
Pat Martin, CAMF

Missing: (Name and affiliation)

Milo Adkison, UAF-Fisheries (TC)
Association of Village Council Presidents representative
Tanana Chiefs Conference representative

Final Agenda:

1. Welcome and Introductions
2. Review and Approval of Agenda
3. Public Comments 1
4. Definition of Reporting Groups (Technical document 11)
5. Public Comments 2
6. Strategy for selecting priors
7. SNP selection in chum salmon (Technical documents 8 & 10)
8. Estimation of run sizes and approach to establishing confidence intervals
9. Review of draft sampling report
10. General project updates
    A. Budget and timeline
    B. Need for additional meetings or teleconferences
    C. Establishment of web-site
11. Review and approval of minutes from October, 2010 meeting
12. Scheduling of next meeting

Notes:

1. *Welcome and introductions*

Eric Volk (EV) - Gave brief synopsis of timeline and asked if there are any additions or changes to the agenda. Specifically, welcomed Rose Fosdick (RF; Kawerak, Inc), Sam Cotton (SC; Aleut Corporation and Aleutians East Borough) and the three Technical Committee members to the meeting.

2. *Review and approval of agenda*

EV- Added another comment period after Section 4 and added a section after the second public comment period to discuss strategies for selecting priors.

Decisions to make today:
1. To finalize the reporting groups for sockeye salmon MSA.
2. To set up a strategy for chum salmon reporting groups.

Items to discuss:
A. Run size estimation and expressing uncertainty around run sizes. Will ask Pat Martin (PM) to introduce the topic and give some background justification.

B. Review of draft sampling report and addressing content issues anyone may have. Formatting issues can be dealt with via email.
C. Deadline for final draft comments and edits of the sampling report.
D. Meeting frequency and having additional meetings between now and next March.
E. PM-Concerned about the review process of technical documents between ADFG and the Advisory Panel (AP) and the lack of public comment in the draft phase.

3. Public comments

Public members indicated that they would reserve comments for later in the meeting.

4. *Definition of Reporting Groups (Technical Document 11)-Chris Habicht (CH) ppt.*

Reporting groups are the basic units to which we allocate mixtures and are the foundation for this work. Review of methods for selecting reporting groups for sockeye from last meeting. Also have received feedback from the AP since the last meeting and will review that here as well. (Refer to Tech Doc 11)

Overview-

- Gather input from stakeholders
- Establish **guidelines**:
  - Test the baseline (>90% correct allocation proof tests)
  - Ensure adequate genetic representation (escapement tests and/or local knowledge)
  - Ensure adequate numerical representation (>400 fish per reporting group)
  - Ensure adequate expected number in mixture (>5%)
  - Use dynamic reporting groups for tabulating results
- Reassessment by stakeholders

Questions asked-

A. Clarification/definitions of two terms were reviewed: Proof tests and Escapement tests.

B. Can we review the 5% criterion rationale? The 5% criterion rationale comes from the Marlowe and Busack (1995) paper where 5% of a simulated mixture of 200 individuals resulted in coefficients of variation below 50%. There was some discussion about whether CV or % range is more important. This measure is a guideline to keep this variable in the decision process for determining reporting groups.

C. Some discussion on the role of life history and genetic structure ensued – sockeye salmon home with more precision than chum salmon and have a deeper genetic structure.

Sockeye Salmon Reporting Groups:

