

SEHAB November 2023: Sunshine Coast Roundtable Report

Community Advisor: Jim Wilson

Rep: Angela Kroning
Alternate: Dianne Sanford

The major challenge this past summer of 2023 was once again the extended period of no to little rains for the Sunshine Coast resulting in very lows to the creeks in our region. Stewardship groups and the hatchery were all happy to see the drought end following the rains in late September. There is now a clear understanding that any restoration or conservation of salmon and salmon habitat will have to have climate resiliency built into the efforts. DFO recognizes this and has provided funds and expertise to, for example replace the fish ladder at Colvin Lake, located in Sargeant Bay Provincial Park with a model that can function with lower stream flows. At the Chapman Creek hatchery, DFO provided a grant to purchase a backup generator that will be used during a power failure for the well water supply increasingly being used during drought conditions for rearing and incubating.

In response to public concerns about “stranded” fish in low creek waters during the summer, our CA provided a statement and contact information to the local newspaper as well as Fry Salvage Guidelines and Statement to the Sunshine Streamkeepers Society. There was ongoing monitoring of salmon habitat both fresh and marine (eelgrass meadows) to see how the environment and fish were/are responding to the weather conditions. One surprise was the significant Pink returns to creeks that still had decent water flows such as Chapman, Roberts, Dakota and McNair Creeks and the stray male sockeye that was present in Roberts Creek.

There continues to be strong interest in wild salmon and we are seeing increasingly groups working together, and as can read below, reaching out to others in the community to form partnerships that help support and conserve salmon, their habitat and their prey especially in the face of a changing climate.

Having a local CA, knowledgeable and approachable continues to be much appreciated by everyone.

Sargeant Bay Society -

Fall is always a busy time for our group of volunteers. Late October we have seen the first few Coho enter the Colvin Creek system. Colvin Creek is always later than many other creeks for both Coho and Chum as it does need high tides and large rain events for the fish ladder to be passable.

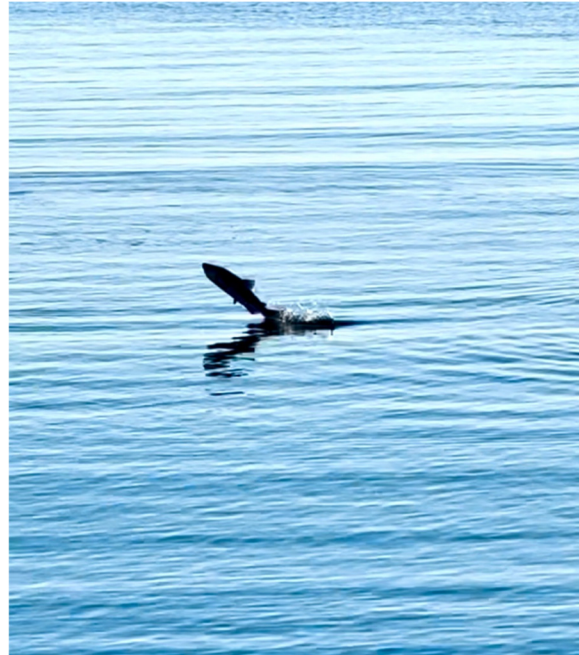
Our group really appreciates the effort and voice that the SEHAB has given our small group of streamkeepers. As some may recall we had a stalled project with BC Parks having some trouble funding the replacement of a 30 year old, damaged fish ladder located in Sargeant Bay Provincial Park. This ladder allows Coho and Chum to enter Colvin Lake and Creek. So it was great news in March this year, after the previous SEHAB meeting, that DFO had heard about the concerns through our SEHAB report and recognized the urgent need to replace the ladder. DFO agreement to help fund a big portion of the ladder replacement has provided a firmer timeline on the replacement.

