RIVERS SMITH SALMON ECOSYSTEMS PLANNING SOCIETY

NOVEMBER 17/06 MEETING

1682 WEST 7TH AVE.

VANCOUVER

9:30 a.m. to 3:30

Present: Bruce Burrows, Julian Sturhahn, Mat Mortimer, Rick Routledge, Dave Peacock, Karl Wilson, Sandie MacLaurin, Peter Ross Johnson, Peter Johnson, Ted Walkus, Stan McLellan, Colleen Hemphill, Eric Peterson.

1. Review of 2006 escapement numbers.

Julian gave an overview of the escapement numbers for the Central Coast. Overall there were good Chinook returns. There were 3,700 Chinook returning to the Dean River. Surveys were done by over-flights with AUC calculations plus a mark recapture program. There were average returns of Chinook to the Chuckwalla and Kilbella systems. Returns to the Wannock and Owikeno tributaries were low. The Wannock dead pitch is not yet completed. Vern will be looking for fish with a punched aperculum (?) fin. All fish released from the Snootli hatchery have this marking. Ted pointed out that it was a bad year for Chinook in Rivers, the fish were smaller around 22 to 29 pounds. He speculated that they migrated right through to the lake this year rather than milling in the Inlet. In area 10, only a few Chinook go through the Docee Fence. In the lower part of the river almost 700 Chinook were counted. RSSEPS has submitted a stage 2 application to the Northern Boundary Fund to do a mark recapture project on these stocks.

There were weaker returns of Coho. There were only 4,077 coho counted through the Docee Fence this year compared to 19,900 last year. This year there was a camera added to the Docee Fence to aid in species identification. Coho returns to Owikeno tributaries were low with 200 fish being surveyed at the mouth of the Neechanz River. They were milling because of the low levels in the river.

The estimated escapement of Sockeye to the Owikeno system is 108,000 using the 3 times the clear stream index. Low water levels delayed the spawning somewhat. Area 10 Sockeye returns were 27,000 as counted at the Docee Fence. This is about one tenth of the predicted returns. The age 4 class from the 2000 brood year showed a poor return rate. Rick Routledge said that low 4 year old returns may be linked to late plankton blooms and therefore low food supplies for the juvenile fish.

Returns of pinks as measured at the Atnarko Tower were low. The Chum survey is not yet complete. Approximately 90% of the Chums return as 4 year olds.

Discussion of Conservation Concerns:

Sandie raised the issue of the low populations of Wannock Chum. They used to spawn in November/December. Recent attempts to locate this population have not been successful. Also sports fishers have indicated concern on the low Coho stocks

and would like to see some work done on them. Dave Peacock indicated that a recovery program using coated wire tags may be appropriate. He also informed the group that the DFO is sponsoring a review of all coastal enhancement projects. This review is made possible by funding from the Northern Boundary Fund. It will include the historical data from the previous hatchery at Wuikinuxv Village. It was proposed that a workshop be held to discuss the feasibility of a new Wuikinuxv hatchery in the spring. The information from this enhancement review will serve as a basis for the workshop. Sandie said they would need to look at a broad range of management issues. The high costs of the previous hatchery were to due to high fuel costs to run the generator. The water from the village could not be used because of the high quantity of water required and the high copper content in the water so the hatchery was located outside the village.
Colleen asked abut the discrepancy between the Smith Inlet returns and the Rivers returns for 2006. Traditionally the Returns to the Docee Fence have been used as an indicator of the Rivers sockeye run as well.
Ted Walkus was concerned about Owikeno sockeye being caught by the Heiltsuk. He is asked if any studies have been done on this. Mat replied that there has been some sockeye DNA sampling. Action #1Julian said he would look for this information and make it available. Dave Peacock said that there was some concern about the low rate of return of coho to areas 9 and 10. It will be monitored very closely. Alaska still has high coho survival rates of from 10% to 20% whereas the Nass/Skeena have only about 5% survival rate. The marine survival indicators need to be studied.