1) Yukon Area:
    a) Baseline Sample Size Issues (< 400 fish per reporting group) and few expected in any mixture (<<5%):
        i) ADFG recommended dropping Yukon River sockeye salmon from the baseline.
            (1) Justification (CH, Tyler Dann [TD], Jim Jasper [JJ]):
                (a) Yukon River supports a small escapement that appears to be newly colonizing. The farthest north fishery mixture for WASSIP is in the Kuskokwim Area, so any Yukon River component is expected to fall far below 5% in any mixture.
                (b) Yukon River fish are genetically similar to Kuskokwim River river-type fish which would likely lead to misallocation of Kuskokwim River fish to Yukon River.
                (c) The magnitude of sockeye runs in Kuskokwim River is much higher than in the Yukon River.
                (d) Yukon River reporting group would be represented by less than 400 fish (142 fish).
            (2) Discussion:
                (a) Rational for the 5% criterion ensued (Robin Waples [RW], CH, JJ). This criterion may be high, but it is an important variable in determining appropriate reporting groups. It is likely that the Yukon River component would be order(s) of magnitude less than 5% in WASSIP mixtures.
                (b) Downside of leaving Yukon River out of baseline is that there will be no option for allocation of fish to Yukon River.
                (c) Upside for taking Yukon River out of the baseline is that misallocations of Kuskokwim River fish to the Yukon River, which will be large relative the population size in the Yukon River, will not be possible. Misallocations in the other direction will be lower given the much lower numbers of Yukon River fish in the sampled fisheries. Beth Stewart (BS) was concerned with political issues revolving around a reporting group that is likely to be over-allocated.
                (d) ADFG will monitor the Yukon River sockeye salmon stock in case this is a re-colonizing event resulting in higher numbers of fish, but will not include Yukon in WASSIP. PM: Noted that representatives from YRDFA and TCC are not present.
            (3) <u>Decision: Delete Yukon River fish from baseline based on technical concerns.</u>

2) Kuskokwim/Bristol Bay Area; Goodnews/Togiak:
    a) Genetic Distinction Issues (likely missing the 90% criterion)
        i) ADFG recommends separating Goodnews and Togiak if the 90% correct allocation rule is met; if not then keep them as a single reporting group.

(1) Justification: Early indications show that it may be difficult to genetically separate Goodnews and Togiak into two reporting groups, but stakeholder needs support the separation.
(2) Discussion: Previous Togiak District fishery samples indicated substantial proportions of the harvest were Goodnews River fish. It is geographically possible that a lot of Goodnews River fish are being caught in Togiak District. A lot of baseline samples were collected to determine if this result is an artifact of genetic similarity among some populations in the two drainages or if it's real. The new baseline has not been tested yet, so group uncomfortable with reaching a firm conclusion. PM-Would like both results presented even if 90% allocation criteria is not met. RW recommended taking a good look at baseline samples between the two areas to ensure strays are not contributing to the similarity.
(3) Decision: Goodnews will be kept separate from Togiak if 90% criterion is met, otherwise the AP and TC will have a conference call to discuss options.

3) Alaska Peninsula Area
   a) Baseline Sample Size Issues (< 400 fish per reporting group):
      i) ADFG recommends keeping Nelson separate if 90% criterion met, pool Northwestern District/Black Hills with Aleutian Islands into one reporting group, and pool Aniakchak with East of WASSIP.
         (1) Discussion: Tom Quinn (TQ), JJ, CH-Discussion about sample pooling. Consensus was reached for ADFG recommendations.
         (2) Decision: Nelson River will be kept separate if 90% criterion met, the Aleutian Islands will be combined with Northwestern District/Black Hills, and the Aniakchak population will be pooled with East of WASSIP.
   b) Genetic Distinction Issues (likely missing the 90% criterion)
      i) ADFG recommends keeping Cinder and Meshik separate if they can achieve the 90% criterion.
         (1) Decision: Cinder and Meshik will be kept separate if 90% criterion is met, otherwise combine.
      ii) Bear-early/Sandy and Bear-late: ADFG recommends all Bear River pooled with Sandy River as a single reporting group.
         (1) Justification: Sandy River appears genetically distinct from Bear River but has small sample size of 190 fish. The original thought that Bear River late and Sandy River would be more genetically similar to each other than Bear River early and Bear River late, does not appear to be true.
         (2) Discussion: Group disagreement as to whether Sandy River should become its own reporting group or to pool it with the Bear-early run. Mark Witteveen (MW) agrees with pooling the Bear-early run and Sandy River for WASSIP due to the way the fishery is managed. Did not feel it necessary for management decisions to completely split Sandy River from Bear River. (BS) and Doug Eggers (DE) supported separating Sandy River completely from Bear River for run reconstruction calculations. PM expressed interest in reporting results for both separate and combined

groups. ADFG was concerned that the 190 fish sample might not represent all the genetic variation within Sandy River, but the lack of life history complexity within this drainage alleviated much of this concern.

