Pacific Orca Society

Annual Report 2018

Presented by Helena Symonds and Paul Spong
Pacific Orca Society/Orcalab

Report topics:

- Our Journey with Yukusam
- Energy Plus
- Remote Cameras & Network Systems
- Research/Whales
- IWC
- CORKY
- Volunteers, Visitors, Caretakers & Carpenters

Journeys with our “wrinkly friend’ Yukusam

drawing: Lisa Larsson

Early on the morning of 11 February Lisa Larsson, our caretaker, became aware of unusually heavy “clicks” on the Critical Point (Robson Bight) hydrophone. Sensing that this was something special Lisa immediately alerted us, as well as Jared Towers in Alert Bay. Once Jared received the sample recording he consulted with Dr John Ford to confirm his suspicions that the “clicks” belonged to a Sperm Whale! Jared had experience with Sperm Whales in the south Atlantic and off the northern BC coast. Dr Ford likewise had encountered Sperm Whales on the BC coast. Once, in late 1984, while he was staying at Telegraph Cove to finish writing his PhD thesis he too thought he heard a Sperm Whale nearby. Although he and Jim Borrowman set out on a search they never found the whale. The reality is that Sperm Whales have not been known to frequent these inside waters. Instead, they prefer the waters north of Vancouver Island where the adult and maturing young males enjoy a sabbatical from their female counterparts (or is it the other way round?) who remain in equatorial waters with their young ones. Over the next 34 years no-one seriously entertained that Dr Ford’s brief encounter would ever be repeated. And no-one was prepared for the possibility that a Sperm Whale would become a near continuous presence day and night for five whole weeks. But stay he did!

For us, this amazing occurrence set us on an immediate learning path. We hardly understood or knew anything about Physeter macrocephalus. Moby Dick, right? At hand was the Royal BC Museum Handbook: “Marine Mammals of British Columbia”, John K.B.Ford, pages 187-199 (it remains book marked!) and the Internet (of course). Additionally, we got assistance from colleagues. Jared pursued some of his connections while we reached out to former volunteer and PhD candidate, Elizabeth Zwamborn, currently studying at Dalhousie, NS, in Dr Hal Whitehead’s lab. Even though Elizabeth is studying short finned Pilot whales, others in the lab are working on Sperm Whale acoustics and were willing to offer their expertise. Dr Whitehead and his former wife and research partner, Lindy Weilgart described Sperm Whale “coda” exchanges between individuals in the 1990s. Unlike other social cetaceans such as dolphins, orcas and pilot whales, Sperm Whales do not include whistles or pulsed vocalisations in their repertoire. Instead they express themselves exclusively through their echo location clicks. They emit these in various patterns including very specific short sequences called “coda”. It is understood that these are passed down from the mother and are used for social

cohesion and play a part in cultural learning between individuals. Lindy was asked about Yukusam's "coda" and she was happy to help with, as she said, "her wrinkly friends".

We also consulted with Professor Hervé Glotin from the University of Toulon, France. We have collaborated with Hervé for a number of years and stream our acoustic data directly to his lab in France. Hervé has done extensive work with Sperm Whales in the Mediterranean, focusing on locating signal source and strength to determine movements and behaviours. Just the person we needed!. Even though our network of hydrophones involves a wide geographic array (over 50 square kilometres) Hervé enjoyed the challenge of applying his location techniques during this Sperm Whale's stay. To better assess the physical condition of the whale Jared Towers, wearing his Fisheries and Oceans Canada hat, went out to check on the whale directly. The day after the first sounds, Jared swung by Hanson Island and picked up Lisa. Lisa left a recording going and Helena monitored the scanner in Alert Bay and followed their progress on the remote cameras. The weather was very co-operative and would remain so throughout the rest of February. Just before 1pm Lisa and Jared found the whale near Blinkhorn Light east of Telegraph Cove. A group of Bigg's whales had entered the Strait via Weynton Passage and were close by. After quickly checking out the Bigg's (the T137s) Jared and Lisa dedicated the rest of their time to following the Sperm Whale as he circled back towards the east parallel to Hanson Island. Lisa later suggested naming him "Yukusam" after the traditional First Nations name for Hanson Island and this became his adopted moniker after we gained permission from the Namgis First Nation.

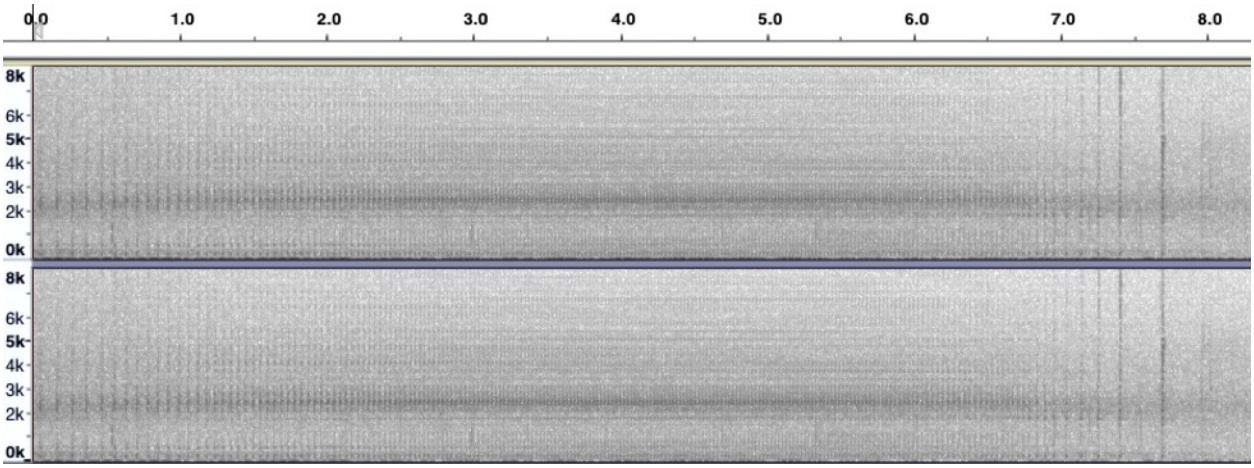
Jared figured that Yukusam was about 40' long, possibly a young adult male, and that he was breathing at normal, regular intervals of 35-40 minutes with long dives in between. His body did not look depleted and his skin condition looked fine.

But what he was doing there? Was he eating and if so what was he eating? Would he find his way out? These were persistent questions as we monitored, recorded, and observed him over the course of the next several weeks. Lisa, being the only person at the Lab, was kept busy day and night recording Yukusam's steady production of clicks. From the start he established a routine of travelling west, then doing a wide turn before heading east once more. Later from Hervé's calculations, Jared's on scene observations, and observations made from the remote cameras, it became clear that Yukusam favoured a certain contour while travelling parallel to Vancouver Island westbound and less so when travelling back east. He seemed to like coming to the surface at certain places; east of Robson Bight; again just past the western boundary of the Ecological Reserve; then off Kaikash Creek,; Blinkhorn; and finally west of Telegraph Cove. The long 35 minute plus intervals between breaths made observations via the remote cameras quite a challenge. Fortunately, Yukusam did the typical "bushy" blows characteristic of Sperm Whales and these tended to stand out against the dark mass of Vancouver Island. Jared suggested we might also listen for a telltale 3 minute gap in clicks that might indicate that Yukusam was ready to surface. This often worked very well. We also learned that once he was diving back into the deep after his brief surface time, he would produce very fast, closely spaced clicks as he went down.

Yukusam, while establishing his routines in Johnstone Strait, produced many different click patterns, some rapid, some slow and deliberate, some varied. We scoured the recordings looking for possible clues that he might be foraging, especially as time went on. In the recordings were several "creak-like"

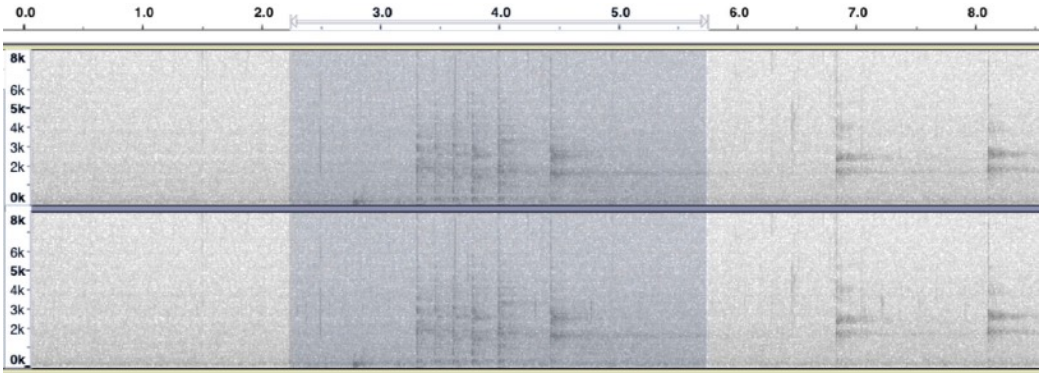
sequences that have been associated with Sperm Whale predation elsewhere. We found this encouraging.

Below is a spectrogram of one of Yukusam's "creak" like sequences with the typical closely spaced click intervals.



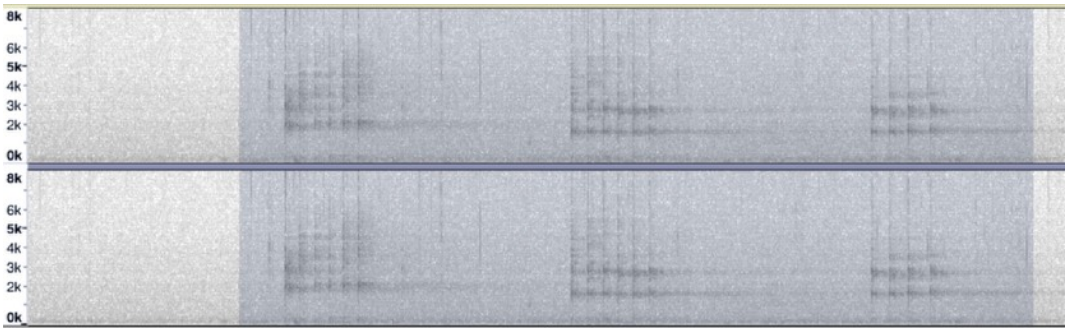
His normal feeding grounds on the outer continental shelf and beyond offered him an abundance of his preferred mesopelagic and bathypelagic squid (Ford) and other deep sea fishes as well. Johnstone Strait is very deep in places but, as an inside passageway, not likely to have the food Yukusam was used to. Whether or not he was successfully feeding led to a lively discussion. Professor Glotin and Elizabeth both agreed that Yukusam was making "creaks" but Hervé was unsure whether his hunts were productive. Jared, who was monitoring Yukusam's physical condition and not noting any signs of stress or loss of weight, suggested that Yukusam might be eating sable fish, a deep sea, bottom dweller, of which there are apparently plenty in Johnstone Strait. This too was encouraging.

As Yukusam settled in there were other surprises. Over time we found Yukusam made many different patterns of clicks from the regular "pile driving sounds", to "gunshot", to "clangs" and even most astounding "coda-like" sequences. Literally out of the blue, Lisa heard Yukusam make sounds strikingly similar to "coda-like" sounds heard elsewhere. We have no idea why but the same sequence (here highlighted in the spectrogram below) was heard more than once.



