

RIVERS SMITH SALMON ECOSYSTEMS PLANNING SOCIETY
SUMMARY OF AGM MEETING

July 29, 2008

10:00 a.m. to 4:00 p.m.

KDC Health Boardroom

Campbell River

Present:

Doug McCorquodale, David Stevenson, Misty MacDuffee, Lance McGill, Cindy Hanuse, Al Cass, Karl Wilson, Dave Peacock (by phone):

1. Coordinator's Report:

David gave a brief overview of the Wild salmon Policy. There are six strategies outlined in the WSP. The first four strategies were reviewed. Task one is to assess the status of salmon stocks by establishing Conservation Units for each species. Benchmarks for each species for each Cu need to be established. The WSP also calls for the development of strategic plans to manage the CUs. This will involve determining criteria to assess the CUs. In addition the WSP calls for the identification of the habitat features, the selection of habitat benchmarks, criteria to assess the habitat and a strategic monitoring plan. Planning for CUs and habitat units needs to be further integrated with ecosystem values. There is a need to develop a strategic plan to implement the WSP in the Rivers and Smith watersheds.

The Conservation Units for the Rivers and Smith Watershed were reviewed. Some questions were raised about the inclusion of some streams in the CUs. For example Boss Creek and Boswell Creek were questioned as being part of the Coho Conservation Unit. Similarly very few Chinook have been observed at the Nekite Creek. The CU for Sockeye – Lake L-15-03 contains a creek, Fairfax Creek which was not recognized by any one. Similarly L-15-04 for Wannock Sockeye Lake contains an unknown river called Jalun River. These discrepancies will be forwarded to Brian Riddell.

2. Benchmark Discussion:

Al Cass, DFO biologist, gave us an update on the work being done to develop benchmarks. There is a PSARC paper being developed on benchmark methodology. It will be available this October. Al led us through a discussion of Carrie Holt's paper: Evaluating Status of Conservation Units. He explained the Maximum Sustained Yield(MSY) model as it applies to the Spawner-Recruitment relationship. Carrie's paper identifies different approaches to establishing benchmarks:

- Spawners relative to S_{MSY} or
- Fishing mortality relative to F_{MSY} or F_{max}
- Trends in spawners over time
- Distribution of spawners across populations within a CU
- Proportion of freshwater habitat used
- Body condition or size of juveniles, smolts and/or recruits

These different approaches were discussed. When data is poor for as specific species you have to use proxy data which may include local knowledge rather than the Spawner-Recruitment model. Lance pointed out that there is very little monitoring of Smith tributaries

or the tributaries at the mouth of Rivers. In a recent report by LGL Consultants for DFO it was reported that there are 137 streams being monitored out of 2500 in the Central and North Coast. It recommends that monitoring increase up to 400 streams annually. Misty raised the issue of capturing ecosystem values in the benchmarks methodology. DFO uses MSY and PR models (maximum sustainable yield, photosynthetic rate) to determine the minimum number of spawners needed to sustain the fishery, but it does not examine broader considerations such as ecosystem needs for nutrients, wildlife and predator needs and dynamics, climate change, uncertainty, precautionary approaches, effects of spawners on habitat, etc. which should be considered in the WSP. There was a general discussion of what is the definition of a healthy or unhealthy salmon population and what proxies you can use in the absence of data used for S_{MSY} or S_{MAX} . There was some discussion of the accuracy of using indicator streams as benchmarks for CUs.

A copy of Misty's Salmon escapement survey for Rivers and Smith was distributed for discussion. DFO has revised target escapements over time, so how do we choose benchmarks? She used the old DFO targets in the original benchmark presentation. All the new benchmarks are based on some MSY consideration. She looked at all systems in Rivers and Smiths and identified the indicator streams, non-indicator streams and streams where there is nothing but presence / absence for the species.

She focused on indicator streams classified by CU, then looked at BC16 reports looked at target escapements, last time that escapement was met and status over the last 10 years. If it met the target escapement 80% of the time or more was green. There was some discussion of target escapements – the old target for Wuikinuxv lake was 900K fish, now reduced to 500K at a watershed level instead of individual streams. Misty suggested that benchmarks be set higher instead of the 200K no fish limit that DFO wants.