(3) Decision: Combine the Bear-early and late runs into one reporting group. Sandy River and Bear River will be kept separate if 90% criterion is met, otherwise combine.

4) Newly proposed reporting groups: Chignik Area and East of WASSIP
   i) ADFG is open to three reporting groups in the Chignik Area: 1) Black Lake, 2) Chignik Lake-early, 3) Chignik Lake-late.
      (1) Justification: Genetically distinct, but there needs to be a WASSIP rationale.
      (2) Discussion: Chuck McCallum (CM) withdrew his request to divide Chignik Area farther due to lack of a WASSIP connection. This division can be done using these data after WASSIP is over, if wanted.
      (3) Decision: Chignik Area will have two reporting groups: Black Lake and Chignik Lake.
   ii) ADFG recommends against splitting up East of WASSIP
      (1) Discussion: CM expressed interest in East of WASSIP reporting groups. BS did not support going forward with anything related to East of WASSIP, because no representatives from those areas have been part of the WASSIP process. This issue was discussed in more detail later – see Public Comments 2.
      (2) Decision: The East of WASSIP reporting group will not be subdivided.

Chum Salmon Reporting Groups:

Regional Reporting Group Separation Overview-

1. Chum salmon baseline for WASSIP includes the entire Pacific Rim from Washington to Korea. We anticipate some problems separating the 4 reporting groups in coastal Western Alaska.
2. We've analyzed a backbone set of pops for 188 SNPs and we're still in the process of selecting 96 of those SNPs.
3. Need to set up a decision process to know where to look for distinctions.
4. In two months' time we'll have all the baseline data in hand. We'll then need to know priorities for reporting groups.

Questions asked-

A. Should we relax the 90% confidence with these reporting groups? This is a decision that will be made by the AP weighing the value of separating reporting groups against increased uncertainty in composition estimates. We have used less than 90% for management purposes in the past under certain circumstances.
B. How important is the separation of each of those 4 groups? This was addressed below.

C. Why is Kotzebue not on the list? It's not subdivided and should be listed as one group on the map. Because it's not subdivided it's not part of this discussion. Is there an ability with the baseline samples to subdivide Kotzebue into subgroups? It is possible but we have never heard interest from AP members in sub-dividing group. There is some distinction but not a lot. We can certainly add it to the table. Is there an area that you would like to be able to distinguish? Don't think it's a huge issue but if the possibility is there it may be good to know. Do we have a strategy of what to look at within Kotzebue? I don't know in season management plans if they do any early or later. Should check with Jim Menard.

Recommendations for separating chum salmon at the regional level ("regional" for GSI is synonymous with Management Areas)

1) Regional Reporting Groups
   a) ADFG should first try to distinguish between the 4 major regulatory regions: Norton Sound, Yukon River, Kuskokwim River, and Bristol Bay. (BS, CH, Art Nelson [AN])
      i) Discussion: ADFG not sure if it will be able to separate the 4 major regional reporting groups.
      ii) Decision: First, determine if the 4 major regional reporting groups for chum salmon can be distinguished at the 90% criterion.
   b) If the 4 major regions are not distinguishable, ADFG should next try to distinguish AYK from Bristol Bay and the Alaska Peninsula.(BS, AN, PM, CH)
      i) Discussion: The priority for the Alaska Peninsula has been to separate chum salmon stocks of Bristol Bay from AYK because of concerns that AYK chum salmon are caught in the Area M June sockeye fishery. Historically this has been a political problem and it is the reason for initiating WASSIP. From the Alaska Peninsula perspective this is the right path knowing in advance that North Peninsula has some overlap with Bristol Bay and it has been difficult to separate Bristol Bay and AYK chum salmon stocks. In this particular case the regulatory and political boundary is consistent with the evolutionary history. Attendees noted that not all signatory representatives from AYK were present at this meeting.
      ii) Decision: Second, determine if AYK can be distinguished from Bristol Bay and the Alaska Peninsula.
   c) ADFG should next try to distinguish Norton Sound from the Yukon and Kuskokwim Areas. (Rose Fosdick [RF], PM, AN, CH)
      i) Discussion: Agreement that the separation of Norton Sound from the Yukon/Kuskokwim Areas would be a good idea. Norton Sound combined sub-districts 1, 2, & 3 chum salmon are recognized as a stock of yield concern under the Sustainable Salmon Fisheries Policy. Other AP members from AYK were not present and attendees not sure how to discuss the rest of AYK separation without those individuals being present.
      ii) Decision: Third, determine if Norton Sound/Port Clarence Area can be distinguished from the Yukon and Kuskokwim areas.