Yukusam first did this sequence on 3 March. He had been in Johnstone Strait just under a month. From the spectrogram you can see that he pauses from his regular clicks, then makes the coda-like sequence followed by several evenly but different non coda-like (but not unusual) clicks.

One day he changed it up, doing 6 beats twice followed by 4 additional steady beats:



Yukusam excited local and widespread interest. We did several summaries of his movements through Facebook and on www.orca-live.net. We also posted samples of the recordings. Despite this, he somehow escaped undue attention and except for Jared Towers no-one else ventured out to see him. We had the thrill of watching him from the house in Alert Bay when he came west past Hidden Cove. He was clearly visible out in the middle just beyond the eastern end of Cormorant Island/Alert Bay.

photo : Lisa Larsson

It was extraordinary that he was not disturbed given that the weather was fairly good. Perhaps it being still winter was a factor. It gave Yukusam a lot of latitude to be himself uninterrupted. As March approached Yukusam was beginning to stretch his boundaries more and more. On the morning of 10 March he was found off Hardwick Island in eastern Johnstone Strait by local resident Shayla Attfield. He returned to the upper Johnstone Strait later that day and was heard on our Critical Point hydrophone at 5:40pm.

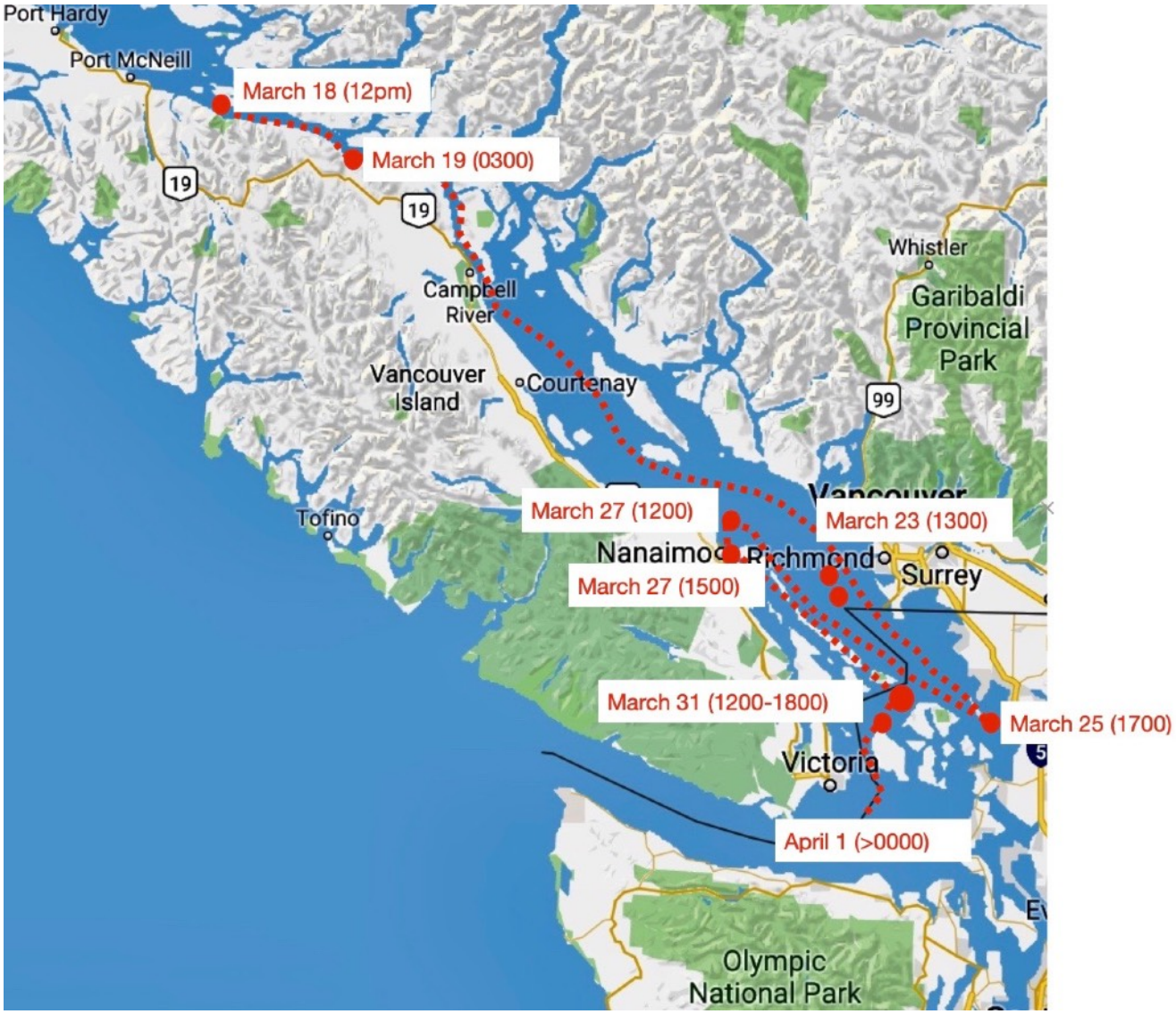
photo: Shayla Attfield

Although spared many encounters with humans in February and March Yukusam did share the Strait on occasion with other cetaceans. On his very first known day in the area there was a group of Bigg's orcas (T18 with the T19s) not too far away in Blackney Pass. Then as mentioned, on his second day in the Strait the T137s passed him quite closely. On both occasions there was no discernible reaction or interaction. There were three more Bigg's events and also two others when Pacific Whitesided dolphins and Northern Residents, the A42s, were in his vicinity. On the afternoon of 4 March Yukusam was heading east and was opposite Blackney Pass but travelling on the Vancouver Island shore. As he predictably clicked away, the familiar calls of the A42s could be heard as well. It was very unusual for any Northern Resident groups to be around in March, but of late the A42s have been spending part of their winters in Georgia Strait from where, on this occasion, they were returning. They were travelling west but closer to the opposite side of the Strait from Yukusam. Neither they nor Yukusam showed any outward curiosity toward each other. Both carried on their respective paths with the A42s leaving the Strait via Weynton Pass a couple of hours later.

For Yukusam it was soon time to move on. His exit on 18 March was unremarkable. Distant clicks were heard around noon and then he was simply gone! As it became clear that he was most likely really gone we adjusted to the new reality that our days no longer revolved around this singular being and his near constant clicks. The Strait felt empty and void. Lisa finally got some sleep!

But Yukusam's story was not quite over. He was detected on 19 March (the day after his departure from us) by the Fisheries and Oceans (DFO) hydrophone off Kelsey Bay. A few days passed, then the

Ocean Networks Canada (ONC) hydrophone in Georgia Strait recorded faint clicks which became more definite the next day. On 25 March he was possibly sighted by fishers off the southern tip of Lumni Island in Washington State. However, he was not quite done with Canada as the ONC hydrophone detected him once again about 24 hours later. Then on 27 March he was heard and found off Nanaimo by Dr John Ford (now retired from the DFO). John followed and recorded Yukusam as he moved around the area, into Northumberland Channel heading south, and then off Pier's Lagoon heading northeast. Three days later, the hydrophone operated by Saturna Island Marine Research & Education Society (SIMRES) off the east point of Saturna Island just north of the USA/Canada boundary picked up his signals. Later that day, Yukusam was observed by several whale watch boats off Stuart Island, south of the border. There was a huge amount of excitement over his discovery. Fortunately, for Yukusam, he did not linger. After midnight, he was finally gone, presumably swimming out to the open ocean, via Juan de Fuca Strait and back to his more familiar haunts.



As a result of travelling down through Georgia Strait the debate over his condition, size and even gender came up once again. However, we were confident that he was approximately 43' long. We felt his condition was still good despite his length of stay in a strange (for him) location and his gender was never questioned given the known habits of Sperm Whales at these latitudes. Fortunately, we could offer proof of his length. When Yukusam was passing Critical Point he was recorded on our remote camera with Jared following in his 17' boat. From the images of both the boat and whale on the surface it was easy to extrapolate his length fairly accurately. Yukusam was no small creature! This evidence was good back-up tho the calculations done by Wilfried Beslin at Dr Hal Whitehead's Dalhousie University lab. Elizabeth had given Wilifried some of Jared's recordings and from those he was able to give an approximate size that was compatible with visual observations.

One of the legacies of Yukusam was the co-operation, coordination and collaboration which occurred amongst those who became involved with this amazing "Physeter" as Hervé always fondly referred to him. After he was gone, there was a concerted effort to collate information and document his movements. Scott Viers of Beam Reach Marine Science based in the San Juans took it upon himself to chart Yukusam's progress from the first to last associated events. Then in November 2018 we participated in a presentation on Yukusam for the 176th meeting of the Acoustical Society of America that was being held in Victoria.

Our final encounter with Yukusam was when listening to the Lime Kiln hydrophone: (http://pro.stream101.com/player2/?ip=2&port=8047&username=smrucons) after dark on the evening of 31 March as he made his last turn before heading out to sea. He is far away now but still very present in our thoughts.

photo : Lisa Larsson

Energy Plus

April on the OrcaLab calendar should really be dubbed "energy" month. It seems as if this has been the month when we most often tackle our energy upgrades. Five years ago (http://orcalab.org/2017/04/22/orcalabs-push-to-become-oil-free) we embarked on a project with help from Canadian Solar Industries, Paul McKay (TrueGrid Inc), and Steve Lapp of St. Lawrence College, School of Applied Science & Computing. Canadian Solar donated a new bank of solar panels while Paul donated a new 48 VDC inverter and solar control equipment. He and Steve brought their expertise in alternate energy system installations. Steve also brought a volunteer student, Ronnie Gilbertson to help with the installation and the heavy lifting. Mark McCallum and his partner at the time, Bec McGuire, helped with readying the metal supports and construction. In the end, the Lab was decked with a new, effective solar array. The battery bank was reconfigured for 48 volts to run the inverter. Things were looking much better for meeting the demands of our energy consumption. Except . . . We were still struggling with the reality of the dark winter months that required us to run the generator each day to keep up battery condition during those months. As well, over the next few years OrcaLab kept increasing its energy needs, especially with the expansion of the remote cameras and monitoring systems in the Lab.

Steve Lapp again had a possible solution. This time, he suggested we encourage additional allies: Vancouver's Great Climate Race http://www.greatclimaterace.org; ELSE, http://www.elsecanada.ca ; and Bullfrog Power http://www.bullfrogpower.com/ along with Mission Critical Energy in New York State https://missioncriticalenergy.com.

ELSE (Emerging Leaders for Solar Energy) found funding and equipment as well as volunteers for the design and installation phases. Toronto's Bullfrog Power and Vancouver's Great Climate Race provided funding. The "Superwind" windmill was donated by Mission Critical Energy; the new solar panels were donated by Panasonic Canada, Veridian Energy Cooperative based in Duncan BC was incredibly generous in providing us with their time and expertise, as well as sourcing the materials and equipment we needed. Eric Smiley made a planning site visit in February, Kuan Jian-foo put the plans and equipment together; and electricians Mike Isbrucker and Clay Fischer led the installation team. Steve Lapp was involved in planning from the start, and Paul McKay generously came through once more by funding new batteries.

The idea this time was to add new solar panels, a large windmill, new inverter, new batteries and streamline the electrical/charging systems. Simple, right?

After a stormy ocean prevented us from arriving on 20 April as planned we landed the crew and equipment on Hanson Island early the next morning.