Since then we have had some good online meetings with a BC Parks Senior Park Ranger, DFO Restoration, Sargeant Bay Society and Jim Wilson our DFO Community Advisor. A timeline has now been established and we have seen draft drawings of the new ladder that will be built off-site this winter. The new design should allow fish to pass through the ladder at lower tides and with less water flow. Permits, archaeological assessments and other avenues of funding for required machine

work, are all confirmed or in the works. The plan now is to have the ladder installed during the dry season in late July or early August 2024.

Coho photographed in Sargeant Bay

-Dave Spicer, Director, Sargeant Bay Streamkeepers, Sargeant Bay Society



Chapman Creek Hatchery -

- Coho, 2022 brood juveniles – 22,298 fry are rearing at the hatchery, these fish were just recently adipose fin clipped Oct. 27 - 28 with the help of 20 plus volunteers and CA Jim Wilson on both days.
- Pink adults – 232 spawned, approximately 148,000 eggs taken. Total fish trapped 313 adults. 114 of these were females.
- Chapman Cr. counts officially tallied close to 14,000 total adult returns; unfortunately we missed the early half of this run due to low creek water conditions feeding the hatchery's intake pond, the effects of this year's drought.
- Coho adults- holding 61 fish in our tanks, these will be checked this week for sex and ripeness. The first egg take will most likely commence at this time. Total fish trapped 176 adults and 5 jacks. Of these, only 6 have been no marks, a very high hatchery Coho return percentage rate so far for us.
- Chum adults- the 1st adult of the season was seen on Oct.15 in Chapman Cr, a male, he was caught, photographed and released. There are reports of others being seen by fishermen on Chapman but nothing official as of yet.
- Chinook – Nov.10th we will be receiving 70,000 eyed eggs from the Chilliwack Hatchery.
- Repairs to our water main supplying creek water to the hatchery commenced the week of July 17th. The worst of the leaks, in the parking area was done first, a second leak was repaired after that, both requiring an excavator. Along with this project, the installation of a stop-log frame on our intake pond inflow culvert to control creek water supply to the hatchery was also successful. We will be continuing the plumbing repairs project by addressing 2 other known leaks later this winter, after the spawning season is over.
- New well water plumbing will be installed this winter for 2 of our smaller rearing tanks, currently they are creek water only plumbed.
- With funding from a DFO grant, the hatchery is purchasing a backup generator and equipment to automatically transfer power supply. This will keep the hatchery powered up during any future power failures, which in turn will insure the steady flow of groundwater, through 3 wells, to the hatchery's rearing and incubation containers. This is important moving into the future, as we are now relying on this groundwater supply for rearing and incubation, during certain periods of time, especially during any drought conditions like we have seen here. For example, this past summer, the hatchery was operating without creek water for approximately 4 weeks. Some of this timeframe was due to the pipe repair project and our doing. For the other timeframe it was Mother Nature's doing with the drought. The low flows in Chapman creek did not allow enough head height at the hatchery intake pond to supply adequate surface water flows to the rearing tanks. The well water was the only reliable source for the juveniles. If we had lost power at any point during this time we

would have had to possibly release some or possibly all 23,000 Coho fry due to lack of available water, worse, this lack of flow could have potentially killed them all before a release could have been done. To stop this from happening in the future, the backup generator will provide a constant, uninterrupted water supply during any future power failure, ensuring the safe keeping of the fish on site.

- Our ongoing well drilling project to supplement the hatchery water supply is still on hold.
- Visitor numbers were up this summer. Hatchery volunteer hours were fairly high and holding steady throughout this reporting period.
- We had a successful July / August with our “Explore the Wild” summer kids day camp for 7 to 11 year olds; this was coordinated by our summer “fish tech” student and 2 counselors to run the day camp itself.
- During the past summer, on 2 occasions, July 26th for provincial Drought Level 4 and Aug 2nd for provincial Drought Level 5, we were asked by the Provincial Water Manager to voluntarily reduce our water consumption at the hatchery, this for both sources, creek (surface water) and well (groundwater). We managed reduced flows through the hatchery on both sources at both times without harm to the rearing Coho. If the drought conditions had continued into later into September or beyond we possibly would have had to start releasing Coho juveniles to maintain safe flow vs. density limits. Also this could have caused us to not be able to take any Pink eggs at all this season. Luckily, this year, the rains came when they did and the 2023 drought ended very abruptly on Sept 25th.