2) Sub-Regional Reporting Groups
   a) Norton Sound/Port Clarence, Yukon, Kuskokwim, and Bristol Bay areas
      i) Baseline Sample Size Issues (< 400 fish per reporting group) and few expected in any mixture (<<5%):
         (1) Proposed sub-regional reporting groups with a small sample size include: Nunivak Island (N=119), upper Kuskokwim River (N=285), Kanektok/Goodnews Rivers (N=190), and Togiak (N=190). Due to small numbers of fish to some sub regional groups, we would expect to see few fish in mixtures from Nunivak Island and Upper Kuskokwim River.
         (2) ADFG recommends combining Nunivak Island, Lower Kuskokwim River, Kanektok/Goodnews Rivers and Upper Kuskokwim River; and to combine Togiak with Western Bristol Bay.
            (a) Justification (CH, JJ): Small sample sizes may cause misallocation issues and inflate the contribution of certain stocks.
            (b) Discussion:
               (i) Does Upper Kuskokwim River group with Lower Kuskokwim River better than Middle Yukon River-summer and fall or Eastern Bristol Bay? It is most similar to Middle Yukon River summer and fall and Upper Yukon River fall, but it is identifiable from these two, so we would not gain better estimates by combining them. Agreement that combining the Upper Kuskokwim River with the Middle Yukon River-summer would not serve any stakeholder needs.
               (ii) We have one collection from Togiak area (Osviak) that looks really different from the rest of coastal western Alaskan stocks. Any other issues with combining Togiak and Nushagak. Ultimately because of the way we do the total run for Nushagak it would be nice to have Togiak and Nushagak separate from a management standpoint.
            (c) <u>Decision: Combine Nunivak Island, Lower Kuskokwim River, Kanektok/Goodnews Rivers and Upper Kuskokwim River into one reporting group. Togiak and Nushagak will be kept separate if 90% criterion is met, otherwise pool Togiak and Nushagak but keep them separate from eastern Bristol Bay.</u>
      ii) Genetic Distinction Issues (likely missing the 90% criterion)
         (1) Sub-regional reporting groups Nome/Port Clarence, Golovin/Elim, Norton Bay/Shaktoolik/Unalakleet are likely to be difficult to distinguish among.
            (a) ADFG recommends pooling these three sub-regional reporting groups.
            (b) Justification (CH, JJ, BT, AN, RF): May have difficulty identifying these stocks. No life history differences such as summer vs. fall runs within Norton Sound area. There are some fall runs further north and closer to Kotzebue that ADFG may be able to identify. Those runs should probably then be reassigned to the Kotzebue reporting group (specifically Agiapuk and American rivers) (personal communication from Charlie Lean to BT).

(c) Discussion: Charlie Lean called BT and agreed with RF overall. He also had some further information as to what to group together based on the life history strategies of the various stocks. A discussion ensued as to whether the other AP members were comfortable with Charlie giving his insight into potential Norton Sound reporting group priorities. It was agreed that his input was very valuable; however, the AP still wanted to be included in any final decision making as to the reporting groups. BS-I recall Loretta was concerned with identifying Norton Sound stocks in fisheries around Shaktoolik and Unalakleet. CH-Separating NortonBay/Shaktoolik/Unalakleet from Nome/Port Clarence and Golovin/Elim would then be more important and should guide testing.