3. Coho Discussion

Dave Peacock pointed out that the historical target escapements are used as an index along with other limiting factors such as escapement surveys. For Coho the Docee fence is the index of abundance for the whole CU. A grad student has written a paper on Coho stock assessments variations based on stream walks. Another indicators used is the recreation catch per unit effort. There was some discussion about how to get more accurate stock assessment numbers by putting more feet on the ground. Some streams such as the Johnston Creek are too turbid to count fish. For some streams, such as the Chuckwalla, over flights provide a decent index. A measure of habitat capacity can also be used to determine Coho benchmarks. It is estimated that the total exploitation of Coho in Rivers is 20 to 30 percent using data from Area 6, Bella Coola, and the Quinsam. Ten percent of the Coho are caught in Alaska. Fry Density Surveys can also be used as an indicator of Coho abundance. Doug suggested that in Smith Fry Density Surveys and counts from the Docee and the Nekite could be the basis for setting a benchmark for Smith Coho. For Rivers Coho we could use a habitat productivity model to help establish benchmarks.

4. Pink Discussion:

Dave Peacock led the discussion on Pink benchmarks. We will need to identify the spawning habitat capacity. The CUs for pinks is huge as the pinks will spawn anywhere. The fishery

Officer Target numbers are still used. There are no historical stock recruitment numbers. Pink historical target escapements have more credence for use as a benchmark. The low numbers of pinks do not seem to be a result of overfishing. The harvest impact on pinks has been small for 20 years. Dave said that there were large fluctuations in Pink populations. There were high returns about 10 years ago. There were 1.3 million in 2001 in area 9. Al suggested that we could use historical levels of escapement and establish the benchmark as a conservative fraction of that number. A paper by Carrie Holt will be available in the Fall. We need to decide what parameters to use, such as which indicator streams to use for a Pink benchmark.

5. Chum discussion:

The Nekite Chum are of interest as they are still a healthy population. The Core Stock Assessment is not useful for determining benchmarks. It will be necessary to use habitat indicators for benchmarks. Many of the creeks in the CU are countable. There has not been a big rebound in Chum numbers even though the fishing pressure has been low. We will wait for the paper on benchmark methodology due in the Fall.

6. Chinook Discussion:

There is a paper on Habitat Capacity for Chinook by Chuck Parkins which we will need to examine. Some estimates are available for Rivers and Smith Chinook populations. The Fish Officer Targets are not very strong for this species as they tend to overestimate the numbers. They are difficult to enumerate. Dave Peacock commented that the Wannock dead pitch was not as reliable as an indicator. The number of fish for a mark recapture is not significant. It is difficult to catch male tagged fish so there is a bias towards female fish. We need to examine the work that Ivan Winther has done on Chinook. The sports fish catch numbers are fairly reliable. It was suggested that there are some Chinook spawning in the lake tributaries such as the Machmell. We would need a radio tagging program to confirm it. Historically the Wannock run numbered in the thousands. The pressure from the sports fishery is high. A mark recapture project is problematic because it is difficult to tag enough fish and it is difficult to catch them. Plus there is a bias for female fish. There was some further debate on Chinook numbers and habitat indicators.

7. Discussion on biological goals for Rivers and Smith Sockeye.

There was a brief review of the Biological Escapement goals for Rivers and Smith done by Steve Cox-Rogers. It is based on the habitat capacity of the watershed using a photosynthetic model. It predicts the number of juvenile fish that can be reared based on the rearing capacity as measured by smolt biomass in relation to the photosynthetic rate. Lakes with higher photosynthetic rates can support higher smolt biomass. The paper concludes that for Owikeno Lake, 610,000 sockeye would be the upper limit and that the lower benchmark would be 100,000 to 200,000 sockeye based on juvenile dynamics. For Smith Inlet, the upper limit would be 43,000 and the lower limit would be 4,300 based on 10% of the maximum sustained yield for unfertilized conditions. It was concluded that we need to review the papers presented by Cox-Rogers.

The meeting concluded with the decision to meet again in November to review the benchmark methodology.

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