



## King County

Water & Land Resources Division  
Department of Natural Resources & Parks  
King Street Center  
201 S. Jackson St., Ste. 600  
Seattle, WA 98104-3855  
(206) 477-4654 Office | (206) 296-0192 Fax

## MEETING NOTES

### CEDAR RIVER COUNCIL

April 25<sup>th</sup>, 2017 – 7:00 PM - 9:00 PM

Maplewood Greens Golf Course

4050 Maple Valley Highway, Renton, WA 98058

*Meeting was called to order at 7:01 pm.*

---

#### **Welcome and Introduction of New WLRD Director – Josh Baldi, DNRP-WLRD Division Director**

Nathan Brown introduced Josh Baldi, the new Division Director for King County DNRP's Water and Land Resources Division (WLRD), who was welcomed by the CRC, and spoke on his background in environmental advocacy.

#### **Speaker Panel: Cedar River/Lake Washington Salmon Recovery –**

***Aaron Bosworth, WDFW District Biologist; Casey Clark, UW Graduate Student for USGS; Dan Lantz, KC DNRP Environmental Scientist; and Scott Stalnack, KC DNRP WRIA 8 Environmental Scientist***

Mr. Brown introduced tonight's meeting format: four panelists introduce themselves and their roles in salmon recovery, followed by audience questions, to be answered via panelist discussion. The first panelist, Dan Lantz, has worked as an Environmental Scientist in WLRD since 2010 and several years prior at US Fish and Wildlife Service in California and Washington. He has taken part in many projects in the Cedar River basin/WRIA 8, including: chinook redd surveys, sockeye spawning surveys in Cavanaugh Pond, juvenile chinook habitat use in the Cedar/Lake Washington nearshore areas, and tracking salmon predation in the Cedar/Lake Washington/Ship Canal/Ballard Locks areas.

The next panelist, Casey Clark, a University of Washington (UW) graduate student, presented his study of cutthroat trout and northern pikeminnow predation of Lake Washington salmonids. He works with Dave Beauchamp in the WA Cooperative Fish and Wildlife Research Unit; this includes several agencies including the US Geological Survey (USGS), UW, WA Department of Ecology, Fish and Wildlife (WDFW), and Natural Resources. Study findings noted in-lake mortality of juvenile sockeye is 95%, five times higher than Pacific Rim average; most predation is by cutthroat and pikeminnow, with cutthroat linked to a 55% chinook mortality rate in 2005. Pikeminnow showed similar rates. While salmonids are a small part of these predators' diets, this portion still represents a significant amount of local salmon populations. Suggestions to reduce salmonid predation include: reducing access to prey through time or space, and reducing predators' ability to find prey during effective predation periods. The latter would involve reducing artificial light pollution and maintaining river sediment loads/plumes ("muddy water") in the spring.

The third panelist was Aaron Bosworth, a WDFW state biologist. His duties include monitoring salmon populations in the Lake Washington Basin as well as salmon hatchery programs, and setting fishing regulations in the Basin. He noted that 1,025 spawning chinook were counted in the Cedar last fall, and explained several means for how data for area salmon populations is gathered. Other area jurisdictions, such as Seattle Public Utilities (SPU), King County, the Muckleshoot tribe, and local cities, assist in collecting data. He said the Cedar is surveyed three times weekly, and chinook spawning numbers are determined by counting the number of redds. He said 2015 was one of the best recent spawning years for chinook, with 2016 slightly less so. In 2016, 60% of Cedar chinook were determined to be wild spawners, and the remaining 40% hatchery spawners, which is a higher percentage of hatchery spawners than usual. Sockeye numbers are determined by counting the number of live fish along the entire length of the river. This past year 12,000 sockeye were counted, which is considered low. 4,000 of these fish were taken to hatcheries to serve as brood stock, with the remaining 8,000 left to spawn in the wild. 2015 and 2016 included some of the lowest recorded returns ever for Cedar sockeye. 34% of Cedar sockeye are wild spawners, and the remaining 66% hatchery-spawned. There have been several sockeye hatchery programs in the Cedar/Lake Washington basin, including: the Ballard Locks, Issaquah, Landsburg, a weir on the Cedar, and a now-discontinued program by UW.