(d) Decision: Gather local knowledge on the life history of populations from the Norton Sound/Port Clarence and Kotzebue areas and determine what can be distinguished for MSA. Consult with the AP in September to finalize reporting groups.

b) Alaska Peninsula Area

i) ADFG recommends first trying to separate all 4 Alaska Peninsula sub-regional reporting groups: Northern District, Northwestern District, South Peninsula, and Chignik. If not possible, first combine Northern District and Northwestern District and see if they can be identified from South Peninsula and Chignik. If not, then combine Northern District, Northwestern District and South Peninsula and see if they can be identified from Chignik.

(1) Justification (PM, BS, CH): The genetic data show a lot of similarity in chum salmon all the way up to Bristol Bay from North Peninsula.

(2) Discussion: There is gene flow into the North Peninsula chum stocks. It was suggested that the reporting groups be North versus South Peninsula and then Chignik.

(3) Decision: First determine if all 4 Alaska Peninsula sub-regional reporting groups can be distinguished. If not, first combine Northern District and Northwestern District and determine if they can be distinguished from South Peninsula and Chignik. If not, then combine Northern District, Northwestern District and South Peninsula and determine if they can be distinguished from Chignik.

5. Public Comments 2

- Denby Lloyd (DL) appreciated opportunity to be present and thinks that the meeting has a good process, however has some concerns. Concerned that not all WASSIP interests are present and that there may be some responsibilities outside the WASSIP group that need to be taken into account. Does not think that there has been enough effort into subdividing east of WASSIP area. TQ also asked if there would be an EASSIP (Eastern Alaska Salmon Stock Identification Project) process. CH noted that when WASSIP was put together there was concern with releasing results from one area without including everyone. BS pointed out that

east of the WASSIP area is included within this project because some fish might originate from there but that this project was strictly for resolving allocation issues within WASSIP. She did not think it was appropriate to try and answer any east-of-WASSIP questions within this project. CM indicated that Chignik folks would like to know how many Chignik fish are being caught in the east area. Understand the history of what's driving WASSIP and Chignik is on the edge of that area. It isn't appropriate to try and address those concerns now.

- PM thinks the staff did a great job of preparing this information for this meeting.
- DL hopes that the final report will illuminate the reasoning for deleting the Yukon sockeye reporting group from the baseline.

6. *Strategy for selecting priors-new item led by Jim Jasper*

Overview-

1. ADFG looking at different methods and trying to find one that is robust and defensible while maintaining the accuracy and precision that we've established.
2. Considering using the local F_{ST} model.
3. Working with the TC and will be coming out with another document before the next meeting.

Questions asked: What is a prior? What is F_{ST}? ADFG provided definitions.

Recommended strategy for selecting priors-

Overall, the TC would like the priors to reflect stock abundance, migration pathways, and proximity of the fishery to the stocks' home streams.

A. Can use escapement estimates or other fisheries information.
   - Justification (JJ, RW, PW):
     i. Escapement data would be very informative but potentially more subjective and therefore controversial.

B. Can use the local F_{ST} model.
   - Justification (JJ, RW, BW):
     i. Local F_{ST} is inversely proportional to population size if both migration rate and the ratio of effective to census size are constant among populations.
     ii. The F_{ST} is more objective than using escapement data.

   - Discussion (Lisa Creelman [LC], RW, JJ, CH, PM)
     Can get estimates of effective population size by either a temporal method or a single sample that might be just as informative as using the local F_{ST} model. The local F_{ST} model is worth considering but all other possibilities should still be considered

before selecting the strategy. There are pros and cons for the various methods of selecting priors and we don't want to over or under weight them with regards to population structure. We want to be able to fill in the holes that we have in regards to population structure without misrepresenting any aspect of that population. RW-the F_{ST} approach is worth looking at but there are lots of other things that might affect F_{ST} and I'd be cautious.

- Decision: ADFG will produce a Technical Document for TC review regarding the strategy of selecting priors in time so that the final methods are established at the next meeting.

7. *SNP selection in chum salmon (Technical documents 8&10)*

CH presented the methods and preliminary results for the SNP selection process for chum salmon. This document had been reviewed by the TC and all TC recommendations had been implemented.