Mike Durban had already installed the new windmill just beyond the main house near the exposed rock shelf overlooking the bay, to take advantage of the southeast winds that blow during winter months. The mounting structure had been fabricated by Micron Machine Works in Port McNeill and included the capability of lowering it to be serviced. Even before the crew arrived Mike and Paul determined that the windmill would be more effective if the pole was extended, adding additional height. This

meant taking it down. The windmill is a fairly large and heavy object with sensitive blades and electronics but Lisa and Mike managed to do this successfully. Mike, after working on the extension, was ready and anxious to put it back up before the others arrived. It became obvious that this was not possible without additional help, so when the crew landed soon after, their first task was to erect this structure. Fifteen minutes later; no problem, good team work, good start!

The next four days saw a hive of activity, as plans were reviewed and adjusted, conduit and cables laid, metal cut, framing for solar panels constructed, panels carefully laid in place and wired and connected to a big new combiner box. The existing solar array was reconfigured, joining the new array in connecting to a new solar controller as well as an existing one. By the time the job was done, we had doubled our solar capacity, from 3 kw to 6 kw. As an added bonus, Mike and Clay figured out how to install a 48 to 12 VDC converter that runs the DC part of our Lab. Brilliant!

The 16 new (huge) batteries (donated by Paul McKay) were installed behind the "Cave". This had once been an old battery location but the platform was now reinforced to accommodate the new heavier batteries. Mike and Clay promised to come back later in the Spring and build a proper, vented box for these batteries. Hundreds of yards of old extension cords were retired. Cables were properly protected and even buried when possible. No more vulnerable connections lying on the bare ground. Old systems that had been cobbled together really benefitted from this kind of attention.

Even the solar panels (donated by Panasonic Canada) presented a unique challenge when it was determined that the old railings on the deck towards the Lab were not strong enough to hold their weight. New railings were the answer and the beach was scoured for suitable candidates. Cedar replacements were found and fashioned and the installation continued.

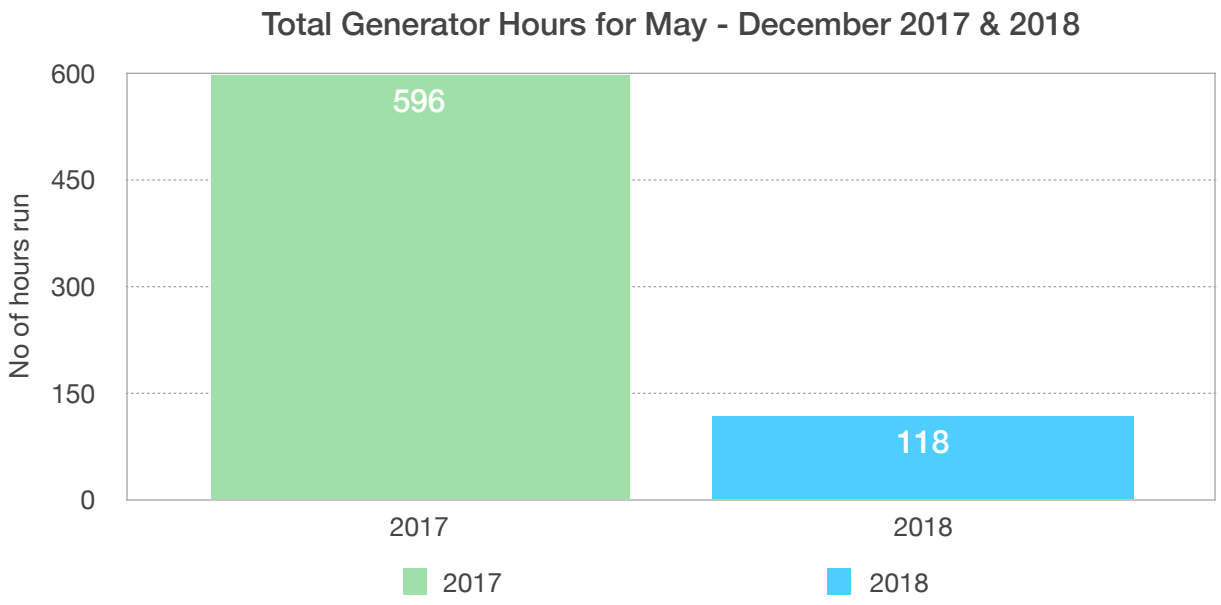
The upshot of all the effort was a new look to our Lab, and a demonstration of the potential for using alternate energy sources to power our increasingly complex lives.

In addition to those already mentioned: David & Barbara Howitt, along with Mark McCallum and ELSE volunteers Nathan Mosely and Spencer Chaisson aided by ELSE's Jonathan Game & Jesse Fraser and Bullfrog's Dave Borins all worked on the nuts and bolts of the installation. Film maker Farhan Umedaly (Vovo Productions) documented everything.

Mike and Clay came back mid June, as promised, to install the new battery box. This added a much needed safety feature to the operation. By this time, Mike and Clay had begun to understand the scope of what was needed to correct the older parts of the system. We had come a very long way but artifacts from decades of old "temporary" fixes still existed. You could literally see their eyebrows rise with each turn around the site. The Lab still needs further work but seriously, so much was accomplished in 2018.

As a postscript, Paul, in particular, kept careful watch on the generator use. The results were encouraging. By year end, after the upgrade in April, we had reduced total generator use by approximately 500 hours. During the darkest days of winter, generator run time was reduced by 75%. For us this was huge. Actually, we were reminded that even if not needed, it would be good to run the "genny" for at least an hour occasionally for its benefit. How ironic! Also, it was suggested that it was important to run the genny occasionally in order to equalize the batteries to maintain their condition as well. This reduction of generator use had the added benefit of lessening the amount of work required by the caretaker(s) and volunteers especially during the night when it was often the case that someone had to get up, fill and start the genny, then turn it off when battery charge levels were corrected hours later. Additionally, It meant that sensitive Lab equipment was protected from nuisance power failures. Much better! We have not solved all the problems but we have a sense of getting closer with each step. Next, we will try to exchange the lead acid batteries for a lithium ion type. This will require some effort and cost but batteries have always been one of the weakest parts of our energy situation.

Paul's ideal conditions are when it is sunny and blowing a hard southeaster. It can happen but not too often in that combination. He is therefore content with sunny days that keep solar going, and happy when wind blows hard enough to keep the voltage ticking. We may put additional solar panels on the Lab at the same time we put a new roof on the ocean side of the building. Paul has also contemplated, encouraged by a wet winter, resurrecting micro hydro power (there is a small creek which does flow in the winter) as part of the quest for OrcaLab to truly become fossil fuel free.



Remote Cameras & Network Systems (and a little history)

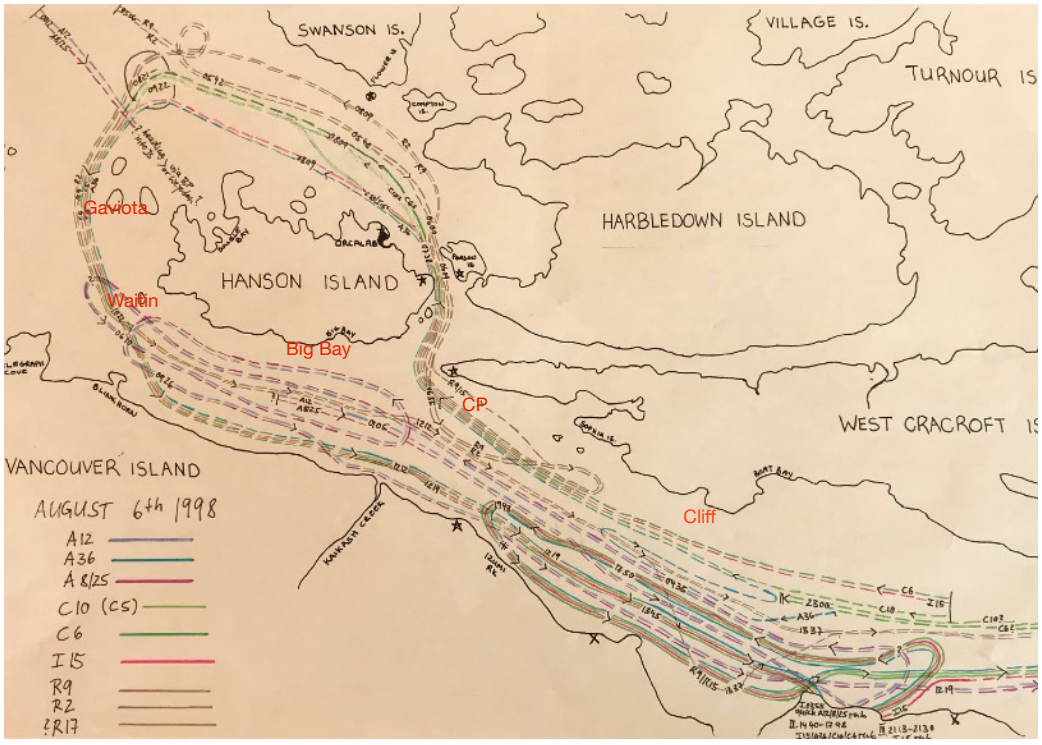
After the major upgrade of the remote cameras and wireless systems in September/October last year no further extensive work was scheduled for 2018. Instead we concentrated on a few of the still existing items that needed attention. The most important was the need to address the lack of a hydrophone at the Main Rubbing beach. The Main beach (50°29.22´ N, 126° 31.375´ W) is one of three beaches orcas rub at within the Robson Bight (Michael Bigg) Ecological Reserve (RBMBER) located in Johnstone Strait. The Northern Resident orcas' unique behaviour of rubbing their bodies on the smooth pebbled beaches led to the designation of the Ecological Reserve in 1982 as a sanctuary for the whales.

The forest area surrounding the Tsitika River, which flows into Robson Bight, before the early 1980s was part of a tree farm license held by MacMillan Bloedel who decided that the estuary would be a suitable area for a log sort as they cut down the old growth forest of the valley above. This naturally led to opposition. Through the 1970s people had become increasingly aware of the orcas and how they reliably returned each year to take advantage of the migrating salmon funnelled through the narrow ocean passageways on their way back to their natal rivers. Dr Michael Bigg was the first to describe the orcas' unique behaviour at the rubbing beaches. Despite being extremely close to shore and in the relatively shallow water the orcas risk vulnerability to skim their bodies along the ocean floor. Often they blow out air to create negative buoyancy allowing them to sink to the bottom easily. Sometimes, just an individual will come "in" but most often entire families participate and even several groups enjoy the beaches together, taking turns in their approaches. Their vocalizations while rubbing are often quite different, reflecting the nature of the behaviour, the slower pace and the social situation.

Opposition to the logging plans led to media interest. In September 1981, the owners of Stubbs Island Whale Watching, Telegraph Cove, Bill Mackay and Jim Borrowman, decided to take a group of reporters to Robson Bight in the "Gikumi" and show them this special area. On the way back to the Cove later in the afternoon, researcher Jeff Jacobsen hailed them from near Cracroft Point. Pointing to a small bay just east of Cracroft Point he excitedly told them that he thought a female orca was in the process of giving birth! Bill and Jim brought the Gikumi to a halt and the reporters witnessed the rare event of an orca birth. A sign? Naturally, the reporters wrote about the coincidence and linked it to the obvious importance of the area. The next day was a circus. The mother, Kelsey (A24) and her new little one A41, were surrounded by the curious crowd while the rest of their pod nervously paced outside the ring made by the boats. The largest male A4 jumped repeatedly just beyond. Kelsey calmly watched her little one (this was her first) tour the circle of boats. Realising we were complicit we sat in our little runabout contemplating the scene. It was then we realised that there must be a different way to study whales. We went home and had a long hard think. From that came the idea of retiring from following whales in boats and attempting to develop remote systems instead. For us this was a positive solution and took us forward to the project we have today.