The fourth panelist, Scott Stalnack, is the WRIA 8 environmental scientist for KC DNRP. He explained WRIA 8 is a watershed area for the Cedar and Sammamish Rivers, as well as Lakes Washington and Sammamish. WRIA 8 includes



## King County

two chinook salmon populations, the Sammamish and the Cedar. There are three designated habitat tiers for chinook spawning use: Tier 1 is Core/migratory corridors; Tier 2 is Satellite/occasional use; and Tier 3 is infrequent or no use. The WRIA 8 chinook recovery plan was ratified in 2005, with a 10-year review required in 2015. This involves reporting on recovery pace, incorporation of new data, and re-examining assumptions and goals. Review kicked off in February 2016 with the WRIA 8 summit and progress report. The report findings included: recovery efforts are on the right track; there have been early successes (such as juvenile productivity); overall recovery pace is too slow; many original assumptions have now been confirmed; new information has been synthesized; and emerging issues ahead have been identified. New elements as a result of this review include more quantitative habitat goals; there is a 50-year goal to have a sustainable, fishable watershed for chinook. The progress pace of recovery projects was deemed insufficient; only  $\frac{1}{4}$  of planned projected were completed, with another  $\frac{1}{3}$  currently active.

After initial presentations came several rounds of questions and discussion, divided into five topics. Topic 1 was “Climate Change/Warm Water,” and their effects on migrating salmonids. The first question had several portions which led to lengthy discussion: what is being done locally to mitigate the harm of climate change and warm water, particularly in the Ship Canal, on salmonids; if it’s feasible to “barge” salmon from the Locks into Lake Washington, or breed salmon to adapt to warm water. Mr. Stolnack and Mr. Lantz replied the main problem for juvenile salmon from the Canal’s warm water is an increase in warm-water predator activity, such as rock bass. Mr. Clark explained rock bass, once rare here, are now found in large numbers in the Sammamish and Cedar Rivers as well as Lake Sammamish. Water is warming earlier in the year, leading to increased prominence of warm-water species. Mr. Bosworth said the full scale of this issue as a problem has not yet been determined. He noted there seems to be a “delayed” increase in salmonid mortality in the fall in area rivers, possibly linked to diseases picked up in the Canal. Mr. Stolnack observed that chinook can probably be recovered, but that this region is on the geographic edge of known sockeye habitat. Mr. Bosworth added that sockeye also tend to see higher mortality rates than chinook.

Mr. Stolnack stressed importance of a resilient ecosystem in combating climate change, including interconnectivity of rivers and floodplains. Mr. Bosworth said the Muckleshoot tribe has explored the idea of barging fish to the lake: they tagged several hundred salmon and barged them from the Locks to Lake Washington, and tracked the results. Data seemed to show no impact on mortality; however, Mr. Bosworth noted cooler-than-normal temperatures last year meant conditions were not favorable for an accurate comparison. He observed that netting salmon is also difficult. Mr. Stolnack mentioned a proposed alternative to barging: “hypolimnetic withdrawal,” which would involve pumping cold water from Lake Washington into the Canal for a few months per year. On breeding local salmon for warm water, Mr. Bosworth said it is possible, but there is concern too much breeding along these lines can result in the fish no longer being true Cedar River chinook. He noted that local hatchery programs are integrating “locally adapted” fish into their gene pools. Mr. Clark added that at one point UW explored genetic work in this area, which has since scaled back, citing risk that if you breed a trait for warm-water tolerance, this can result in loss of other crucial genetic traits.

Several more questions followed. It was asked if Klamath salmon can survive in this region’s warmer water; Mr. Stolnack replied they suffer many of the same warm-water issues as current local species. Another asked if warm water caused a large transition of salmon between Issaquah Creek and the Cedar. Mr. Stolnack believed the answer was yes; Mr. Bosworth countered there have been both warm and cool summers recently which saw high stray rates for salmon, so it is uncertain if water temperature is a factor here. The next question asked about allowing sockeye above Landsburg Dam; Mr. Lantz answered that SPU prohibits them there due to a high rate of pathogens in the drinking water there that can arise from too many dead fish. The next question asked about impacts of the new Cedar River hatchery on salmon returns; Mr. Bosworth said it has been positive. Another question addressed a difference between chinook returns in the Cedar versus higher returns in the Green River; Mr. Bosworth replied the reason is a hatchery program started on the Green in 2009 which integrated many highly-adapted local fish. The last question on the topic asked about total predator population in Lake Washington; Mr. Clark said about 22,000 each are estimated of cutthroat and pikeminnow, but many types of bass and walleye are also present. He noted walleye are a particular problem in the lake because unlike other species there, walleye are adapted to low-light conditions; it is believed walleye are being illegally stocked there as well as in Lake Sammamish.

