

## **APPROVED DRMT Meeting Notes, March 8, 2017**

Prepared by Chad Theismann, Clallam County

**DRMT Members Present:** Scott Chitwood/Jamestown S'Klallam Tribe, Robert Phreaner/Olympic Peninsula Audubon Society Conservation Committee, Marc McHenry/USFS, Ben Smith/Water Users Association, Cathy Lear/Clallam County (alt), Robert Beebe/Riverside Property Owners, Matt Heins/Riverside Property Owners-Estuary Tidelands, Shawn Hines/Jamestown S'Klallam Tribe (alt), David Garlington/City of Sequim, Ann Soule/City of Sequim (alt), Robert Brown/Dungeness Beach Association, Judy Larson/Protect the Peninsula's Future, Lorenz Sollmann/Dungeness National Wildlife Refuge

**Others Present:** Phil Martin/citizen

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### **I. Introductions/Review Agenda/Review and Approve January 11<sup>th</sup> DRMT Draft Meeting Notes**

Scott Chitwood called meeting to order. Introductions were made, sign in sheets circulated. Matt H. moved to adopt the February notes, Cathy Lear seconded. Robert Brown abstained. None opposed, motion carried.

*Public Comment:*

- Due to full agenda and presenter's schedule, public comment moved to end of meeting.

Viewing of film "The Secret Life of Rivers", Rich Carlson Puget Sound Coastal Program, USFWS. Journey through the unusual world that exists beneath a streambed. Called the hyporheic zone, this world of microscopic flora and fauna is vital to the health of rivers around the world. The hyporheic zone is a region beneath and alongside a stream bed, where there is mixing of shallow groundwater and surface water. The flow dynamics and behavior in this zone is recognized to be important for stream health. Video is available at <https://vimeo.com/194274475> and is available for public use.

### **II. Three Crabs Estuary Restoration Project, Kevin Long, North Olympic Salmon Coalition.**

- Purpose of this presentation is to provide an overview of the entire project from initial project planning through construction and completion.
- This project removed and/or relocated infrastructure, removed fill and armoring at the site of the former 3 Crabs Restaurant site, re-routed Sequim Dungeness Way and 3 Crabs Road, created a new WDFW Wildlife Viewing Area along Dungeness Bay and Meadowbrook Ck, vacation of an old Clallam County right-of-way, improved the ecological function of over 40 acres of coastal wetlands, and restored ½ mile of the Meadowbrook Ck stream channel.
- Project partners- WDFW, Dungeness Habitat, North Olympic Land Trust, Clallam Conservation District, Clallam County, Dungeness Lighthouse Association, Jamestown S'Klallam Tribe, North Olympic Peninsulas Lead Entity, Community of Dungeness, and local residents.
- The Dungeness estuary and Dungeness Bay is categorized as a site that supports an average of 7,500 waterfowl and up to 13,000 during migration and winter.
- Estuarine and wetland habitat restoration will benefit the high concentrations of waterfowl as well as salmonids by improving access to, enlarging, and restoring access to varied habitat types.
- Project had a wide variety public and private ownership that presented many unique challenges including minimizing disruption to private land owners, an existing Conservation Easement that prohibited road building, moving the location of utilities for Dungeness Lighthouse, managing flow of water in the stream and wetland areas during construction due to area being flat and to limited areas to hold excess water, and buried creosote telephone poles that created a plume of contaminated soil.
- The re-routing of Sequim Dungeness Road and 3 Crabs Road replaced 1500 feet of Old Sequim Dungeness road with 1975 feet of new road.
- Total amount of material moved offsite was 75,000 cubic yards of material- some went to facilities that could re-sell (for example- sandbox sand), mucky soils and materials went to fill an old Blake Sand and Gravel pit to assist in pit reclamation efforts.
- The new 60 foot bridge required 48 concrete filled pilings driven 50 feet deep. The new bridge is designed for a 100 year storm occurring 100 years from 2016.

- Old bridge had 18 creosote pilings that were driven 45 feet deep. 16 of those pilings were successfully pulled, 2 had to be cut off and holes filled.
- Project completed December 23, 2016.
- Total construction costs: \$3.2 million, initial estimate was \$3 million.