-Bill Krause, Manager, Chapman Creek Hatchery, Sunshine Coast Salmonid Enhancement Society

Sunshine Coast Streamkeepers Society -

SCSS has a strong working relationship with our DFO Community Advisor, Jim Wilson. Jim has supported our group in a number of ways this season by supplying and lending equipment, assisting with spawning counts, training and giving refresher sessions on conducting an Advanced Habitat Assessment and providing valuable information on fish trapping and fry salvage. Jim is always willing to assist our SCSS volunteers and offer advice to our Board members.

Drought conditions in our creeks on the Sunshine Coast mirror elsewhere in southern BC and are experiencing very low subsurface water flows during the summer months. Jim alerted SCSS (and other salmon supporting agencies) in July, 2023 about the dangerously low water levels that may have stranded fry in small pools in local creeks. He provided us with the DFO Fry Salvage Statement and Guidelines.

The multi-partnered project with the Sunshine Coast Conservation Association and Squamish Nation in which the lowest culvert on Malcolm Creek will be replaced saw the consultant complete and submit habitat assessments this summer. These are now under review.

Climate Change & Salmonid Temperature Loggers Report: We continue to download the data from nine creeks water temperature loggers and air temperature loggers and one of our dedicated volunteers graphs the information. The nine creeks span the distance from Dakota Creek to Chapman Creek. The data from Chapman Creek is shared with the Sunshine Coast Salmonid Enhancement Society (Chapman Creek Hatchery) for their records.

Invasive Plant Removal and Native Plant Monthly Events: The SCSS sponsored the planting of native plants in riparian zones on Roberts, Malcolm and Chapman Creeks in the early spring of 2023. Ivy, blackberry, morning glory, laurel and holly have been removed from these sites. In their place, SCSS volunteers have planted willow, cedars, sword ferns, Oregon grape, salal, salmon berry, snowberry and Nootka rose. After a summer hiatus, an invasive plant removal was conducted on Roberts Creek

in September with 12 volunteers. SCSS worked to maintain the native plants over the dry summer months by organizing volunteers to water regularly. We are truly grateful to the volunteers who have watered as the plants have survived because of it. We are grateful to the Sunshine Coast Regional District and the Pacific Salmon Foundation for their generous support through grants for these projects.

SCSS continues to conduct spawning counts on the following creeks: Dakota, Langdale, Gibson, Ouillet, Chaster, Hutchison, Malcolm and Roberts Creek(s). This work is conducted by approximately 14 volunteers. We are excited that we have attracted some new volunteers for this important undertaking. Recent events include having ZoAnn from Pacific Streamkeepers Federation (PSk) meet with volunteers at Roberts Creek to review the Module 12 protocol and offer additional suggestions. 2023 has been a good year so far for spawning fish in Roberts Creek where it started with an abnormally high count of Pinks due, it was thought, to water flow still present in the creek. It was especially surprising that the volunteers spotted a male Sockeye in Roberts Creek; this has generated attention from PSk and DFO. The spawning counts are submitted to the DFO stock assessment and to PSk.

Nine SCSS volunteers completed water quality assessments (PSk Mod 3) on Chapman, Wilson, Langdale, Chaster, Malcolm and Roberts Creek(s). These are done monthly from April to September each year with the data submitted to the PSk. This year, through a grant from the Pacific Salmon Foundation, we were able to purchase a water quality equipment kit for our volunteers in Sechelt. We are also grateful for the assistance of a new volunteer this year that has taken on the task of submitting the Module 3 data to the PSk website. This alone, is a big job.