Sadly, Kelsey's little one did not survive into the next summer season.

The Ecological Reserve was created the next year (1982). It included; just west of Robson Bight, the estuary of the Tsitika River, and the three beaches to the east of the Bight. Exclusion of boats from the Reserve was encouraged and the whale watch boats, led by Stubbs Island, volunteered not to cross the one mile boundary line that was as yet unmarked on nautical charts. The Reserve required the co-operation of both Federal and Provincial governments. A Warden Programme was established that included one to two boats to intercept possible infractions before they occurred and a strong educational outreach programme. Boaters, kayakers, and interested public were approached and informed about the Ecological Reserve and the needs and behaviours of the orcas. Eventually, the programme included an observation post, high on a cliff, across from the Bight, where research and education were conducted. Of special interest were the number and type of boats using the Strait, near the Bight and in the proximity of the whales. This site had been first established as a camp by Dr David Bain in the 1980s when he was conducting research on the Northern Residents for his PhD. Dr Naomi Rose continued using the site during her research and another of Dr Bain's assistants, David Briggs then occupied the site for BC Parks. He was followed by Cheryl Ciccone, then Marie Fournier, who as head Warden, managed the site and the Boat Bay camp for many years. Last year Erin Parsons, who had been Marie's assistant, took over. OrcaLab has worked closely with the "Cliff" through all the years. The collaboration, conducted first via VHF radio, then a private dedicated radio and finally cell phones, has helped inform identification of whales, behaviours and movements, the details of which, through the 1990s, were combined with information gathered from the Lab and its manned camps and hydrophone network, as well as contributions from the whale watch boats and other researchers. We then would collate all these data on a near daily basis and produce a comprehensive summary and map of the whales' movements over a 24 hour period. We did this exercise until we closed the auxiliary camps ("Big Bay" on the Johnstone Strait side of Hanson Island, "Gaviota" east side of the Plumper Islands and "Waitin" on Hanson Island near Weynton Passage) facing the reality that our project was about to change with the advent of developing OrcaLive in 2000.



These data, as a result of this change in operation, were no longer as detailed and we turned our attention and energy to other aspects of the project, including public outreach and education.
The best result of the creation of the Ecological Reserve was that the whales now had a place where they experienced relief from the attention of the growing whale watching industry, helped by the voluntary compliance and the protection afforded by the Warden program. In the early days, the whale watch boats would stop along the offshore boundary line and would wait for the orcas to exit. Now, convention leans toward allowing the whales, once past the Sophia Islands, to move forward toward the Reserve and then go in search of Humpbacks or other interests.

Commercial fishers were and are not excluded from the Reserve. This was to honour the traditions built around the fishery and promote positive rather than adversarial attitudes towards the the whales. In the past orcas had frequently suffered from gunshot wounds from angry fishers who thought the whales were competing for their salmon. Sadly, just a year, after the creation of the Reserve an incident occurred where persons aboard a seine boat shot at a group of orcas in the Ecological Reserve. They were not fishing but transporting the boat to Campbell River, had time on their hands, and decided to do some target practice to relieve their boredom. Two whales, a mother and her year old baby, died as a result. The adult female was Kelsey's mother. One can only imagine what 16 year old Kelsey experienced.

Dave Briggs, who was on the Cliff opposite, heard the gunshots and went to check on the whales. He later remarked:

"A10 pushed her wounded calf to my side of the boat. We could see the wound oozing blood. It really seemed that she was showing us: Look what you humans have done."

A year later, Kelsey's large adult brother, A4 was gone too. There was an attempt to bring the tragic incident to court as it had been witnessed on the Cliff opposite but the case was unfortunately eventually dropped. Kelsey went on to have 8 more babies, four of whom died young. Sutlej (A45), Kelsey's second baby born that fateful year 1983, reached adulthood but died in 2000 after giving birth to Springer (A73) who went on to be the famous orphaned orca who was reintroduced to her Northern Resident community at the age of 11/2 years. A sad history for sure but Kelsey's legacy (she died in 2013, aged 46) is her three surviving (her oldest son Magin died in 2018 at 19 years) offspring, one of whom, Schooner (A64), is adult with babies of her own; and of course, her granddaughter, Springer, who now has two babies of her own. Springer and Kelsey will be further discussed in "Research/Whales".

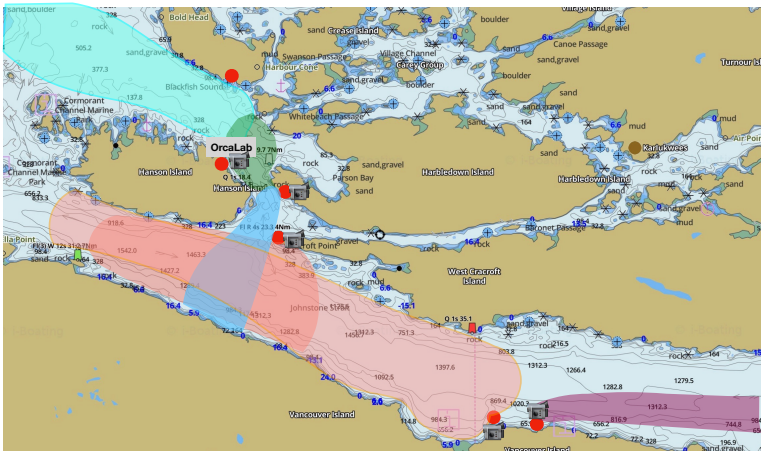
Back to systems: OrcaLab replaced the rubbing beach hydrophone thanks to a grant from North Island Marine Mammal Stewardship Association (NIMMSA). We contacted Joe Olson of Cetacean Research Technology in Seattle, Washington. Joe provided us with an analogue SQ26 hydrophone: with a frequency range of 0.020 to 45 kHz and with transducer sensitivity -194dB, re 1V/µP. This was installed and patched into our wireless network 21 August and we again had 6 working hydrophones.

As time goes on several of our other hydrophones are showing their age.

When we first started to deploy hydrophones in the 1980s to create our present day remote network we were fortunate to have Bill ter Brugge, electrician and amateur ham radio operator, on hand in Alert Bay. We have talked about Bill before and how indebted we are to his help and genius for putting together remote systems from, at first, old war surplus transducers and “sonobouy” transmitters through to the time he made his own transducers. The early systems included a transmitter with an antenna placed high in an advantageous tree. These were connected to a 12v battery placed at the base of the same tree. The battery also supplied the power to the hydrophone located in the water below at around 20m, deep enough to not be impacted by the noise of wave action. The hydrophone cable was placed inside a convenient crevice when possible and further protected by garden hose against wave and current action. The cable was then typically secured with rocks to prevent it drifting. The transducer (the business end of the system) was suspended in free space.

This system worked amazingly well. Paul, at first, had to change the heavy car batteries frequently until we added solar. Occasionally high winds turned or damaged the antennae. Fortunately, they were interfered with by some unknown person only once. The rubbing beach hydrophone, however, had a propensity to get buried each year in the gravel. In 2018 we attached it to the aluminum frame holding the underwater camera. The only down side of doing that was having to remove the hydrophone with the camera at the end of the summer season. Overall, we were very lucky and the remote network provided (still does) coverage of approximately 50 square kilometres of what has since been designated as Critical Habitat for the Northern Resident orcas. Each of the 6 sites was initially selected for their line of sight to the Lab because of the necessity to transmit the signals via VFH radio. The new rubbing beach hydrophone and the ICListen hydrophone at Critical Point in Robson Bight work differently. Rather than using a VHF signal these two hydrophones are connected to the wireless network. Their signals are delivered to the Lab via the Internet hub at Cracroft Point. As Bill is over 90 years old and well and truly retired this may be the future for the rest of the sites.

There are drawbacks, occasional loss of signal being one. The wireless network (8 radios), which enables data to be transferred around our systems, is spread over a large area and dependent on adequate power and susceptible to the vagaries of transmitting data long distances over water. The main advantage is that the microwave signals are not subject to interference typical of in-air transmission. We are also excited by the potential for using modern hydrophone technology which will give us a much better handle on noise impacts.



OrcaLab’s Camera & Hydrophone Networks

In December, Paul, Janie and Helena attended a workshop to discuss possible co-operation and collaboration between NGO organisations which utilise hydrophones for monitoring cetaceans along an extensive portion of the B.C. coast. The meeting was held and hosted at Ocean Networks Canada, Victoria (ONC). While acknowledging the individual uniqueness of each endeavour, the four groups; Saturna Island Marine Research and Education Society (SIMRES), OrcaLab (OL), Pacific Wild (PW) and North Coast Cetacean Society (NCCS), recognised that for future stability and effectiveness certain collaborative measures were needed. ONC's Tom Dakin had already invested a great deal of his time and effort visiting each site to assess the status and efficacy of the wide variety of existing hydrophones and helping with the installation of new calibrated units with the hope that any future data collected would be consistent across each of these platforms. Storage and archiving of historic and future data was considered a pressing issue along with the need to determine a funding mechanism and project co-ordinator. Discussions are ongoing.

Two other system notes: In an attempt to save fuel consumption we managed to change the "CP" electronics from AC to DC thanks to Mathieu Préville who made a site visit and followed written and phoned instructions from HDonTap. This brought CP in line with the sea lion camera system which operates on DC power and has proven more efficient.

Speaking of sea lions! The strong November winds brought down the tree that supported the camera. Luckily, the camera and microphone stayed intact. Fortunately, Paul, Mike and Lisa were able to visit the site and remount the camera, at least temporarily.

On Hanson Island, just over a decade ago, Steller Sea Lions began to haul out on six rocks just south of the Lab. The huge males typically arrive first followed by the females and young ones. Their numbers vary over a season and sometimes they claim all the rocks. We soon got used to their loud growling and were thankful that the smelly beasts were far enough away that we could still appreciate them.

As many as 200 or more sea lions might haul out at a time, occupying all the rocks and even stretching around the "corner" towards Johnstone Strait. We soon learned their rhythms. As high tide approaches, threatening to swamp the lower rocks, the sea lions leave to spend a few hours back in the water, touring and fishing for salmon, octopus and various other fishes. When the tide turns they position themselves like so many buddhas patiently waiting for the water to recede so they can resume their rest.

They jockey for positions, and complain a lot before settling down. One of the rocks, a large white rock, is coveted for its comfortable sling shape and the fact that only one (maybe two) can fit on it securely. When there are a lot of sea lions they tend to move further up the rocks and even cross the tree line on occasion. This can be (and is) a problem for the camera. Not long after the camera was remounted following the blowdown someone must have leaned on the camera support, moving the camera from horizontal. The camera is okay and does not show a skewed view when focused on the sea lions. It is a constant reminder that another site visit is needed soon! Site visits are usually timed when the sea lions are off the rocks for obvious reasons!