### **III. Salmonid Data Update- 2016 Dungeness Watershed Salmonid escapements and Smolt Outmigration, Aaron Brooks, Fisheries Management Biologist, Jamestown S’Klallam Tribe.**

- Presentation focused on numbers of returning Salmon and Steelhead and will contain only a small amount of discussion regarding forecast estimates.
- Spawning ground surveys are conducted by Jamestown S’Klallam Tribe (JKST) and the Washington Department of Fish and Wildlife (WDFW). During peak season, river sections are walked weekly and all redds are flagged and recorded with a GPS.
- These surveys are used for estimating number of fish that return to the river to spawn (aka escapement), egg to smolt survival, and harvest/habitat management purposes and goals.
- Winter flows are a big driver of egg to smolt survival. In other words, high winter flows equal lower egg to smolt survival.
- Provided an overview of escapement data for Pink Salmon, Chum Salmon, Chinook Salmon, Coho Salmon, and Steelhead and forecasts for 2017.
- Discussed smolt trapping efforts. Purpose of smolt trapping is to capture out-migrating smolt to assess freshwater production.
- JKST currently has smolt traps on Siebert Creek, McDonald Creek, Matriotti Creek, Bell Creek, and Jimmycomelately Creek. Presented information on the 2016 Smolt Summary on these creeks and the 2017 Forecasts.
- Aaron speculated these numbers may support some possible cuts to some 2017 mixed stock fisheries, but in his estimation the cuts won’t be as severe as 2016.
- Robert inquired as to the changing location of the screw trap on the Dungeness and whether the change of location was based on estimates of returns. Aaron reported that WDFW operates that trap and they always place it downriver of the Schoolhouse Bridge and they place it at a location they feel will give them the best data and efficiency of data collection, i.e. the river changes so they need to adapt but it is always placed below the Schoolhouse Bridge. Matt pointed out the placement of the screw trap may affect Pink Salmon estimates due to many Pink Salmon spawn below don’t run above the Schoolhouse Bridge, they can sometimes spawn below that bridge. Aaron agreed and noted that Pink smolts do not overwinter in the freshwater they will head out to salt water in the spring.
- Ben asked about how far these fish travel in the saltwater. Aaron responded that it varies depending on the species; some will go as far as Alaska. He re-stated that ocean conditions are a very important consideration when attempting to pin-point ocean survival.
- An audience member asked if there would be another broodstock program on the Dungeness. Aaron commented perhaps this would be an important consideration when attempting to determine the best path to boost freshwater production and needs continued discussion.
- Matt inquired on the Wild Fish (or Salmon) Conservancy seining in Dungeness Bay. Aaron reported that the WDFW has been doing some beach seining in an attempt to determine estuary areas that smolts were using and that this is the only beach seining that WDFW is doing in this area to his knowledge.
- Some questions were asked regarding how fish estimates address fish returning to the ocean and travelling through and being caught in different jurisdictions; for example, Dungeness River fish are caught in Alaska and Canada and also the type of fishing varies- commercial or recreational. Aaron stated that this is an issue.

#### IV. Invasive European Green Crab, Lorenz Sollmann, Dungeness National Wildlife Refuge, U.S. Fish and Wildlife Service