Rick Routledge reported that Seana's MA thesis on Early Marine Survival of sockeye will be available on December 15. He presented two graphs to illustrate some of his findings. The first one showed catch data for juvenile sockeye in relation to the lunar cycle. The graph showed that the lunar cycle determines when fish migrate from the lake to the Inlet. The run takes a whole moon cycle to complete. It begins and ends with a full moon and the peak of migration occurs near the new moon. The second graph showed the distribution of chlorophyll and zooplankton over time. Rick explained the relationship between the chlorophyll and the zooplankton populations. He is planning to continue this research in 2007. His is also planning to hire a hydrodynamics expert to determine water flow rates and nutrient levels in Owikeno Lake. He will focus on getting a better mechanism for sampling the plankton populations that the sockeye feed on. If there are large fresh water flows the upper layer will be nutrient poor and cold which will result in smaller plankton populations and therefore less food for juvenile salmon. The opposite is not necessarily true, that is, low fresh water outflows do not guarantee high plankton populations.

There was some discussion of global warming and the effect on the glaciers at the head of Owikeno Lake. The change of water colour to a dark green from the glacial run-off is happening later in the year now. Dave Peacock suggested that we should repeat the lake productivity studies however evidence indicates that the main problem is not with the lake's productive capacity. Ted asked if there was any data available

from sampling that used to be done at the top of the Wannock by his father Danny Walkus. Action #2Dave Peacock said that he would look for the records.
Rick reported on the work being done by Misty McDuffee on analyzing the sediment cores from Owikeno and Long Lake. He has arranged for a specialist to work with her on isotope analysis.

Work on the Smith Inlet digital atlas of sensitive salmon habitat is progressing. The consultant Violet Komori is planning some interviews with GNN informants next week. The final product will consist of a digital atlas of sensitive habitat situated on our web page and hard copy maps for the GNN fisheries management.

Rivers Echo Sounding 2006
Peter Johnson of LGL gave a report on the Rivers Echo Sounding 2006 project. This year's project was the result of collaboration between the Wuikinuxv, the LGL and Aqua Acoustics. The same transects that were used historically were used again. The project went from July 09 to August 2. The data provides an index of abundance and is not a true a measure of abundance. The first pulse of sockeye came on July 21 which is a bit late. The fish seemed to trickle through instead of schooling up and moving in pulses. Part of the project was to do a sample fishery with the seine net to identify species composition. Four test fisheries were conducted with a 85% sockeye catch. A proposal to the Northern Boundary Fund has been submitted for the 2007 Echo Sounding project. This proposal will make more use of the Wuikinuxv crew to process more of the data. There were some issues with analyzing the vertical distribution of the fish. Next year they will use 2 transducers one pointing down and the other horizontal for better data.

Wannock Hydro Acoustic Enumeration

Peter Johnson of LGL reported on an experiment conducted on the Wannock last summer with a Didson hydroacoustic transducer. Previous efforts at enumeration using hydroacoustics did not work. There is now new and improved technology with long range capability. A 24 metre range Didson was used on a 4 day trial to see if salmon could be counted in the Wannock. A new site in front of the Eagle's Nest B& B looks promising. The experiment demonstrated that the Didson did make enumeration possible. It was proposed that acoustic enumeration of sockeye in Wannock River be done by 2 Didson's one on each side of the river with a small shack built to house the lap top computer for data collection. The actual collection of the data is still labour intensive as the fish still have to be visually counted. There was some discussion about rental/lease of longer range Didson acoustic scanners. Dave Peacock suggested that we do a pilot project next summer. Action #3, He said he would investigate if we could use a DFO one from the Fraser River. Action #4, Peter Johnson of LGL said he would look into the possible loan of the equipment from a distributor.

Docee Fence:

Colleen reported that he GNN work at the Docee fence went well last summer. They were able to purchase a boat which made the work easier. The installation of a camera at the fence to identify species was a welcome innovation.

Proposed 2007 projects.

Proposed hatchery in Owikeno.

There was some discussion on the feasibility of a hatchery in Owikeno which would produce Chinook and possibility Chum and Coho. The DFO are doing a review of previous enhancement efforts which should provide the necessary background assessment of the former hatchery. Dave Peacock proposed a one day workshop to discuss the proposed hatchery. The workshop will probably take place in May or June after the review is finished. There was some discussion about possible funding sources. Capital costs are expected to be in the range of $500K. Bruce asked about water sources for the previous hatchery. The water from the village could not be used as it contains some traces of copper and the volume is insufficient. The reason that the previous hatchery was so expensive to run is it required the use of a generator. Action #6, Sandie agreed to dust off a report done on the hatchery back in 1985. This report will be updated and distributed. The DFO are also developing a policy on Ocean Ranching. The Native Brotherhood is interested in this.

Juvenile work in Owikeno and Long Lakes.