The second topic addressed ocean conditions. The sole question, due to time constraints, asked if there is specific data available on how ocean conditions affect Cedar River salmon recovery. Mr. Bosworth said NOAA measures many biological indicators in the ocean, and scientists like himself try to match the data with salmon indicators; but much



## King County

remains uncertain. Mr. Stolnack observed a major common factor in chinook from all watersheds is they all spend part of their lifecycle in the ocean, that their time spent in freshwater is not the only contributing time/factor to what's happening to them. Mr. Clark also noted a website, [marinesurvivalproject.com](http://marinesurvivalproject.com), as a resource for information.

The panel opted to skip the third topic, predation, as it had already been addressed in earlier discussion. The fourth topic addressed salmon recovery planning and its cost benefits. The first question asked for perspectives on what is contributing to low chinook and sockeye numbers in the Cedar, and if recovery efforts are having any effect. Mr. Stolnack answered the Cedar, as a relatively small system, is always going to have low fish numbers. He stressed that recovery is a naturally slow process, and too complex for a short-term solution. Funding and access to land (as projects on the Cedar are all voluntary), and competing priorities in the basin, are also issues. Another question asked about the greatest impediment to salmon recovery; Mr. Stolnack said this is still being determined, but that predation, Ship Canal temperatures, and artificial light pollution are factors. Discussion followed on habitat and floodplain rearing/refuge for juvenile salmon. Mr. Stolnack explained there are two main life history types of juvenile chinook in the Cedar: fry (less than 45 mm in size) and parr (over 45 mm). It is hypothesized that sufficient habitat should lead to more spawners and therefore more juveniles; while this has panned out for fry, it has not for parr. This is apparently due to limited places for parr to seek refuge when the river floods. Much has been invested in habitat recovery, which seems productive, but Mr. Stolnack said the next phase of this process needs even more time, money, and people invested in these efforts. He observed there is no reason chinook shouldn't thrive here, as they are present in parts of California with warmer waters as well. The last question on this topic asked about incorporating climate change strategies into recovery plans; Mr. Stolnack answered that while he expects positive freshwater impacts from achieving current habitat goals, much of what happens is ultimately beyond WRIA 8's scope. Mr. Bosworth also noted the importance of side channels in streams as spawning habitat.

The last discussion topic was sockeye production at the Riverbend project site. The main question posed if the current County approach to the project design – an assumption that a wider connected floodplain and side channels will benefit salmon – should be reconsidered in favor of a different approach. Mr. Lantz answered that side channel habitats have proven beneficial to chinook as well as sockeye. Frank Urabeck stated flooded areas aren't conducive to spawning, and he wants protected areas like Cavanaugh Pond retained. He also said he believes sockeye protection can be balanced with other goals, with all being achieved through collaboration. Max Prinsen asked about maintaining habitat levels for sockeye and other species. Mr. Lantz answered that incorporating side channels in the project site should be positive for spawning sockeye, and the idea is to increase the limited spawning habitat in the project site. He noted there is a total of one acre of potentially spawnable habitat at the site. The last question came from Tom Allyn, who asked how to create more parr habitat. Mr. Stolnack answered that many things are needed: setback levees, more floodplain, side channels, backwater, edge habitat, and wood jams to increase hydraulic complexity, which fish like.

### **Updates & Announcements**

- WRIA 8: This was not addressed due to lack of time.

### **Public Comment Period**

Jeff Neuner spoke about a recent public meeting on area residents' concerns about the Riverbend project. He said the meeting had good attendance, and he believes County project manager Jon Hansen took attendees' concerns to heart. The meeting's focus was for the CRC to support residents' wishes; he distributed a handout listing these concerns. Mr. Prinsen proposed the residents as a group write a letter on these concerns to the County.

Mr. Brown noted the May 20<sup>th</sup> trash pick-up event on the river, organized by resident Steve Farquhar. The event will be staged at Riverbend Mobile Home Park's club house at 8:00 am that day; Mr. Brown will distribute flyers with more information. The County will provide trash bags, gloves, and portable toilets. A second event is planned for August.

Mr. Allyn praised the County's work on the river. He asked about a cut-off river channel near the Ravensdale-Hobart bridge, and if this would be suitable for a future project, to reconnect to the river and restore as a possible habitat area.

---

*Meeting was adjourned at 9:08 pm.*

### **Next Meeting**

May 23<sup>rd</sup>, 2017, 7:00 – 9:00 pm, Riverbend Mobile Home Park Club House, Renton