- In the “International Union for Conservation of Nature” (IUCN) Top 100 Invaders, the “European Green Crab” (EGC) is number 17.
- EGC first appeared in the Eastern US in 1817. First appearance in the Western US was in 1989 in San Francisco Bay. First appearance in the Salish Sea was in Sooke Bay, Vancouver Island in approximately 2012.
- In Sooke Bay in 2012 26 were caught, in 2013 63 were caught, in 2014 about 1200 were caught, in 2015 about 7000 were caught.
- In approximately 2010, WA Department of Aquatic Invasive Species inspected ballast water of a ship in the Port Angeles Harbor and discovered a EGC. The last port that the ship had visited was in San Francisco Harbor. The State Dept. of Aquatic Invasive Species required the ship to head back to sea, 50 miles offshore, and dump their ballast water.
- Green Crab identification- relatively small compared to Dungeness Crab. They are identified by the 5 spines between the eye and the outer edge of carapace. The EGC is the only crab with 5 spines.
- The small size increases their ability to be transported in the ballast or in aquaculture.
- EGC are very prolific; 1 female can produce 250,000 eggs.
- EGC don’t mind being piled on top of each other in tight quarters, unlike native crabs who prefer to be spread out.
- EGC have a very diverse diet, they are considered generalists in their eating habits: they eat anything. This can lead to economic impacts as they eat or destroy native species food or habitat.
- EGC can tolerate a wide range of water temperatures and salinity, so they can survive in a larger area than native crabs.
- From 2001-2010, there was a trapping effort in Washington but lost it’s funding in 2010.
- Current eradication efforts attempt to zero in on location. Areas that are likely where green crab may appear.
- Last year, 4 EGC were caught in WA waters.
- EGC tear up eel grass beds when they are foraging for food which increases erosion and less habitat for other species which in turn provides spots for spartina to get hold.
- Best tool we have to deal with EGC is early detection rapid response. Once they get established it is very difficult to eradicate.
- Questions asked during presentation *with Lorenz’s complete answers provided following meeting:*
  - Question about location of trapping efforts- tidelands or deep water? *The trapping effort is actually in shallow water in estuaries near or in vegetation. Shallow water estuaries, like restricted tidal lagoons and salt marshes, offer the best habitat for green crab, which use them for protection from larger predatory crabs like Dungeness and rock crab. We don’t expect green crab to survive very well in areas where large native crabs are abundant, but pocket estuaries are often refuges from adults Dungeness and rock crabs and so are likely the best habitats for green crab. Green crab have similar habitat requirements to native shore crabs, particularly the Oregon or Hairy shore crab (*Hemigrapsus oregonensis*), so the presence of those species is a good indicator that green crab could do well too. Within such sites, we place traps relatively close to vegetation or other protective structure (undercut banks, riprap) where green crab could hide. Telemetry studies indicate that green crab do not travel far from their protection, even when they are foraging on high tides. We therefore place traps close (within ~20m) of these protective habitats to be sure we are targeting the sub-habitats green crab will use.*
  - Ben asked about previous eradication efforts esp. on the east coast. *On the east coast, green crab are now so abundant that management and control efforts have switched from eradication to resource protection. Eradication is no longer feasible on the east coast. Some control measures attempted there are creating a fishery for the crab, setting a bounty on the crab (MA), and protecting clams and eelgrass by fencing and netting. The bounty system has not worked well, in part because of economics: the manager in MA responsible for this program did not want to increase the number of crabbers doing “bounty crabbing” because the \$ return for each crabber would be diminished...which is of course the goal of reducing the population. I’m not sure if that’s still continuing. Incentivizing trapping to use the crab for food or bait also has faced a couple of problems, namely*

low demand. There is no strong demand for the crab as food (though there are movements to make it a “foodie” fad), and there is new evidence that links green crab used as bait to higher prevalence of disease and parasites in lobster which were caught with green crab. On the West coast, however, there is some small amount of evidence that eradication can be successful in small isolated habitats, similar to the pocket estuaries we think will be prime green crab habitats in our area. Green crab, with intensive trapping, were reduced to undetectably low levels for a period in Sea Drift Lagoon, outside SF bay, However, the habitat was isolated from other good habitat, but still received a lot more larvae than we do here, because of proximity to a robust source population (SF Bay). It’s our hope that our populations will be isolated (feasible to eradicate) as well as experience low larval pressure (less likely to be reinfested) making eradication more feasible here than elsewhere.