The sea lions like to annually haul out at this site from mid to late September through to May of the next year. During the intervening months, most of the sea lions (a few stay in the area but no longer haul out), sojourn at their rookeries further north where females have their babies. By the time they are ready to return to their "winter haul-outs" (just before autumn) females will have been impregnated again. Gestation is timed for birthing on return to the rookery the next spring. Occasionally, we have witnessed a few premature births at the Hanson Island haul-out. These events distress the sea lions who sometimes take days to resume their occupancy. Scavenging eagles are quick to take advantage of what is for them an unexpected bounty.

OrcaLab extends a special mention to Explore for their continued and extraordinary support. Explore has supplied most of the infrastructure on which the remote camera network depends. The extensive views Orcalab has of a large portion of the designated orca Critical Habitat and the ability to broadcast to the Internet is because of Explore and the genius of HDonTap's Tim Sears working on their behalf.

Research/Whales

Through the winter and early spring we were fortunate to have Lisa at the Lab, especially, when Yukusam preoccupied so much time and effort. Lisa has considerable focus and energy and she gave Yukusam not only his name, but her total commitment. The hours were long and at times intense but the result was a very comprehensive record of Yukusam's presence.

Winter, although much less busy than the summer and fall, is usually peppered with visits from Bigg's (the marine mammal eating orcas) once known as Transients and the occasional pass throughs by some of the Northern Resident groups, commonly the A5s, the I15s and the I31s. In winter, the Bigg's are on the look out for seals and sea lions. Killing a sea lion is usually a very long and involved procedure. The orcas have to be careful. Sea lions are large and have teeth of their own. A kill can take hours during which the whales jump on, ram and drown the sea lion before it succumbs.

Occasionally a sea lion will get away but usually, if not terribly injured, exhausted. Sea lions even when hauled out on the rocks can discriminate the blows of Bigg's orcas from quite far away. They will become nervous, and surprisingly even jump into the water en masse, where as a close group they stretch out their necks nervously to look around and thrash about as part of a strategy of safety in numbers. A group of Bigg's is not likely to take on more than they can handle and run the risk that the sea lions will injure them. The Bigg's may then cruise back and forth, agitating the sea lions even further, hoping and on the look out for an individual who has become separated.

This is not their only prey and Bigg's orcas range widely over the whole coast in search of seals, porpoise, dolphins and even larger whales such as Minke and Gray Whales. They have a keen sense of where and when to find food. One researcher likened it to "working a trap line" and that Bigg's groups have preferences for both a particular area and the type of prey they will go after. For that reason we often see the same familiar groups cruising the area. In the spring, just as the sea lions are

taking off to their rookeries further north, dolphins turn up in our area having left the inlets where they have been taking advantage of the eulachon runs. They too become the target of Bigg's orcas.

The old moniker "Transient" reflected a bias derived from studying orcas in the summertime. Then, because the fish eating orcas were known to be present reliably during the salmon migrations they were viewed as the "Residents", and the "Transients" were labelled to describe the occasional, brief and opportunistic sightings experienced by researchers. However, as time progressed, it was understood more clearly that Bigg's orcas (named for Dr. Michael Bigg who first determined their distinction from Resident orcas) actually are a year round presence, however infrequent.

Each orca community whether Resident or Transient is discrete and exists entirely for itself. The West Coast Bigg's community, because their prey is in fair abundance along the coast, has grown remarkably over recent years. They do not interact with the Resident orcas, in fact, they will do their upmost to avoid even being in the same vicinity. Bigg's orcas hunt by stealth, passively listening for their prey and probably don't appreciate their noisy fish eating counterparts who make listening much harder. Usually if the Bigg's sense that Residents are around they will exit the area or choose a separate route, travelling on one side of a channel while Residents travel on the other.

In October, we had a special encounter with an individual Bigg's orca, T46C2, affectionally known as "Sam". Sam is an orca of great interest ever since she was found isolated in Weeteeam Bay, Aristazabal Island on B.C.'s northern coast in 2013. No one knew what the circumstances were or why she became separated from her family at such a young age of just 4 years. During the three weeks of anxious observation by DFO and the Vancouver Aquarium there were no indications that Sam was eating. It was felt that something had be done. Finally, Sam was encouraged to leave the bay for the more open waters of Hecate Strait, and then amazingly was sighted two weeks later off northern Vancouver Island.

In October 2014, Sam along with her mother came into Blackney Pass. She had seemingly reunited with her family! Was this the end of her story? Not entirely as she continued to "free associate" with other Bigg's groups, reunite with her mother yet again and also be on her own from time to time. Sam turned up midway up Knight Inlet all by herself on 31 August 2013. She was pretty crafty and almost

defeated the efforts of ourselves, Jared Towers with Christie McMillan, and Marie Fournier who searched for her for the better part of the day. In the end, Jared found her not far from her initial location just as he went to get gas at Ministrel Island for the trip home.

Over the years, Sam has kept everyone guessing and when on 1 October a lone orca was reported in the area we were not surprised that it turned out to be Sam who Jared had earlier suggested as possible, sight unseen. She hung around for a couple of days until other Bigg's arrived and then returned later for several days by herself at the end of October. She seemed to hunt successfully and was not overly impressed by the Northern Resident groups who were around at the same time, though she did typically keep her distance.

From Jared's accounts Sam's interactions with Humpbacks in Weynton Passage (west of Hanson Island) were very interesting. She was very determined and undeterred around them. Humpbacks and Bigg's orcas have a strange relationship. The Humpbacks, rather than ignoring Bigg's engaged in a hunt, deliberately position themselves near by, even to the point where the hunt is interfered with. Some have suggested that it is a case of two top species not giving ground to each other and Humpbacks being rather larger and stubborn may be determined to make their presence felt while the Bigg's orcas, intensely focused on succeeding, carry on hunting. But why do they bother? The ocean is quite big enough for both. Do Humpbacks just not "like" Bigg's hunting in "their" space, or are they defending the Bigg's' prey? They certainly have an ambivalent attitude to sea lions, often the target of Bigg's hunts, so it is hard to completely assign their actions to altruistic feelings. Sea lions regularly surround humpbacks if they happen to cruise by their favoured rocks or when the Humpbacks are actively feeding. The Humpbacks harrumph and splash and harrumph some more but the sea lions persist. On more than one occasion we have witnessed Humpbacks actively positioning themselves either close to a Bigg's hunt in progress or even putting themselves in between, allowing the sea lion to get away. Another one of those mysteries! Stalwart Sam, however, carried on with her pursuit of a Dall's Porpoise and was successful.

The other individual who caught our attention was Springer (A73). We have already mentioned her but 2018 was remarkable for her return to the area on 1 July, the start of the Northern Resident summer season! With Springer were her two young ones, Spirit (A104) born in 2013, and the littlest one, yet to be nicknamed, A116, born in 2017.

As mentioned, Springer was Kelsey (A24)'s granddaughter and born in 2000. She and her mother, Sutlej (A45) came to the Johnstone Strait area in 2000 and our daughter Anna managed to capture some brief video of the two of them as they passed Cracroft point to the west in the afternoon glare. Springer's mother sadly did not come back in 2001 and it was assumed that, because she was so young, both had perished. Unbeknownst to everyone, Springer was alive. She was even photographed off northeastern Vancouver Island in October 2001 in the company of another female who was reasonably assumed to be (although mistakingly) the little whale's mother. After this Springer became totally separated from her community. Perhaps she had followed them down the west coast of the Island but failed to keep up, eventually ending up drifting into the inside waters of Puget Sound in January 2002. She caused quite an understandable stir. As she settled into a routine of going back and forth in the waters between Seattle and Vashon Island everyone tried to figure out who she was. Two Bigg's orcas had recently stranded not far away and there was speculation she must belong to them. Researcher Ken Balcomb, who has made the Southern Residents his life's work, went out and determined that the little whale was not a Bigg's orca nor even a Southern Resident. Another researcher, Dave Bain (the same person who established the "Cliff" site in Johnstone Strait), along with hydrophone maker Joe Olson, went out and acquired a recording. The recording confirmed that this whale was from the Northern Resident community and certainly someone from A clan. However, there was still confusion because of those photos from the previous fall showing her next to a female belonging to G clan. There are 3 acoustic traditions in the Northern Resident community, A, G and R. Families are sorted acoustically according to the degree and number of shared call types. There are no shared call types between clans. It was suggested because of the photographic evidence, that she was perhaps imitating calls.

There was precedent for this speculation because in 1965 when Namu, a large adult male, was captured off the central British Columbia coast, then towed in a pen all the way to Seattle and placed in a pen there, he went through much of the Northern Resident call repertoire despite being from the C1 pod of the A clan.

However, the Springer recording revealed a certain distinctive call that triggered our memory of another recording. In 1985, when Springer's mother, Sutlej, was about 2 years old, she temporarily separated from her family while out in front of the Lab and wandered close to our local hydrophone from which we got a short recording of her calls. This, and the written account, were duly stored away but not forgotten. The resurrected recording was compared to that of Springer's and when a spectrogram of that distinctive call was placed side by side the similarity was plain to see. It made for a good argument that this little whale was indeed A73 and her mother, A45. The conversation began to entertain the reality of Springer's identity.

Conclusive proof came after an identification photo was found by another researcher of mother and daughter when together in SE Alaska.

Once the idea of who she was and where she belonged was accepted the task over the next few months was to plan for her reintroduction into her home waters and her family. On 14 July 2002 Springer was let out of her temporary pen in Dong Chong Bay, Hanson Island, and three days later she returned to her community. The success of this effort must certainly be that 15 years later, Springer is a mother twice over and thus a full member of her community.

There were some surprises. Springer, counterintuitively, never fully bonded with her grandmother Kelsey, even though she was in the area after Springer's release. Instead, Springer connected with cousins and later her great aunty. Her mother Sutlej before she died showed a preference for her cousins' company and this may have played into Springer's later decisions. To this day, Springer is rarely found with her natal group although she still uses their vocalizations. Resident orcas normally bond and stay in their natal group for their entire lives. The fabric and stability of the community is based on this. Obviously, there is something else at play. Grandmother Kelsey not only lost several of her babies but she also displayed a rather loose parenting style. Was she just different or did her tragic beginnings have a lasting effect?

We credit Kelsey with one of our best moments. We were all on the Lab deck watching a large group of orcas heading north through Blackney Pass. While we were busy identifying the individuals further out through the scopes, we noticed that there was a group coming along on the Hanson Island shore. We vaguely noticed that they were starting to angle out in the direction of the others and so thought we would have time to catch up with them soon enough. Deep in concentration, we did not notice Kelsey until she surfaced suddenly and blew directly below the corner of the Lab deck in the deep high tide waters. We all jumped and Paul lost hold of his camera lens! It bounced, not once but twice before falling into the water below. Helena looked over and down into Kelsey's blow-hole who then backed off (literally) and dove. Next she roused a hapless seal from the depths of the kelp and then. disturbed a heron poised on floating kelp fronds. The heron squawked in alarm, the seal swam away. Both headed for the point across the bay from the Lab. The seal poked his head high and looked at the heron now on the rocks as if to say, "What was that?" Indeed! We too felt we were definitely the subjects of Kelsey's mood and got the "joke".

As mentioned Springer and her little ones were at the Main rubbing beach for a lovely long rub on 1 July: Springer's distinctive right side saddle was clearly visible on the remote underwater camera as well as her swollen mammaries which showed that she was still nursing her newest baby.


From the under water images we noticed that little A116 appears to be a female!


