



Island County Marine Resources Committee

<http://www.islandcountymrc.org>

MINUTES

March 17, 2004, 4:00 – 5:40 pm

Trinity Lutheran Church
Freeland

Present: Chair Roger Sherman, Hi Bronson, Tom Campbell, Sayed El-Sayed, Phyllis Kind, Don Meehan, Rolf Seitle, Jeff Tate, Benye Weber, Admin. Ass't. Dan Pedersen.

Alternates: Pedersen (for Toft), Frank Roberts (for Gallion).

Absent: Martin Behr, Mike Gallion, Ian Jefferds, Dick Toft, Exec. Director Gary Wood.

Visitors: Eric Beamer (speaker), Skagit River System Cooperative, LaConner; Kim Bredensteiner, Island County Public Works; Tony Frantz, Puget Sound Creosote Awareness; Frank Roberts, Lagoon Point; Kit O'Neill, Clinton, Maxwellton Salmon Adventure; John Hastings, Freeland, Maxwellton Salmon Adventure; Bill White, Clinton, Beach Watchers; Segoo Jackson, Clinton.

Call to order: 4:00 pm, Sherman called the meeting to order.

Quorum: Declared.

Agenda: No changes.

Minutes of 3-03-2004: Adopted. No objections.

Summary of Decisions

MOTION CARRIED: To proceed with planning a Saratoga Passage Stewardship Area kickoff cruise in conjunction with the June 4-5 NWSC conference in Everett.

Benchmark updates postponed till April 7 meeting. For that meeting, members are asked to bring 2004 workplan updates to the benchmarks for which they are responsible.

Speaker: Eric Beamer
Research Director, Skagit River System Cooperative

Website: www.skagitcoop.org

Beamer has been conducting research for about 10 years on how chinook and other salmon use the Skagit River Delta and surrounding nearshore areas. In the last four years this has included sampling in nearshore areas of Island County. He is currently working on a project to understand whether the patterns of use observed are a Skagit phenomenon, a north Puget Sound phenomenon or whether they apply throughout the Whidbey Basin.

Beamer said early thinking about wild chinook recovery in the Skagit River focused on the delta and the river itself. At that time, about 1994, the delta was regarded as "the estuary." But as more thinking and studying was done, the definition of the estuary expanded to now include "pocket" estuaries, non-natal lagoons with freshwater input and coastal stream mouths. The nearshore of Whidbey and Camano islands have a number of "pocket" estuary habitats and SRSC has been sampling at one of these for the last three years, Arrowhead Marsh.

Beamer said earlier thinking was incorrect about the Skagit estuary as "only a delta." Current thinking defines an estuary as semi-enclosed body of water, diluted from full-strength seawater and connected to an ocean. Puget Sound itself is an estuary with many smaller estuaries connected to it. Skagit salmon have access to the Puget Sound fjord system and also the major adjacent river deltas, plus the smaller,

non-natal estuaries around the sound, pocket estuaries, consisting of small creek deltas or coastal lagoons.

SRSC is studying:

- > Chinook life histories, to determine which juvenile types live in the estuarine habitat.
- > The degree to which estuarine habitat has changed historically.
- > Whether the current condition of the estuary limits the current population of chinook.

The Skagit contains wild fish and a diversity of species -- sockeye, coho, chum, pink, native bull trout (Dolly Varden), and six different native stocks of chinook, spring- and fall-returning. In the last few years the Skagit has been getting about 10,000 to 20,000 wild spawners returning. It has been as low as below 5,000 in the last decade.

Three life-history types of chinook less than a year old migrate to sea from the Skagit.

- > Fry migrants emerge from their spawning areas very small and migrate directly into Skagit Bay, spending almost no time in fresh water but proceeding quickly into the marine environment. This is typical of pink and chums, especially.
- > Delta fry do their rearing typically in the delta for a month or so, gaining weight, going from about 40 mm to 70 mm, before going out into the bay.
- > Parr migrants stay in the freshwater system for about three months before out-migrating. They do not take up residence in the delta but move directly into Skagit Bay in May, June and July. In addition, a small number of chinook spend a year in their natal streams and migrate as yearlings.

The significance of the different life-history types is that fish of different sizes are using different habitats at different types of the year. Their survival is subject to what is happening in those places at those times.

SRSC's habitat inventory shows that about an 80 percent reduction has occurred historically in the amount of estuarine habitat available in the Skagit Delta. SRSC's hypothesis is that lots of fish want to live in the delta but there isn't enough capacity, which is impacting the population by reducing growth and survival or perhaps forcing them to leave the system and go elsewhere.

SRSC has collected 10 years of data at eight sites in the delta. The data shows a relationship between the number of fish that come down the river and the number of fish that rear in the delta, up to about 3 million. When the number of downstream-migrating fish exceeds 3 million, the delta does not appear able to support the additional fish. Evidence indicates the delta population is too dense – there is too much competition or evidence of density dependence.

SRSC wanted to know what was happening to the additional fish – did they die or move? The assumption was that they would go downstream into Skagit Bay. Beach seining at sites around Skagit Bay showed that in years when big populations of fry migrants were coming downstream, there were large numbers of fry showing up at monitoring sites around Skagit Bay. During high production years, as much as 50% of the migrants end up rearing outside of the delta system. In years when the downstream migrants were relatively few, the monitoring sites found relatively few.