Fall juvenile trawls complete. Plans to do the winter acoustic work in February - even though resources are an issue. Main problem is overtime needed to do the work (done at night). $21k needed and only have 1$4k budgeted. (5 days each system)

Bruce questioned the scope of the work, – he would like to see it expanded and not so limited to a brief period of time and see some involvement of a Wuikinuxv crew. Dave Peacock said that the juvenile survey was at top of his list of priorities and he will make sure that it will be resourced right. The move to do the acoustic work in the winter when turbidity is lower has resulted in very good data and is probably of more value than the fall program. Bruce requested that the data from the surveys be made available to the Wuikinuxv. Action #7, Julian agreed to approach Kim Hyatt about making the data more available.

Wild Salmon Policy

Dave Peacock gave an overview of the Wild Salmon Policy. He began by reviewing the implementation strategies of the WSP. The following is from page 16 of the WSP policy outline.

WSP Strategies and action steps

1. Standardized monitoring of wild salmon status

- Identify Conservation Units
- Develop criteria to assess CUs and identify benchmarks to represent biological status
- Monitor and assess status of CUs

2. Assessment of habitat status

- Document habitat characteristics within CUs
- Select indicators and develop benchmarks for habitat assessment
- Monitor and assess habitat status
- Establish linkages to develop an integrated data system for watershed management

3. Inclusion of ecosystem values and monitoring

- Identify indicators to monitor status of freshwater ecosystems
- Integrate climate and ocean information into annual salmon management processes

4. Integrated strategic planning

- Implement an interim process for management of priority CUs
- Design and implement a fully integrated strategic planning process for salmon conservation

5. Annual program delivery

- Assess the status of Conservation Units and populations
- Plan and conduct annual fisheries
- Plan and implement annual habitat management activities
- Plan and implement annual enhancement activities

6. Performance review

- Conduct post-season review of annual work plans
- Conduct regular reviews of the success of the WSP

[15]See www-sci.pac.dfo-mpo.gc.ca/sci/psarc/default_e.htm .

The Rivers Smith Inlet area is being considered as a pilot project for the implementation of the WSP. The process will require consultation with First Nations, and other resource users. Conservation Units will be defined and benchmarks for each CU will be determined. These need to be linked to an ongoing monitoring system
Step 1 = Stock assessment job. This includes initial discussions with FN technical committees for review of criteria and CU's. There is confidence that we will be able to complete this task in a timely manner.
Step 2 = Assessment of Habitat Status. This will be a much more challenging undertaking and will likely to take an extended period of time.
Step 3 = Inclusion of Ecosystem values and monitoring. Definition of ecosystem values (a consistent one) etc. just one of the challenges that could affect this step.
Step 4 = integrated planning process. The Fraser has been formally approved as a pilot in the integrated planning process and Rivers/Smiths is also being considered.

The last two pages of the WSP policy (Appendix 2)has a 5 step planning procedure for implementing the WSP agenda. (Please see the end of this summary)
Rivers Inlet area is being considered as a pilot project because:

- one of the few areas where ecosystem work is being done (early marine, habitat status)
- strong FN interest/engagement
- major management issues on the horizon
- confined geographical area but can deal with 5 pacific salmon species.
- is candidate for demonstrating new challenges in changing times for management of pacific salmon
- we have done a lot of work already (working on strategic assessment plan)

Ted Walkus pointed out that the sockeye that spawn at the foot of the lake are very different from the Lake Sockeye. He said that there is not one thing to consider in stock health/habitat. In his work as a logger he does not think that logging has had a major impact on habitat. He said that we have to look at a variety of factors like the seal population. There is no longer any hunting of seals so this may contribute to larger numbers of seals.
Bruce expressed a strong interest in WSP as way of providing the Wuikinuxv with a meaningful role in co-management. This pilot could be a way to test protocols and procedures for co-management. Bruce asked for formal terms of reference including issues about funding and the decision making process.

A general discussion followed on the definition of the CUs and benchmarks for Rivers/Smith salmon. It was suggested that we may end up with two groupings of chinook in Rivers because of their different run timing.
Benchmarks (stock status) – may be in ranges of red, amber and green zones. There would be extensive management intervention if a CU fell below the lower benchmark and commercial catches would be allowed if the CU was above the upper benchmark. Idea is to look at it as preserving genetic diversity and unique traits.

Dave Peacock committed to doing Step 1 of five step planning procedure as there has been no official decision to go beyond that from DFO. There is significant question about what is needed to go from step 1 and step 2.
Step 3 – is benefit cost in the broadest sense and there could be challenges as to who can address "social" benefits etc.