We did not get a clear underwater image of Spirit (A109). Springer was sharing the beach with Corky's family, the A23s. and a short while later we saw Fern (A95) and Eliot (A109) heading west together with Eliot's recent wound showing just behind the dorsal fin.

photo: Jared Towers

When the study of the Northern Residents began in the early 1970s several individuals bore the marks of boat caused injury. When Paul first saw A1 he named her "Tulip" because her severely damaged dorsal fin resembled a flower opening. Later, A1 became more graphically known as "Stubbs". The A5s, in particular, seem to have a propensity for such injuries. The matriarch Eve (A9) had deep impressions along her back. In 1973, Corky's sister, A21 was hit by the M/V Comox (ferry) and did not survive. This was just a few years after the pod had been captured twice with more than half of the pod taken away. The list goes on: Stripe (A23), Corky's mother, also had wounds to her back; Sharky (A25) had an unusually shaped dorsal fin that never grew properly thus her name; more recently Fife (A60) suffered a severe wound across his flank, the deep marks of a large propeller imbedded, he survived; Fern (A95) likewise had an almost identical deep wound where the propeller marks were visible but also survived; and most recently, Eliot (A109) in 2018 showed up with this deep cut (to the bone) just behind the dorsal fin. Very disturbing that these were all within one family.

The A5s relationship to boats may be rather suspect. We had a personal experience many years ago when we were out in our boat to check on a new baby in another group. The A5s surrounded us at a certain point as we motored slowly along near them. Five year old Ivy (A57) and 11/2 year old Fife (A60) engaged us in a rather scary game. They both positioned themselves right below our turning prop. We had no choice but to carefully carry on travelling in a straight line. We could see right into their blow holes. At a certain point they pulled back and flanked the boat closely, one on each side, then allowing the boat to pull ahead they would slip backwards and under the prop once again. Their respective mothers, Holly (A42) and Stripe (A23), flanked our boat a little further out on either side. Eventually, Stripe turned slightly on her side and lifted her pectoral fin, slapping the water several times. Fife heeded and moved back to his mum's side and away. Mischievous Ivy took longer to convince but Holly stayed close until she did so. Ivy eventually swam away under protest, continually slapping her flukes. We talked with researcher Graeme Ellis about this afterwards as he had also observed such behaviour.

Northern Resident matrilines and individuals who frequented Johnstone Strait during 2018 included: A50s, A54s, A34s, A24s, A35s, A73s, A23s, A25s, A42s, C31 (C06), C10s, D09s, D11s, D12s, D13s, G17s, I13s, I42 (I11) I04s, I16s, I27s, I65s, I33s, I35s, I68s, Rs (possibly R5s). This meant that all three acoustic clans were represented and this was a positive development. In recent years the number of different families visiting the area had shown a marked decline. The season started and ended on more conventional dates and the length of the season lasted into December with the A34s closing out the activity.

Despite this resumption of "normal" practices there are still concerns. In 2018, social activity as shown at the rubbing beaches, was still not as robust as it has been historically. This most likely meant that the whales were still focused primarily on securing food leaving less time to indulge other activities. The fish eating orcas prefer, almost to exclusion, Chinook and Chum salmon and follow the respective runs along the coast during late spring, summer and fall. The health of these runs is crucial to the welfare of both the Northern and Southern Resident communities.

Concern for the fate of the critically threatened Southern Resident community has become intense. The Southern Residents have a declining population (just 75 as of Jan/2019). Many factors have contributed to this decline: They suffered from captures in the '60s and early '70s; inhabit a densely populated area bordered by Seattle; Vancouver, and Victoria; are exposed to high levels of noise that may impede their ability to hunt; are the target of both casual and commercial whale watching; are the subjects of all kinds of other pollution; and face a serious depletion of prey. The sad story of Tahlequah pushing her dead new born baby for over 2 weeks and more than a thousand miles gripped worldwide attention, and then a short while later the same world watched in dismay, as the young orca Scarlett grew alarmingly thin and disappeared. The message was clear, something had to be done and fast.

The Canadian Government, who are charged under the Species at Risk Act (SARA) to protect endangered species, responded to the situation faced by Souther Residents by making available new research funds. Several initiatives were launched in 2018 using the Northern Residents as a control and comparison. These projects were all boat based, one involved tagging, and all followed the whales around closely. The research is slated to resume in 2019. This activity is in addition to the existing network of land based observers, the remote hydrophones and cameras, the boat based photo identification (DFO) and photogrammetry (Vancouver Aquarium). The increasingly busy scene is made more so by whale watching, casual boaters, and film projects. One wonders how much attention can be tolerated by the whales.

Although the Northern Resident community appears more robust, it is still a relatively small group (just 310 individuals in 2018) and subject to many of the conditions which brought ill to the Southern Residents, especially the decline in Chinook salmon. Moreover, the growth of the population actually stoped in 2018. We hope people keep this in mind and are very careful not to create additional problems for the Northern Residents.

In Washington State, Governor Jay Inslee has pledged 1 billion USD to help the orcas. His plan includes; dam removal, habitat restoration, and most controversial, putting a three year ban on Southern Resident whale watching. The Canadian Government has created new sports fishing

exclusion zones, altered some shipping routes and increased the allowable whale watching distance to 200m.

Will this help? Probably, but possibly not in time. We are pushing for a complete 5 year ban on the taking of Chinook salmon by recreational, First Nations and commercial fishers with the message “Give it up for the orcas”.

The group who would feel the biggest impact is recreational fishers. Outfitters rely on advertising featuring big trophy fish as a draw. Likewise, the whale watch boats rely on advertising showing close spyhops and exciting breaches to beat out the competition. We have suggested that governments might pay for replacing this type of advertising with lesser hyped images and messages to help create more reasonable customer expectations.

On other fronts, in an effort to be more systematic in regards to collecting data on Humpbacks in Blackney Pass, Janie Wray, trained the volunteers to do regular 15 minute scans, noting the position of any cetaceans and boats. These data were then entered into a spread sheet. This is similar to her approach while working on the north coast at Fin Island, near Hartley Bay, south of Prince Rupert. The “Cliff” regularly does boat surveys in Johnstone Strait so eventually a comparison of the two areas should be possible.

The Fin Island area is inhabited by quite large Humpback and Fin Whale populations and Janie has developed an affinity for both of these species. She has created a comprehensive Humpback catalogue and collaborated with other such endeavours to help understand Humpback distribution along the wider coast and impacts due to vessel traffic.

Thanks to the Gencon Foundation we purchased “Big Eyes” binoculars to aid with identification of whales both at the Lab and Cracroft Point. Janie, who has used this equipment before will train the 2019 assistants who will operate these special binoculars.

We are delighted and grateful to have Janie’s involvement in our project.

IWC 2018

The 2018 meeting of the International Whaling Commission (IWC67) was held at a fancy beach resort in Florianopolis, Brazil. Getting there was almost as interesting as the meeting itself. We flew from

Vancouver to Toronto to Sao Paolo and after negotiating our way through that vast airport, getting language help and odd looking flimsy paper boarding passes along the way, we flew to Florianopolis through a black, black stormy night and landed with a thud, screeching to a halt to the relief of all on board. Big umbrellas greeted us and kept us mostly dry in the tropical downpour as we made our way to the terminal. It took a while to find the taxi driver our friend José Palazzo had arranged and more than another hour to drive to the venue where we checked in and were driven to the building where our room was located. Whew! Next morning we found out that we were actually among the lucky ones, as many delegates had been diverted to an airport hours away and spent much of the next day getting to where we were already strolling along a fabulous sandy beach with endless Atlantic waves rolling in. So nice.

An NGO meeting in a beachfront restaurant crowded with familiar faces from past meetings kicked things off. Rumours that Japan was bringing a huge delegation including senior government officials and Diet members raised an immediate question, why? What was Japan up to? The fact that the Chair of the meeting was Japanese raised eyebrows as to intent, and it was generally agreed that this was going to be a make or break meeting for Japan which has been stymied for decades in its ambition to resume "commercial" whaling. Everyone has long known that Japan's "research" whaling was in reality commercial in that the whale meat from their operations was openly sold and traded, but a façade of legitimacy was always maintained despite the 2014 ruling of the International Court of Justice which deemed Japan's whaling commercial. Now it seemed, Japan was serious about getting an IWC stamp of approval for its nefarious actions, in essence seeking to overturn the Moratorium on commercial whaling that has been in place since 1986. One could almost hear the voice behind a distant trumpet: "Let the games begin".

The first week was occupied by a series of sub-committee meetings, all of which we signed up for, even Finance and Administration. It was in the latter that we learned the IWC was facing a serious financial crunch because of a Brexit related drop in the pound, the currency the IWC operates on. The fix was to increase annual fees by 7.8% but many members resisted raises beyond inflation, so there were going be cutbacks. The primary target proposed was the Scientific Committee, which in our view has for many years been the best hope of the IWC transitioning into a formidable international

organisation that actually serves to protect oceans and whales. The size of the proposed cut (30%) meant that if approved at the Plenary, much of the work of the Scientific Committee would be gutted. An example of the impact was the likelihood that Invited Experts would no longer have their expenses paid. The consequences cannot be understated, as much of the scientific progress made on issues such as warming oceans, noise, entanglement, debris and plastics pollution has been through the work of "outside" invited scientists who attend IWC workshops focused on vital ocean issues. Without them, the work of the Scientific Committee would almost certainly falter. Not all was lost, however, as the proposed creation of Voluntary Funds to support various initiatives presents a way of working around the problem.

By the end of the first week of sub-committee meetings, it had become clear that the work of the Conservation Committee had reached a stage where it virtually matched the Scientific Committee in its importance to the work of the Commission. Japan and its cronies had resisted the formation of the Conservation Committee at the outset and continued to resist its priorities meeting after meeting. By now, however, it has achieved such recognition and momentum in the Commission that its work cannot be denied. The funding crunch now faced by the Scientific Committee has always been a reality for the Conservation Committee, which has managed to find ways - primarily via Voluntary Funds – to conduct its work. The results have in many ways transformed scientific and public understanding of issues that lie at the crux of ocean (and planetary) survival. Warming oceans, plastics, pollution, ghost nets, entanglement, noise and related issues are now near the forefront of challenges that face humanity as it seeks a tolerable future, and the IWC has in many ways been a leader through its contributions to science and conservation.

When the week of the Plenary began we were immediately impressed by the arrangements the Secretariat had made to accommodate the various and varied attendees, including flawless translation in four languages, wifi that almost always worked (was improved during the meeting), tables not just for delegations but NGOs as well that included microphones for many, and an open invitation to NGOs to contribute to discussions, albeit at the end of the queue. Altogether, it was a vast improvement on past meetings when NGOs were barely tolerated. The NGOs themselves have to be given credit for the changes because of their substantive contributions to discussions on numerous issues and their solid defence of cetaceans and the expanding threats they face. At IWC 67 the NGO contributions

began in the sub-committee meetings during the first week and continued in the Plenary. In part, the changes at the IWC reflect what is now normal practice in other international fora such as CITES (Convention on International Trade in Endangered Species) where NGOs participate on an almost equal footing with national delegations.