Bruce Weir (BW) suggested that ADFG has done more than was needed, but that ADFG should also consider using randomly selected sets of 96 SNPs and running them through MDS analyses to identify the best set of 96 SNPs. BW volunteered to do this analysis and provide ADFG with results. ADFG said it would incorporate his results into the final SNP selection process.

8. *Estimation of run sizes and approach to establishing confidence intervals (led by DE)*

Overview-

1. Simply knowing the number of fish from a given reporting group that are caught in the fisheries in relation to total run size is not enough to understand the conservation significance.
2. There is a need to develop an approach for establishing uncertainty or confidence intervals around the run-size estimates.
3. DE has been involved in discussions to formulate how to move forward with this idea.
4. Plan to come out with a technical document once this approach is finalized.

Explanation of run reconstruction by DE

- Stock assessment data needs to be integrated with WASSIP stock composition estimates and the way to do this is through a regional run reconstruction model.
- The general concept for the model is to treat each run size component as a random variable, estimate the mean and the CV of those variables, and then develop a model to address uncertainty as a log normal distribution.
- First step will be to build a model based on the Bristol Bay data set from 2006-2008 using a Bayesian approach in order to test these ideas and develop a model that can then be used for other 'regions'. The input for this model would include estimates of catch and escapements for the run components and all the CV's. This

model would yield posterior distributions for all the estimated components, allowing us to chart confidence limits.

- The principle issue in evaluating the uncertainty in the Bristol Bay catch reporting is the chum percentage that processors apply to split fish ticket catch into chums and sockeye. Processors have applied a variety of methods to estimate the percentage of chum in the catch, which are not explicitly known and are likely variable in statistical validity.

Discussion-

- BS, DE, Tim Baker (TB) - Discussed assessing CV's for subsistence versus commercial catches and addressing harvest numbers reported by processors.
    - BS – Would like to set up observers in the processing plants similar to the federal system.
    - Establishing a mandatory observer program to obtain an accurate reporting of chum percentage (funded by processors, following the model used in the groundfish fishery) would require regulatory actions and perhaps legislation. Establishing an observer program is not feasible in the short term and its usefulness is difficult to assess, particularly since the magnitude of the problem is unknown.
    - It would not be possible to design a sampling program to evaluate uncertainty in the historical data.
    - PM – would like some additional effort to be put forth this summer on these issues before estimating starts and thinks that there should be as much effort put into the catch estimate as was put into SNP selection.
- EV-I'm sure that we'll be working with Milo to come up with a well planned and thought out study design.

9. *Review of draft sampling report*

Overview-

1. The last draft sampling report wasn't ready for publication at the time and is no longer available.
2. New report is still a draft.
3. Edits can come by email. Specifically the sampling protocol and history behind selection of fishery mixtures would be the items that we want to make sure are clear to everyone.
4. Any AP member, if they'd like, can be involved in the document. We can insert comments in an Appendix.

- Decision: AP will finish reviewing the draft sampling report by April 30.

ACTION ITEM: EV will get memo to the AP regarding final comments of the draft sampling report soon after the end of April.

10. *General project updates*

A. Budget and timeline
   - EV-We're right on time and within budget. BT-Making arrangements with Bruce to do the PCA in a short amount of time. We are working on methods to store data files associated with the statistical analysis of the data from fishery mixtures for long-term storage and access.

B. Need for additional meetings or teleconferences?
   - Discussion: EV-Only 14 months away from finishing with this project. We have another September meeting and a March meeting and wonder whether or not that's enough meeting time. Will not be able to have the September meeting until the 3rd week of September.
   - BS and RF both asked when the reporting groups would be determined.
   - EV- We'll get proposed chum salmon reporting groups based on MSA performance prior to the meeting. We expect to resolve the final reporting groups at the September meeting. We also want to talk about the regional run reconstruction at the September meeting.

C. Establishment of web-site
   - EV-will have all the agendas and approved meeting minutes and links to signatory organizations. BT-Please check out the contact info for each organization. PM-Please send me an email. **ACTION ITEM: Contact Milo and PM about upcoming meeting and website details.** EV-Can include photos if you'd like.