Conservation Units discussion:

Pinks: Two conservation units are proposed one for the even year runs and one for the odd year runs. There are 255 streams identified in the Hecate Strait – Queen Charlotte Sound even-year Pink CU. You can still make discrete management decisions for individual streams if needed.
Chum: Two obvious CUs are Wannock and earlier runs of Chuckwalla/Kilbella and others plus Smiths Inlet. There was some question about Owikeno lake stocks. Bruce suggested that there are 3 CUs for Chum – Lake Chum, Wannock Chum and Inlet chum.
Coho: It was suggested that there be three conservation units instead of one (Docee, Rivers Inlet and Owikeno Lake). We would have to also look at what we would use for indicators which would be logistically challenging. Julian pointed out that there is a gap in our Coho data. Action #8, Dave Peacock said that he would retrieve previous Coho data and reconsider it.
Chinook – Stream type includes Owikeno Lake and Kilbella/Chuckwalla,
Ocean type includes Wannock and also Docee.
There was some discussion about whether Owikeno Lake Chinook should be separate from Chuckwalla/Kilbella. Wuikinuxv representatives feel that lake chinook should be a CU. There is more prevalence of white springs in Chuckwalla/Kilbella than pink springs It is questionable whether Chuckwalla/Kilbella would re-colonize upper lake and visa versa. Ted reported seeing Chinook in Genesee and in the Machmell River.

There was some discussion how we will monitor the benchmarks or even establish them. Now we enumerate a sub-sample of streams – trying to get representative number.
Dave Peacock related a situation where periodic sampling, though looked upon with alarm, gave as good data for monitoring benchmarks as monitoring every stream every year. Our challenge in Rivers is that we have very limited monitoring and there are logistical challenges. and resourcing issues to doing any.
Looking at Rivers and Smiths chums – could we monitor every 4 years (cycle)?
There is also the question of enumeration for management. and for conservation.

The WSP suggests 3 zones namely red, amber, green zones as a means of using established benchmarks:
As the stock moves towards the red zone (low numbers) the management. actions (conservation) increase. As the stock moves from the amber zone to the green zone more fishing opportunities will be available.
The benchmarks as previously discussed for Owikeno sockeye are

= 30k (red zone)
= 200k (amber zone?)
= 400-600k (green zone?)

Next Steps for the WSP
It was agreed Dave Peacock would work on the Terms of Reference for the Pilot Project.
The next meeting of RSSEPS will be early in February when we hold our AGM.

The meeting was adjourned at 3:00. p.m.

APPENDIX 2: A STRUCTURED FIVE-STEP PLANNING PROCEDURE (from WSP)

Developing integrated strategic plans for individual CUs and groups of CUs will need extensive detailed information on the status of wild salmon, their habitat and ecosystem to be brought together and collated with information on fisheries and watershed activities. In addition, broad based input on possible management actions and their potential impacts will need to be received, considered and discussed in an organized way to arrive at reasoned and informed management decisions. The range of information that will need to be processed and the complex and sometimes controversial nature of the issues involved calls for a formal, structured and open procedure to be used in developing strategic plans.

The five-step planning procedure outlined below is proposed in this policy to assist in strategic planning. This procedure breaks down decision-making into a logical and manageable sequence that reflects standard decision-making practices in many private and public agencies.(35) In addition, it is designed to enhance integration and open up current salmon planning processes to greater public involvement. It provides for improved dialogue among the affected parties and enables them to participate throughout the development of plans from the establishment of planning priorities to the identification of management alternatives, their evaluation and the selection of a preferred management alternative.

In the longer term, the application of the planning procedure and the development of integrated salmon plans will be the primary responsibility of appropriate representative planning bodies within a new integrated planning structure (Action Step 4.2). In the interim, the Department will bring together First Nations and various interests from existing planning processes, as needed, to provide focused recommendations for conservation and re-building conservation units that are in low abundance (Action Step 4.1).

Step 1
Identify planning priorities

As a starting point for planning, DFO staff will provide an overview report that identifies the CUs exploited by fisheries within each planning unit and gives summary information on their biological

status (Red, Amber or Green). Key habitat and ecosystem constraints or threats to individual CUs will also be summarized by watershed. For CUs in the Red zone more detailed reports will also be provided as they become available. These detailed reports will consider and incorporate ATK, where available, and be subject to peer review through PSARC.

