

Meeting Minutes  
CalFed DEFT Harvest Management Team  
September 4, 1998  
9:00 am to 1:00 pm

**Participants**

J. Buell, D. Viele, B. Kier, Z. Grader, T. Mills, A. Baracco, R. Thomas, R. Sitts,  
J. Miyamoto

**Workgroup Objectives and Schedule**

Joe Miyamoto reviewed the work group objectives for the new participants and explained how the efforts of this group fit into the overall DEFT evaluation of species recovery. Based upon the direction from the DEFT, the purpose of the meeting was to determine the relationship between the Central Valley Harvest Rate Index and actual harvest rates, summarize existing fishing regulations, identify potential additional harvest management actions over the next seven years, evaluate cohort replacement rates as a tool to gage species recovery, and to provide an assessment of how fishing regulatory actions would contribute towards species recovery.

**CVI Rate Index vs Actual Harvest Rates**

Alan Baracco noted that a large portion of the harvest of Central Valley stocks occurs north of Point Arena. Historically, over one-half of the harvest may have occurred in this area. In addition, ocean conditions such as El Nino may distribute the Central Valley stocks so they are more vulnerable to Oregon fisheries. Given these factors, the catch used in the CVI Harvest Rate may be low compared to the actual harvest.

Zeke Grader questioned why there was so much of an emphasis on harvest rates. He noted there are other important factors such as sustainability of the population. He provided an example to illustrate you would not use the same harvest rate on a small population of two deer compared to an abundant population. In addition to sustainability, Zeke said a complete assessment would evaluate all sources of mortality including man induced and natural mortality.

Alan Baracco summarized what he thought should be included in an assessment of ocean exploitation rates. Analyzing information from a coded wire tagging recovery group, the following data should be included:

- Estimate of actual harvest.
- Estimate of non-catch mortality.
- Inland harvest and associated non-catch mortality.
- Illegally taken salmon.
- Estimate of natural mortality.
- Spawning escapement (including straying)
- Man induced mortality different than harvest.

Alan evaluated coded wire tag recovery information from the Coleman National Fish Hatchery to determine an exploitation rate. Based upon this cursory analysis, Alan said that the actual exploitation rates were consistently lower than the CVI harvest rate index by 10 to 20%. The methodology that Alan used is based primarily on three-year-old fish which are fully vulnerable to the fishery.

While the CVI provides information on trends of harvest and abundance, additional harvest management tools are needed to address the reproductive capacities of the different stocks. The work group agreed that it would be useful to develop a new management tool separate from the CVI for managing the ocean fishery. Some of the new tools might utilize exploitation rates, genetic analysis, and ocean stock distribution.

**Summary of Existing Regulations**

Alan Baracco distributed a summary of the ocean fishery regulations. During the period from 1971 to 78, there were few changes to the regulations. The first major changes did not occur until 1979 in response to changes in Federal law (Magnuson Fishery Conservation and Management Act?). The next set of major changes in ocean harvest regulations occurred in 1983 in response to the need to meet tribal harvest allocations on the Klamath River.

**Anticipated Regulatory Changes over the Next 7 - 10 Years**

While potential new regulatory actions were hard to define, the work group thought there would be greater specificity in the management of the ocean fishery. There may be more micro-management (such as the San Luis Obispo fishery last year?) and new tools available to manage the fishery. Future regulations may be more flexible in time based upon ocean conditions. There may be increases in efficiency of fishing methods that will reduce the amount of bycatch (non-target species or races). The work group concluded that any evaluation of future fishing regulatory actions is really an evaluation of the regulatory process. Alan Baracco noted that based upon past trends, the trend is toward more regulatory action.

**Recovery Goals**

The work group briefly discussed the recovery goals listed on the scoring matrix. Dan Viele noted that the winter run goal is a de-listing goal. In contrast, the maximum sustainable yield for winter run might have a goal of 60,000 fish. The recovery goals for spring-run and San Joaquin fall-run are from the Native Fishes Recovery Plan. Zeke Grader noted there are also CVPIA mandated doubling goals that go well beyond the ESA recovery goals.

**Contributions of Harvest Management Actions Towards Species Recovery**

The work group assigned scores to the list of existing and potential fishing regulatory actions. (see attached table). The following assumptions were made in scoring the matrix:

- Genetic analysis can be used as a management tool on a post season basis only.
- Because of the lack of stock separation by time and area, selective fisheries offer few opportunities toward recovery of spring and fall-run chinook salmon
- Protection of winter, spring, and SJ fall-run chinook in a selective fishery relying on a 100% hatchery fish mark is based upon a target fishery on marked fall-run chinook salmon (few winter and spring-run chinook are tagged). There is a high assumed hook and release mortality with this option. This option would be expensive to implement but the group did not consider economics in their assessment.
- In scoring new regulatory actions, there is a high comfort level that the existing regulatory process will protect weak stocks.

The work group had diverse opinions over the adequacy of existing fishing regulations to protect San Joaquin fall-run chinook salmon. At least some members of the group felt that a much lower score was warranted based upon a dramatic decrease in abundance of San Joaquin River stocks between 1988 and 1991. Other members of the work group felt that this decline was due to drought conditions.

#### **Cohort Replacement Rate**

For the purposes of determining recovery, the average cohort replacement rate is a not a useful statistic because a high CRR does not mean the population is in good shape. CRRs are useful as indicators of how well we are managing the habitat and fishery.

NMFS has used a cohort replacement rate of 1.7 for managing winter-run chinook salmon. This targeted goal assumes recovery will occur by the year 2015.

#### **Better Management Tools**

To improve ocean harvest management, the workgroup discussed the following tools:

- Development of stock specific exploitation rates.
- More complete spawner carcass surveys. The discrepancy between the RBDD counts and carcass survey based estimates for winter-run chinook was used as an example to justify this action.
- Genetic based mixed stock fishery analysis.

#### **Life Cycle Models**

Dan Viele reported on his findings on the CPOP life cycle model. The model was developed to simulate changes in salmon population abundance in response to changes in habitat, toxics, and harvest. The model was never used and users were cautioned that

they should not rely on the model output and the usefulness of the model is for comparison purposes only.

Dan reported that Pete Lawson is developing a habitat based model for coho salmon. Other models include the USFWS salmon smolt survival model and the Newman Rice version of the same model. The IEP Salmon Work Team is also developing a salmon conceptual model.

The next meeting of the harvest management work group is tentatively set for Wednesday, Sept. 16th in room 653 (call-in number is 916/657-4111). Terry Mills will ask Ron Ott if he can assign Tom Cannon to draft the team's report based upon the meeting minutes.

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