Dolphin Connection: Helena Symonds, Paul Spong and Nancy Azzam

Among the many issues NGOs worked on prior to the meeting were proposals for Aboriginal Subsistence Whaling (ASW). Led by the USA, the Commission was presented with a take it or leave it proposal called The Bundle in which all quota requests by the countries involved were to be treated as one package. There was considerable sympathy for aboriginal people, especially Alaskan Inuit who have been dependent on whales for food for millennia, but little for the thin claim of tradition and need by the whalers of Bequia. Greenland's case was mixed, with careful NGO analyses showing its quota requests to be excessive as well having commercial aspects prohibited under IWC rules. Some of the provisions of The Bundle were so objectionable they resulted in negotiation despite initial insistence from proponents that not a word could be changed. In the end there were some changes, including removing a clause which would have had quotas renewed automatically without further IWC consideration, but despite vigorous opposition The Bundle was eventually approved. It was the low point if the meeting. One consequence is that 28 Humpbacks could be killed near Bequia over the next 7 years. So sad, and so unnecessary.

It became clear from the outset of the Plenary that Japan was putting all of its marbles into play, betting on an outcome, whether by persuasion intimidation or guile, that would allow it to start legitimate commercial whaling again. Perhaps it was hoping to get help from the Chair who was Japanese, but Chairman Morishita was for the most part scrupulously fair. Japan's hopes rested on a document it tabled called, "The Way Forward", which proposed overturning or bypassing the Moratorium on commercial whaling that had been in effect since 1986 and allowing commercial whaling to start again.

At one point we wondered whether a delay in discussion of this agenda item was because many of Japan's votes weren't in the room, but in the end that didn't matter. Japan was soundly defeated. Not only that, but an alternate proposition called the Florianopolis Declaration, which looks forward to a benign future for cetacean-human relations, was approved by a wide margin. Japan lost at every turn in this 67th meeting of the IWC. Its "research whaling" was condemned and a proposal to settle issues with high-level diplomacy was rejected. Japan left the meeting having accomplished nothing on its list, so the inevitable question was, what next? We pondered this question as we sat in the lobby of the hotel waiting for transportation to the airport, taking note of the good mood Japanese delegates were in as they waited to be checked out, hardly faces that reflected the down beat of defeat.

The answer came in December, long after the meeting ended, when Japan announced its decision to withdraw from the IWC and resume commercial whaling outside its jurisdiction. Given what had happened at IWC 67 this came as no surprise. Apparently Japan's plan is to kill whales in its coastal waters, a long held ambition long resisted by IWC decisions because of the precarious state of the population of Minke Whales in Japanese waters. Beyond this, Minke and Sei Whales will continue to be killed in the North Pacific, a practice that violates CITES rules so is already illegal. There is no question that Japan will face push back, quite possibly even internally because it will be hosting the 2020 summer Olympics. There is also one very positive aspect to the decision. Japan will no longer be sending a fleet to kill whales in the southern oceans. At long last, the inhabitants of the Southern Ocean Whale Sanctuary will be able to go about their lives in peace, free and freed from fear. That is huge.

The IWC will return to Slovenia in 2020 for its next meeting. Japan will be absent, and quite possibly also many nations that have supported Japan in the past. The organisation will have changed so radically that it may well be able to get on with its real business: whales and the oceans they inhabit,

both of which face a precarious future. We will see, but we are experiencing a rare moment for these uncertain times: Hope.

(see http://orcalab.org/news-archive/ for stories from IWC 67)

Corky

December 11 2018 marked the beginning of Corky's 49th year as a captive. So much time. As she has done for many years, Corky's friend Lori sent us a report about Corky on her saddest day.

"I visited Corky today just to fill my heart, then to fill yours. She was in a big group, Corky, Ike, Makani, Shouka and Keet. They were in the west pool. The one with the crack to see them. Anyway through the crack I spent a couple hours with Corky. She seemed to be resting, facing away from me, but like a razor view of her dorsal from the back. While she was trying to rest, Ike and Makani playful and all over her, were being frisky. A few times she rooster tailed it out of there and did a loop. The rascals always came back. A couple times she spyhopped and played along, it went on for over an hour. What impresses me the most is how tall and straight her dorsal is, wiggles like a free whale when she cuts the water or just standing still. She looks good, shiny, black, relaxed and in good company until

she comes home. To see through my crack I had to sit on the ground, looked a little funny I guess. Security came up and suggested I move to another area. The ol' guy gave up after I said there was no better view. He did keep an eye on me for over an hour. Crazy ol' lady…so dangerous. Anyway, a peaceful visit with her. She is strong…and I know she is waiting."

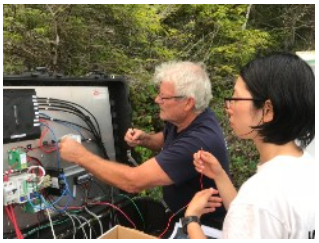
For decades we've attempted to convince SeaWorld to give Corky an opportunity to meet her family again, so far without success. We've always remained hopeful, however, because Corky is still alive and therefore still has a chance. In 2018 our hopes took a big step forward because our friend Michael Reppy, who is a long time advocate and campaigner for Corky, purchased the fishing lodge at Double Bay on Hanson Island.

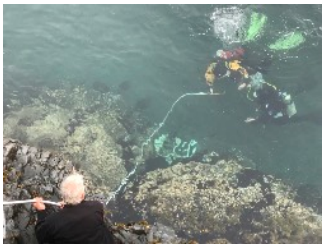
Michael's intention is to create a conservation and education centre focused on ocean issues as well as potentially creating a "retirement" home for Corky. Double Bay would be perfect as Corky's new home. Her family regularly passes by in Blackfish Sound on their way to or from Johnstone Strait. The Lodge, which has 26 rooms, is perfect for workshops and accommodating Corky's caregivers. Many hurdles remain, the biggest being getting SeaWorld's agreement, and others like permission from Canadian authorities are formidable too, but we now have a place, and that's a start!

Volunteers, Visitors, Caretakers and Carpenters

In 2018 several volunteers from previous years returned to help out during the summer and fall. It is always a great help to have experienced assistance on hand because the project has become multifaceted, demanding and challenging and for newcomers often perplexing until they "get on their feet". Unfortunately for the new volunteers in 2018 they were on their own (albeit with support from Helena and Paul) until the others began to arrive later in July and August. In June, OrcaLab was busy with camp preparation, continued Humpback, dolphin and Bigg's monitoring, as well as, the return visit by Viridian Energy Co-op. Once this work was finished Paul and Helena left new

volunteer Ellie Buchanan to look after the Lab while they completed a supply run “down island”. Mike Durban was on hand to work on the windmill. Ellie diligently kept track of all the activity before the other volunteers arrived which occurred just as the Resident orcas came back on 1 July. This was a “normal” arrival time, but somewhat earlier than in recent years, so everyone had to learn the ropes very quickly. It was, however, a lovely introduction. The A30s along with the A23s and Springer’s family came in, travelled to Johnstone Strait and went for a rub. Except for the missing hydrophone at the rubbing beaches, the rest of the systems were performing well and from then on the busy season unfolded. Luke Mobley, Emma Longden, Ben Robinson, Sian Steel, Amelie Claudepierre and Chenoah Shine (along with Ellie) learned to follow the movements of the whales on the remote cameras and hydrophones. Eventually, returning volunteers; Megan Hockin-Bennett, Momoko Kobayashi, Shari Manning, Karien Bergmans, Suzie Hall, Tomoko Mitsuya, Dylan Smyth and Lucy Etheridge came and provided their seasoned knowledge of the Lab and social media outreach. Later, new recruits Kat Mumford, Laura Engel and Anika Geissler were easily integrated into the daily routines. It was a cheerful crew with a wide range of skills to contribute. Amongst the group were several divers who were more than willing to help with camera maintenance at the rubbing beaches where the underwater camera suffers from algae build-up, and be on hand to help install the underwater camera at “CP” (Cracroft Point). Luke was competent on a chainsaw and was duly put to work on Paul ’s forest walking trail.





Part of the summer was impacted heavily by the smoke caused by numerous and dangerous fires further inland. At times, visibility was reduced to zero so tracking the whales became an acoustic exercise much like it is at night. The smoke was so pervasive and its effect so tangible it affected sight, taste and smell. Despite this impedance the volunteers managed to have some amazing experiences. Humpbacks came close on occasion and the orcas used the Pass frequently as part of their travels. Nighttime often becomes a favourite time to be in the Lab when the business of the day is stripped away and one is left alone with just the whales calling, and if lucky, the sound of their blows as they pass in front of the Lab.

When not busy in the Lab, or involved in daily chores, almost all of the group participated in regular yoga exercises. The choice location was on the guest house deck but if occupied, they would switch to the main house deck overlooking the bay. Emma, who was also a runner, took charge and led the group with her routine. This was a pretty good way of shaking out the tiredness caused by long and sometimes irregular Lab shifts. All the volunteers sleep in their own tents, though they can use the upper part of the Lab when on shift, and eat and prepare their breakfast and lunch in the camp kitchen. Both of these are in the forest so finding a sunny spot for yoga and a swim is very welcome. Everyone was very supportive of each other and enjoyed each other's company.

In early July Megan and Momoko reestablished the "CP" camp, clearing away the cobwebs and getting it ready for occupation once again. Megan came equipped with a new state-of-the-art 4K digital video camera. Momoko took charge of the other video camera, both used their digital still cameras, spotting scope and binoculars to document and keep track of the whales & events in Johnstone Strait and relay this information back to the Lab. Eventually, Momoko returned to the Lab and Shari joined Megan.

Enough cannot be said of our thankfulness to Momoko Kobayashi. Momoko has come to OrcaLab for 9 years. She has been amazing and very capable in every regard. Upon request, Momoko agreed to stay on later than she had planned so that Helena and Paul could attend the International Whaling Committee meeting in Florianopolis, Brazil in September. Even though this was not easy for her we believe she enjoyed the challenge of managing the Lab and the good company of the other volunteers. For Helena and Paul it meant they could go away worry free and concentrate on the IWC meeting.

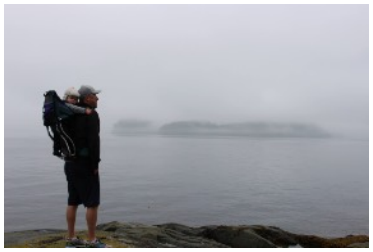
Tomoko Mitsuya, who has been coming for many years managed to squeeze in a ten day visit. Over the years Tomoko has become very adept at recognizing calls and following the whales acoustically. Her contribution to our project has been substantial and greatly appreciated.

Each summer, the Lab welcomes family, friends and visitors to Hanson Island. Paul's granddaughter Hannah Auer with her partner Paisley White and her friend Fi River along with their children, six year old Indi, almost 3 months old Zephyr, and six year old Ember came in early July. They were followed by Paul's son Yasha, his wife Brandy and their three children, Amelia, Nate and Josie. Amelia celebrated her thirteenth birthday while there and later, in October, Paul and Helena travelled to Oakland, California for Amelia's Bat Mitzvah.

Yasha's family stayed on to celebrate Paul's daughter Milora's partnership with Martin Velarde Madero. A lovely ceremony was held on the deck, decorated earlier by Amelia, Josie and Brandy, during the afternoon of 21 July. This brought together many friends from Alert Bay and Milora's sister, Anna, her husband Tony and nearly two year old son Jamie from Vancouver. Milora's daughter Arwyn was the "flower-ring" girl. Assistants, Megan and Momoko helped Helena put the food together and on the table and everyone left well fed and happy.




Other family members visited as well. Niece Jennifer, her husband Michael and children, Olivia and Max. They brought with them environmentalist Will Horter and his daughter Asha. There were many lively discussions about the environment and the changing role of engagement in environmental causes. Nephew Chris, his wife Jess and year old Alexander came later in August. Alexander had an amazing ability to sleep anywhere. He even fell sleep on the very rough return trip to Telegraph Cove despite very bouncy conditions. As we were all holding on tight, little Alex was totally relaxed nestled into his dad's secure arms.