Based on this information and their knowledge of local circumstances, First Nations and other participants in the planning process will be asked to develop key priorities for the each planning unit. These priorities will be
established consistent with the WSP objectives and principles, and will include the re-building of CUs where these fall below their established lower benchmarks. However, priorities may also include rebuilding or enhancing returns of wild salmon where these are below their sustainable production potential, or maintaining harvest levels in First Nations or other fisheries.

For every planning unit, Step 1 will provide a list of specific key priorities that are to be addressed in the development of integrated salmon management plans.

Step 2
Identify resource management options and alternative management strategies

At Step 2, several alternative management strategies will be developed in consultation with First Nations and other participants in the planning process. Specific management options proposed may include fisheries management measures such as fishing time and area restrictions or habitat restoration activities or watershed development constraints or enhancement initiatives. At this stage in the planning process it will be important that no realistic management option is eliminated from consideration. The specific options identified through these consultations will be used either singly or in combination to develop two or more alternative strategies for addressing the management priorities for the planning unit.

For every planning unit, Step 2 will provide a number of alternative strategies that reflect a realistic range of different approaches to addressing the management priorities for each planning unit.

Step 3
Establish biological, social, and economic performance indicators

At Step 3, input from First Nations and other participants in the planning process will be used to develop an evaluation framework for comparing the management alternatives developed in Step 2. This will require First Nations and others to identify explicit, measurable performance indicators applicable to the planning unit, its component CUs and their underlying local populations. These indicators should be suitable both to rate and rank the likely performance of each management alternative before making decisions, and to assess performance over time following decision-making and implementation. The indicators should directly relate to the biological objectives (safeguard the genetic diversity of wild salmon and maintain the integrity of their habitat and ecosystem) and the social and economic objectives (manage fisheries for sustainable benefits) of the WSP. To be useful, the indicators collectively will need to fully reflect the concerns and interests of First Nations and other participants in the planning process.

For each planning unit, Step 3 will provide a credible, broadly accepted management assessment framework that captures and reflects all significant biological, social, and economic considerations.

Step 4
Assess the likely impacts of management alternatives

At Step 4, the alternative management strategies identified in Step 2 will be evaluated using the performance indicators developed in Step 3. The evaluation process will be forward-looking and focused on estimating the “future” impacts (both positive and negative) of each strategy on each of the indicators for the planning unit. These predictions will need to reflect the uncertainties and risks associated with each management alternative.

Under the Wild Salmon Policy, DFO will play a lead role in providing or obtaining these predictions from appropriate technical experts. For some planning units, computer simulation models may be available to assist,
but in other cases it will be necessary to rely on expert opinion. To facilitate comparison between management alternatives the likely "net effect" of each management alternative relative to a common base case (e.g. status quo
management) on all of the selected indicators for the planning unit will be projected for appropriate time periods.

Step 4 will provide a set of predicted outcomes for each alternative management strategy.

Step 5
Select the preferred management alternative

The predicted outcomes from Step 4 will help in selecting a preferred management strategy. In many cases, tradeoffs will be apparent among different biological, social, and economic indicators. It is anticipated that differences of opinion will occur between individuals and interest groups about the “best” alternative because of their different priorities and tolerances to risks.

The goal will be to use constructive dialogue among First Nations and others involved in the planning process to resolve these differences, find compromise solutions and to develop consensus recommendations wherever possible for each planning unit. In the absence of consensus, differences of view will be fully documented to inform final decision-making. The Minister of Fisheries and Oceans will consider the input received and will make the final decisions. Records of all decisions will be made available to the public.

The decisions made for each planning unit will collectively form the regional strategic plan for the management of fisheries and watersheds. The plan will include activities and management actions to be undertaken over a medium- to long-term timeframe. It will also stipulate explicit biological targets to be achieved for individual Conservation Units and groups of CUs and, where appropriate, anticipated timeframes for rebuilding. All of this information will be documented in an Integrated Management Plan for Pacific salmon.

One of the challenges in successfully managing wild salmon is to achieve consensus on how to address conservation concerns while accounting for the social and economic impacts of alternative management actions. In the planning process described here, the interested parties will be directly engaged throughout the development of management plans from the establishment of planning priorities through to the evaluation and selection of the preferred management alternative. The deliberations will be guided by the principles and objectives expressed the WSP, and the acceptability of the recommended management actions will be determined by the degree to which they advance the overall policy goal of restoring and maintaining healthy and diverse salmon populations for the benefit and enjoyment of the people of Canada in perpetuity.