An invertebrate survey (PSk Mod 4) was conducted on Chaster Creek by SCSS members this summer. In addition, two Enhanced Habitat Assessments (PSk Mod 2) were conducted: one on Malcolm Creek and one on Roberts Creek. With the support of ZoAnn and Jim, six of our SCSS volunteers completed these assessments which provide valuable information regarding the health of our creeks for supporting spawning salmon.

Juvenile Fish Trapping & Identification (PSk Mod 11) was conducted in the late spring and summer on Roberts, Malcolm and Chaster Creeks. SCSS was careful to protect the young fry from injury and followed both the protocols of the PSk and the advice of our CA.

Streamkeepers were also able to tour and provide advice to a DFO/Restoration hired consultant on Dakota Cr. with respect to physical barriers including lack of passage near the mouth for the ~5,200 returning Pinks.

-Kelly Paddock, Director, SCSS

Friends of Forage Fish Sunshine Coast -

Continuing our ongoing partnership with the Sunshine Coast Conservation Association, summer sampling of two beaches, one in Gibsons, and one in Sechelt Inlet, didn't produce any forage fish eggs. We were focused on Surf smelt, as Pacific sand lance generally spawn in the winter in the Sunshine Coast area.

Nevertheless, our group held a potluck which was attended by 12 volunteers, to celebrate our efforts and to discuss the upcoming winter season. We will be sampling a different beach in the Gibsons area, an outside beach (Trail Bay) in Sechelt, and our core beach in Sechelt Inlet.

-Dianne Sanford, Coordinator

Sunshine Coast Conservation Association-

The SCCA continues to co-lead a multi-partnered fish passage and habitat and restoration pilot project with Skwxw'7mesh Uxwumixw (Squamish Nation), with support from DFO, BC Ministry of Transportation & Infrastructure, the Sunshine Coast Streamkeepers Society and the

Town of Gibsons. The project will replace culverts and improve salmon habitat in the lower reaches of Ch'kw'elhp-Gibson and Malcolm Creeks. Habitat and culvert assessments have now been completed and are awaiting approval. Streamkeeper water quality surveys were conducted on both creeks throughout the summer. Although water flow went subsurface at the mouth in Ch'kw'elhp-Gibson Creek by the end of summer Malcolm Creek showed good flow throughout. Spawner counts are now underway with Ch'kw'elhp-Gibson reporting that no salmon have returned to date.

The SCCA continues to engage First Nations and all levels of government to establish land use designations to prohibit harmful resource extraction and engage in water sustainability planning for Mt. Elphinstone Watersheds from Chaster to Hutchinson Creek. We partnered with the Elphinstone Community Association and local streamkeepers to respond to the Mt Elphinstone South Watershed Assessment Phase 1 and 2 Report, released by BC Timber Sales (BCTS), July 2023. The Report was based on a newly minted Watershed Risk Management Framework, Guidance Document, Revision 1.0. prepared for BC Timber Sales, Chinook & Strait of Georgia Business Area, March 2022. Streamkeeper photos and data showing flooding and significant ravine erosion in Chaster Cr. were forwarded to the BCTS consultants following the release of the draft assessment document. It is believed that this information led to improved recommendations in the final Report with respect to reducing the risk to downstream values including salmon and their habitat in the face of climate change and future logging in the watersheds assessed.

The SCCA is has initiated a Fisheries Sensitive Watersheds (FSW) program with the goal of designating three salmon watersheds as FSW's within the next five years. The provincial FSW designation establishes legal requirements to conserve natural hydrological conditions and channel integrity as well as quality, quantity, and timing of water flow in the watershed. The designation is intended to prevent cumulative effects of industrial activity that would have adverse effects on fish habitat. By working with local governments, indigenous groups, and stakeholders, the FSW designation will allow significant fisheries values to be restored and sustained. Our first step is to undertake legal research to review the relevant legal landscape on the Sunshine Coast, including agreements/constructive arrangements in place for First Nations of the Sunshine Coast; as well as FSW designations, including what is needed for designation, what are the benefits/drawbacks of designation, to ensure a designation would accomplish our salmon conservation and restoration goals. Legal research will help determine next steps for achieving designations for three priority watersheds. We have selected McNab Creek (900-106300), a 5th order stream located in the northwest side of Howe Sound as our pilot project. Data, from 2014-2018, at one day per year, from concerned citizen scientists documented 14,000 returning spawning salmon. Salmon species documented in the area were Chinook, Pink, Chum, and Coho Salmon, all using the spawning and main river channel.