When large numbers of fry migrants enter Skagit Bay in February and March, they face difficult conditions, and SRSC wanted to know if there was a habitat niche where these fish might be accumulating and could survive. This led them to look at the pocket estuaries of Whidbey Basin, places of low wave-energy and longshore current, with freshwater input from surface or groundwater. These are typically small stream deltas and coastal lagoons.

In fresh water, salmon exhibit territorial behavior with dominant fish displacing subdominant fish. Within estuaries there is a mix of behaviors with some territoriality and some schooling. SRSC's research shows there is a density-dependent migration. Using beach seines, SRSC has sampled inside pocket estuaries, along the nearshore outside pocket estuaries and offshore of the pocket estuaries.

Early in the year the fish are accumulated in the pocket estuaries, but after June they are gone. The very small early fish are clearly accumulating in the pocket estuaries, finding a warmer and better growing environment there early in the year, but they outgrow that environment and move progressively more offshore and eventually into the ocean.

Sampling also shows there is effectively no risk of predation in the pocket estuaries compared to the nearshore. The predators that are present are primarily small staghorn sculpins too small to be a problem, so the pocket estuaries offer the fry refuge from predation.

At this time SRSC is expanding its study throughout Whidbey Basin, which has about 114 potential pocket estuaries, to see if the same potential exists for the Stillaguamish and Snohomish as it does for the Skagit River chinook. SRSC's recommendation at present is that it makes sense to restore pocket estuaries, meaning tidal hydrology, to allow tidal exchange and the exchange of nutrients. Many pocket estuaries are inaccessible to fish because of culverts, dikes or other obstructions.

Beamer thinks it makes sense to prioritize restoration in the pocket estuaries closest to the source of the fish. SRSC is testing this idea now by doing broader sampling at sites near the Snohomish and Stillaguamish rivers, in addition to Skagit. In the Skagit, the pocket estuaries to the north seem to be the most used, which fits with the fact that the north fork is larger and is believed to carry more fish, and that the net flow of water in Skagit Bay is north from approximately Strawberry Point. From a biological stand point, Dugualla Bay is probably the most strategic estuary location for restoration because it is directly across from the north fork.

The SRSC studies have found that survival of the different life stages in the nearshore is quite variable and is one of the major drivers in overall chinook abundance. Part of the survival fluctuation is being driven by poor delta conditions and SRSC is on a path to try to solve that by restoring some of that habitat. But part of survival also is driven by nearshore conditions, if pocket estuaries are preserved and restored, it will improve resilience in the different life stages. SRSC is working on putting all this information together in a model that would predict if a certain number of acres of a certain type of habitat is restored, it will result in increased survival of a certain number of fish. Coastal lagoons also are nurseries for other species as well, including surf smelt.

County lead's report.

Meehan reported he is reformatting the MRC's 5-year report as time permits into a folded piece, printed front and back.

Chair's report.

Workplan. Sherman suggested postponing discussion of the Workplan and Benchmarks until next meeting.

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Coming Events

April 7, Wednesday, 4-6 pm

MRC meeting, Heller Road Firehall, Oak Harbor: **Presentation by Washington Trout.**

April 13, Tuesday (time to be announced)

Double Bluff creosote tour by MRC with Tony Frantz.

April 13, Tuesday, 7:30 pm

Whidbey Lyceum, speaker Jacques White on nearshore issues and solutions.

April 17, Saturday

Last day of early-registration discounts for NWSC's Sound Investment conference

June 4, Friday, 12:00 – 3 pm

Saratoga Passage Stewardship Area Inaugural Cruise, Everett Marina

June 4-5

NWSC Sound Investment Conference, Everett Events Center.

Flyfishing club presentation. Sherman invited Campbell to report on the presentation he and Wood had given to the Whidbey Island Flyfishing Club recently. Campbell said they spoke to about 20 members and guests about the MRC's activities, touching on all of the MRC's work but focusing closely on two projects, the stewardship areas and derelict gear. He said the presentation was well received. NWSC Sound Investment 2004 conference at Everett Events Center Stewardship area powerpoint. Sherman suggested inviting Wood to present his powerpoint on the stewardship areas at the April 21 MRC meeting.

Stewardship area kickoff cruise. Sherman invited Meehan to report on the meeting he and Sherman had last Thursday with Matt Nichols of Nichols Brothers Boatbuilding. Meehan said Nichols assured them that he can provide a boat for our kickoff cruise. Two boats are potentially available from Pacific Navigation Company, one of which can carry 500 passengers and the other 400. Meehan said the challenge for us as an MRC is to decide if we really want to do this, do the work and to rise to the challenge of organizing the event.

Weber to chair kickoff cruise. Sherman turned the meeting over to Weber, who has agreed to chair the kickoff cruise. Weber emphasized we need to generate some money to get started on invitations, deposits, etc. She said we need to provide some food because we're asking people to be on this boat for three hours at the middle of the day. Most important, Weber said the MRC needs to make a commitment to do this and to do the work. She estimated that even if Nichols Brothers were to provide the boat, we would still be looking at several thousand dollars to pay for the crew (5 to 8 people) and fuel. **Motion carried: Moved by Kind, seconded by Meehan, to proceed with planning of a stewardship area cruise. In favor: Unanimous. Opposed: None.** Seitle suggested asking the two port commissions to contribute and said he will present a request on our behalf to the South Whidbey Port next Wednesday, March 24. Meehan said he favors inviting the dignitaries to attend at no cost, as guests, but charging a fee to others because this is a way of ensuring their investment – their commitment to show up. This charge will offset a portion of our costs.

Adjournment: 5:40 pm. There being no further business and no public input, Sherman declared the meeting adjourned.