- An audience member asked about San Francisco Bay and the success of their eradication efforts. *Ted Grosholz, Cat DeRivera, and Smithsonian Institution were partners in the above-described efforts. Crabs in SF Bay proper are now well established and eradication is not likely feasible any longer. By the time green crab were discovered there, 1989, they had probably been there for a few years and already established a reproducing population. No one was looking for them. We’re in a very different situation where we have identified populations before they’ve managed to reproduce in their new habitats – giving us the best chance for eradication success, and hopefully reduced probability of reinfestation.*
- Cathy asked about the Green Crab in Sooke Bay, Vancouver Island, and what they are doing to address this Invasive species. *This is definitely the logical conclusion about what needs to be done to fully protect the Salish Sea. Crab Team, and WDFW/Allen Pleus (the AIS lead at WDFW) are on board with the idea that the population there needs to be addressed as part of the overall strategy to protect here. Currently, to our knowledge, BC folks, and DFO are only conducting “monitoring” levels of trapping. Much more would need to be done to consider it “eradication” trapping. And I’m actually not sure how much of that is being done in Sooke. BC/DFO does not currently have the resources to conduct eradication intensity of trapping and many of the other infested areas on Vancouver Island are in comparatively remote habitat. I believe there are also issues of First Nations management of land that would have to be drawn in to plans to reduce the population in Sooke as well. WDFW and our contact at EPA who works with transboundary issues have this as part of the strategy moving forward, and it will likely take some time to implement actions in Sooke.*
- Don asked about natural predators- are there any? *When small they have many of the same predators, just about anything that will/can eat native shore crabs will also likely eat green crab (e.g. larger predatory crabs, sculpin, possibly herons, and evidently in some places river otters can be effective predators). These predators might help keep green crab numbers low in places where they [the native predators] are abundant. In most invasions, however, predators are never fully able to eliminate a species from a particular range or habitat, but can reduce their populations.*
- Ben asked what is the goal of current efforts- (39:00)- is it more of maintenance or are they focused on eradication? *The current efforts are really just monitoring for presence/absence. Once detected the focus, depending on location, resource available, etc. would be eradication. The Crab Team has as its goals early detection of new populations, and assessment of impacts. WDFW is the agency responsible for management/eradication. Currently, there aren’t enough crabs or evidence of establishment to launch a full scale eradication effort (sort of an odd balancing act...). We certainly get rid of every crab we can find, but we also know that we aren’t catching every crab out there at the level of trapping our program can sustain. If more green crab are found this year, WDFW will likely have to scale up their efforts to address and remove crabs, and we will probably work with them on those in an advisory capacity.*

## **V. Other Business/Announcements/Follow-ups**

- Viewing the Dungeness River Off-channel Reservoir Video, Carol Creasey, Clallam County. Purpose of the video is to explain project, show an animation of reservoir filling and emptying, and to provide a visual summary. County paid for approximately ¾ of the cost and the City of Sequim paid the remaining ¼. Video is currently on Clallam County

website, Washington Water Trust website, and on the City of Sequim website. [Shawn added link to DRMT website on 4/8/17].

- Discussion of draft letter circulated to DRMT members to review regarding the “Pollution Identification & Correction” (PIC) programs initial focus area; Golden Sands slough. The discussion focused on who the letter is sent to, content, and tone. Ben motioned to approve letter in form and content, Judy seconded. Additional discussion was had regarding who letter is sent to- Board of Health- Health Officer Dr. Frank, Commissioner Ozias vs. the entire “Board of County Commissioners” (BOCC), Director of Community Development, and/or Prosecuting Attorney. Ben amended his motion to change the addressee to Board of Commissioners, to remove Board of Health, and to add sentence to letter requesting response. Judy seconded. Cathy suggested providing an opportunity for Jen Garcelon, Clallam County Health and Human Services Environmental Health Director, to review prior to submitting to BOCC. Judy would like Prosecuting Attorney Nichols added to the cc list. Shawn will re-draft letter and send via email to DRMT members, plus Jennifer Garcelon and Andy Brastad to review.
- Judy announced that tomorrow (3-9-17) is the last day to comment on the 6 alternatives that DNR has proposed for increasing population and distribution of the Marbled Murrelet. Comments can be sent to [olybird.org](http://olybird.org).
- Judy announced that as part of Streamkeepers Earth Day festivities they are seeking volunteers to create posters, make presentations, staff a booth, etc regarding science and earth day. The Earth Day festivities will be on 4-22 from 12-4 at the Feiro Marine Life Center. If you wish to be involved, contact Sue Tuck at [getndux2@sbcglobal.net](mailto:getndux2@sbcglobal.net).
- Robert stated that pet waste stations that the Boy Scouts put in have been removed. Jen Garcelon, Clallam County Health and Human Services Environmental Health Director, reported the reason was that the Parks Department did not have the funding to continue to maintain. The DRMT felt a letter should be sent to the Commissioners and the County Parks Dept to re-iterate support and state the importance of pet waste contributions to high fecal coliform counts. Judy motioned that Robert draft the letter expressing concern over the lack of pet waste stations to be circulated to DRMT in order to develop consensus among the DRMT to submit to County Commissioners and the County Parks Department. Cathy seconded, none opposed.

#### PUBLIC COMMENT

Meeting adjourned ~5:20.