D. Concerns
   - Because we're coming up on only 14 months remaining in the WASSIP project timeline, it was suggested that the AP start reviewing the final draft report as early as possible. Concern was expressed that there won't be enough time to review the report between June and September of 2012. There is interest in being able to reference this final report at the Board of Fisheries meetings scheduled for December 2012 and January 2013. The ADFG is working on a draft of the sockeye baseline at this time and hopes to have a viewable draft by the next meeting in September 2011. Interest was also expressed to be able to have more graphical ways to display the final WASSIP results for meetings such as the Board of Fisheries.
   - **ACTION ITEM: Discuss ways to display the final WASSIP results in more graphical ways at the next meeting.**

11. *Review and approval of minutes from October, 2010 meeting*

- BS moved to approve. RF was concerned about a Norton Sound comment in regards to fish decline, but she was not prepared to propose a language change because she did not have her notes on the minutes with her. The meeting minutes state: "b. Norton Sound-Golovin Subdistrict has experienced low runs due to

fishing". AP agreed that they were comfortable changing this language to better reflect the issues associated with the fish decline and that this work could be done after the rest of the minutes are approved. EV-Move to approve minutes. Seconded, and approved unanimously.

- CH-Would like to get approval to start statistical analysis on the mixtures - lab analysis was approved in the last meeting. EV-Motion to move forward with statistical analyses of fisheries samples. PM-Second. Unanimous approval.

12. *Scheduling of next meeting*

A. September 21 and 22, 2011.

Motion to adjourn. Second. Unanimous approval.

13. *Summary of Decisions made at the March 17, 2011 WASSIP Joint Meeting of Advisory Panel and Technical Committee members*

1) Reporting group decisions for sockeye salmon:
   a) Delete Yukon River from baseline based on technical concerns.
   b) Goodnews will be kept separate from Togiak if 90% criterion is met, otherwise will have a conference call to discuss options.
   c) Nelson River will be kept separate if 90% criterion met, the Aleutian Islands will be combined with Northwestern District/Black Hills, and Aniakchak population will be pooled with East of WASSIP.
   d) Cinder and Meshik will be kept separate if 90% criterion is met, otherwise combine.
   e) Combine the Bear-early and late runs into one reporting group. Sandy River and Bear River will be kept separate if 90% criterion is met, otherwise combine.
   f) Chignik Area will have two reporting groups: Black Lake and Chignik Lake.
   g) East of WASSIP reporting group should not be subdivided.

2) Reporting group decisions for chum salmon:
   a) Regional reporting groups:
      i) First, determine if the 4 major regional reporting groups in Coastal Western Alaska can be distinguished.
      ii) Second, determine if AYK can be distinguished from Bristol Bay and Alaska Peninsula.
      iii) Third, determine if Norton Sound/Port Clarence Area can be distinguished from the Yukon and Kuskokwim areas.
   b) Sub-regional reporting groups:
      i) Combine Nunivak Island, Lower Kuskokwim River, Kanektok/Goodnews Rivers and Upper Kuskokwim River into one reporting group. Togiak and Nushagak will be kept separate if 90% criterion is met, otherwise pool Togiak and Nushagak, but keep them separate from eastern Bristol Bay.

ii) Gather local knowledge on the life history of populations from the Norton Sound/Port Clarence and Kotzebue areas and determine what can be distinguished for MSA. Consult with the AP in September to finalize reporting groups.

iii) First determine if all 4 Alaska Peninsula sub-regional reporting groups can be distinguished. If not, first combine Northern District and Northwestern District and determine if they can be distinguished from South Peninsula and Chignik. If not, then combine Northern District, Northwestern District and South Peninsula and determine if they can be distinguished from Chignik

3) ADFG will produce a Technical Document for TC review regarding the strategy of selecting priors in time for the final methods to be established at the next meeting.

4) AP will finish reviewing the draft sampling report by the end of April.

5) **ACTION ITEM: EV will get memo to the AP regarding final comments of the draft sampling report soon after the end of April.**

6) **ACTION ITEM: Contact Milo and PM about upcoming meeting and website details.**

7) **ACTION ITEM: Discuss ways to display the final WASSIP results in more graphical ways at the next meeting.**

8) The next WASSIP meeting will be held on September 21 and 22, 2011.