The SCCA continues to partner with Friends of Forage Fish & Dianne Sanford to deliver forage fish egg sampling and eelgrass mapping projects.

-Suzanne Senger, Executive Director, Sunshine Coast Conservation Association

Eelgrass Mapping Sunshine Coast Regional District Area D - Roberts Creek

Mapping eelgrass beds off the shorelines of Roberts Creek has been completed and maps of the eelgrass bed areas are being created in collaboration with the Sunshine Coast Regional District mapping department. Of main interest will be a comparison of the new eelgrass polygons with mapping that was done in 2008 to see the changes that have occurred.

-Dianne Sanford, Consultant

Rotary Herring Enhancement Program -

The Rotary clubs on the Sunshine Coast have been dropping 'curtains' off docks for 10 years to assist the herring spawn to hatch and continue to feed the salmon in these waters. Acting as artificial nurseries for the herring roe, our curtains temporarily replace eelgrass and kelp beds which have been basically decimated by climate change, until such time as restoration of natural kelp and eelgrass takes place. We have worked with LeeAnn Ennis through her company Vital Kelp, assisting in the laboratory where baby kelp are being raised, and later transferred to the ocean where each is attached to underground rope to adjust and grow. It is hoped that these mature kelp plants can be successfully transplanted to appropriate locations to restore the natural spawning areas for forage fish and other marine life.

Although Rotary's Herring Enhancement Program is essentially a seasonal project, in the off season we busy ourselves with cleaning the last year curtains, and explore ways to build ones with natural materials, so we are reducing the chance of more micro plastics being added to ocean water. To this end we are replacing the perforated PVC piping, which supports most of the curtains, with driftwood branches instead. Leadcore, which weights the curtains in the water to keep the curtains hanging vertically, is being replaced by hanging beach rocks. Furthermore, to begin to address the removal of micro plastics from polluted waters around marinas, we have purchased a pump filter machine called a "Seabin" to experiment with ways that oil, styrofoam bits and other micro plastics can be successfully removed from the ocean water, as we aim to have a higher spawn around marinas, where we hang most of our curtains.

In June, in conjunction with World Oceans Day and the Sunshine Coast Conservation Association, we presented an active workshop at Davis Bay, helping participants to build a number of herring curtains and show them how important they are to help herring roe survive. We shared a video and gave out pamphlets to educate and encourage their participation in the Herring Enhancement Program and as well to ask that seaweed not to be removed from beaches during spawn season, and to refrain from walking on seaweed during this time, so that maximum number of roe may hatch out and make their way to sea.

Having worked hard over the past decade to help bring back the herring numbers, we are very clear about our position on the overfishing of roe in the Salish Sea. DFO science shows that the roe fishery is not currently sustainable; therefore the way forward is crystal clear to us. We support a [Roe Fishery Moratorium](#) until the herring populations are strong enough to create a sustainable fishery.

-Margie Garrard and Mike Price, Rotary Herring Enhancement Program

Streamkeeper Trainers –

After 23 years of offering 33 sessions of streamkeepers training and events on the lower and upper Sunshine Coast to high school students, teachers, local government staff, politicians and citizens interested in wild salmon, Dianne and Angela have decided to retire from their teaching roles. They remain committed to keeping their waders on and supporting their local community in the conservation and recovery of salmon and their habitat. People wishing to become streamkeepers or upgrade their skills can contact the Pacific Streamkeepers Federation (pskf.ca) to arrange for training.

-Angela Kroning & Dianne Sanford