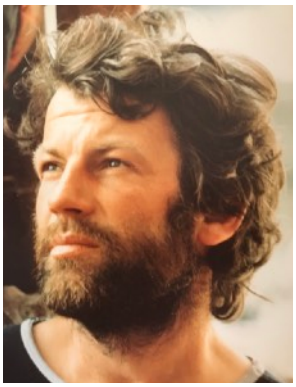
We had non family visits as well. A chance encounter on the Alert Bay docks with environmentalist and Nature of Things creator/ presenter Dr David Suzuki and his family extended into a brief visit to Hanson Island once small life jackets for David and Tara's daughter Sarika Cullis-Suzuki's infant twins were found. More lively discussions about the state of the world (are there any other kind?) ensued over sandwiches (which they brought) and tea. After a brief tour of the Lab it was agreed to get together again soon.

Rob Lott from Whale and Dolphin Conservation (WDC) made the effort to come once again, for the twentieth time! Rob first came in 1990 (one of the very first volunteers) and has been a witness to many of the changes to the Lab over the years and now acts as a connection between OrcaLb and the Whale and Dolphin Conservation (WDC) organisation for which he serves as policy director.

Alexandra Morton came for an afternoon. Although a "neighbour" (Alex lives on nearby Malcolm Island) she rarely gets to Hanson Island these days as she is very busy fighting to eliminate the harmful practices of fish farms on the BC coast. It has been a struggle that has lasted decades. Last year Alex was joined in her fight by Namgis First Nation's Ernest Alfred who occupied the fish farm at Swanson Island. He was soon joined by others who supported his protest and extended it to an occupation of a second fish farm at Midsummer Island. Court challenges followed in which the occupations were declared illegal and injunctions served, forcing the protesters to leave. Swanson was occupied for 280 days.

Ultimately, the fight brought progress. After lengthy consultations, government to government, it was decided by British Columbia's NDP government and agreed to by Canada's federal government that the Broughton Archipelago fish farms would be phased out over the next four years. This was the first positive shift in policy after decades of mounting evidence of wild salmon declines in the face of disease and unhealthy levels of sea lice generated by the fish farms. OrcaLab, like many others, supported Alex and Ernest, admiring their tenacity and knowing how difficult the whole process has been and how much they have sacrificed.

On a very different front, Alex was part of the effort to find the not yet two year old puppy "Opi" a new home. When it became clear that Opi could no longer remain at David Garrick's camp in the interior of Hanson Island Lisa encouraged him to come to OrcaLab. But as Lisa was soon to leave to go back to Sweden that Spring a suitable home was needed. As Helena began enquiries, she was directed to Alex who had been very concerned about the conditions Opi had suffered while in Alert Bay before being moved to Hanson Island. Alex reached out to her "network" and Kathy Cody replied that she would be willing to take Opi on despite descriptions of his over enthusiastic unruly nature. After a struggle Paul and Lisa managed to get Opi on to the boat in iffy conditions. Kathy picked up Opi in Alert Bay and drove him to her 5 acre home in Cobble Hill near Victoria. Opi became "Cody" and with some effort on Kathy's part he settled into her happy home.



Peter Thomas/1973

Very significantly for Paul and Helena, Regina Thomas returned with her two boys, Xavier and Sachi. Regina is the daughter of photographer and friend Peter Thomas. Peter died in February after a brief illness. Paul and Helena had travelled to Vancouver just before he died to continue work on a book collaboration with Peter. It was begun some time ago but with Peter's illness there was a sense of added urgency. Peter had taken thousands of incredible photographs over the years. He had come to Canada from Germany as a young man with an already avid interest in nature and photography honed by his early childhood. He eventually got a job at the University of British Columbia working as a medical lab photographer technician. There he came to know Paul.

In 1973, Peter made his first journey to Hanson Island, touring the Broughton Archipelago and the Johnston Strait area along the way. Peter returned annually bringing members of his young family with him, tenting at first, then later in the cabin, and finally in the guest house. We got to know Oliver, Claudia, Regina and Samual very well but especially Regina, who accompanied her father most often, and who became a volunteer at the Cliff site across from Robson Bight and worked with Anna at Cracroft Point. After many years Peter decided not go to the effort any longer of packing his zodiac and hauling it up to the North Island. No longer going out on the water he turned to the forest and used his keen eye to photograph objects large and small; the trees, mushrooms, moss, ferns, even the slugs and snails. The beach, clouds and birds were his subjects as well. All of these images existed as slides, prints and film deposited in boxes and boxes and more boxes stored at Peter's apartment. With Regina's supervision Paul and Helena sorted out what might be possibly desirable for the book project. So many exquisite choices. Then, early 3 February, so sadly for everyone who knew him, Peter died.

Photo: Peter Thomas

Later in the summer, Regina honoured her father by returning to Hanson Island with his grandsons. She held an intimate ceremony with the boys, and later one with Helena & Paul as well, where some of Peter's ashes were released into the waters he had loved for so many years. The book project, like Peter, is not forgotten.

After Paul and Helena got back from Brazil in late September, Soichi (Saul) Ueda, with his wife Tami and young son Kota came from Japan to visit for a few days. This was an honour as the friendship between Saul and Paul goes back decades to a time when Paul visited Japan and talked about the potential of remote cameras bringing Nature to the world. Saul had been inspired and set about exploring the possibilities of creating a "Nature Network". It was Saul who encouraged the Japanese corporation, NTTData, to sponsor the development of "OrcaLive". A productive six year relationship between NTTData and OrcaLab then ensued. Saul also secured help from the Japanese audio and video streaming company JStream. Although the Internet was still in a fledging state with regard to live streaming Saul applied his and others' expertise to successfully create OrcaLive in 2000. Sejji Inagaki joined Saul before each summer to "hook" up the complicated systems in time for the start of the season. At first, the viewing window was tiny, the satellite dish huge, the complications a huge challenge. But over time with Saul and Seiji's perseverance and improvements to the Internet OrcaLive was able to offer two continually streaming views from Cracroft Point, under and above water. The response was amazing. People really enjoyed listening to and seeing the whales in their natural home. With explore.org and JStream, OrcaLab continues to provide live video and audio streaming, the video now full screen high definition. Somehow, Saul, despite his busy schedule, managed the long overdue return trip to Hanson Island. He really wanted Kota to see whales. There were Humpbacks but the orcas proved elusive until the trip back to their waiting taxi in Telegraph Cove. It was not clear who had the bigger grin, Kota or his father.



Lynda Mapes from the Seattle Times came to Hanson Island in August to research an article contrasting the status of the Northern and Southern orca communities with the hope it would show how the less stressful conditions experienced by the Northern community has helped to protect them from the fateful situation further south. https://www.seattletimes.com/seattle-news/environment/hostile-waters-orcas-killer-whale-puget-sound-washington-canada

OrcaLab was involved with three film endeavours during 2018. Christine Caruso conducted interviews and additional filming for her film about "Corky" in March. Christine has been working on this film ever since she first asked to show the Corky Banner at SeaWorld San Diego where she managed to see Corky and meet with SeaWorld staff as well. She simply has never given up.

A National Geographic Explorer film crew, including presenter Jago Cooper, landed for a few days in early July. They were lucky as the whales, both orcas and Humpbacks, were already around which made it relatively easy to showcase our work, concerns and issues surrounding the whales.


A two person Italian crew came about a month later. Their focus was on whale watching and how it was affecting people's attitudes to whales and the possible negative impacts on whales as well.

These visits happened, thankfully, after the house had already undergone some renovations and the carpenters, Mark McCallum and Shaun Canaday, had long cleared up the debris from their work on the eight large picture windows of the main house.



Mark, who was responsible for replacing old shake and shingle roofs on the Lab and main house with new metal roofs, as well as working with the energy upgrades already mentioned, had double checked all the measurements and ordered the windows before June. These arrived on Hanson Island, ahead of Mark, with the help of Larry Roy and his front loading skiff. Larry even brought help to carry the large heavy panes from boat to shore. Larry, who normally, runs a kayak business, has helped out many times before. His boat was used when we brought our 500lb wood cook stove a few years ago. His boat, with its drop-down bow front, allows for much easier shore landing.

When Mark and Shaun arrived, moving the windows to their location proved not difficult for them, and once the framing preparation was done, they seamlessly "popped" windows into place. As these are sealed double paned windows they offer more protection against heat loss and help with

noise reduction. The house instantly felt much more comfy and warmer. The old single paned windows which had been donated way back in 1979 were carefully removed and stored in the lumber shed. Only one suffered a fracture! No idea what use these old windows will be but they are at least safely squirrelled away for now. As before, the volunteers helped with the clean-up, sorting out tar paper from old shingles, piling up the shingles for firewood, bagging any old insulation, metal scraps, plastic and then sweeping the decks. Job done!

There are plans afoot for more renovations for 2019, all part of the attempts to improve energy efficacy and livability especially for winter caretakers.

In 2018, Mathieu Préville, Janie Wray, Mark Worthing and Jesse Howardson all took turns care-taking OrcaLab during the spring after Lisa Larsson returned to Sweden. Mathieu, who is based in Alert Bay, has become an additional help with the network systems. Normally, a writer and film maker, Mathieu readily embraced the challenge of trouble shooting and fixing problems. He even climbed the large, leaning tree in front of the Alert Bay house to realign its radio dish so that the connection to Cracroft Point was improved. Janie Wray filled in in April. Is it a coincidence that Janie's birthday is in April? Mark and Jesse have been to Hanson Island before. Mark, also a videographer, worked on Alex Morton's "Great Salmon Migration" and at Cracroft Point before Megan Hockin-Bennett. Mark, now works for the Sierra Club managing their forest campaigns. Jesse, currently studying to be a nurse, has always had a deep passion for heritage seeds and plants and because she and Mark came in May, as they had done previously, Jesse produced several starter plants which became the foundation of many tasty summer salads. Such good timing having them there in the spring.

Fast forward to October when volunteer Shari Manning stayed on to help after the rest of the assistants had left. Shari was excited to spend more time at the Lab as she normally helps Megan at the "CP" outpost earlier in the summer. Shari is very accomplished and a passionate advocate for whales and the ocean: She has worked for SeaShepherd bearing witness to the horrific dolphin slaughter and captures at Taiji, Japan; she has campaigned against plastic pollution; become a sailor; and most recently, worked to bring attention to the plight of the captive orca Morgan held in the Canary Islands. Her positive, tireless energy is infectious and was a great help at the near end to the season, which proved to be very busy.

Shari's extended stay overlapped briefly with David and Barbara Howitt who normally live in Friday Harbor Washington where they operate "All Aboard Sailing". They sailed their beautiful sailboat, "Peniel" to Hanson Island and soon settled in to take over and look after the Lab for the next two weeks while Helena and Paul went to Oakland, California to celebrate granddaughter, Amelia's Bat Mitzvah. Barbara and David got to enjoy the Northern Residents still in the area along with the increasingly active Humpbacks and Bigg's orcas. The sea lions by this time were hauled out too. But as if they had not been busy enough keeping everything running they took on the job of taking down a huge nuisance tree that was leaning into the bathhouse soon after Helena and Paul got back. What a tricky endeavour! But David, who is a professional arborist, managed the task perfectly and the tree was felled without any damage to buildings or other trees. On a previous visit

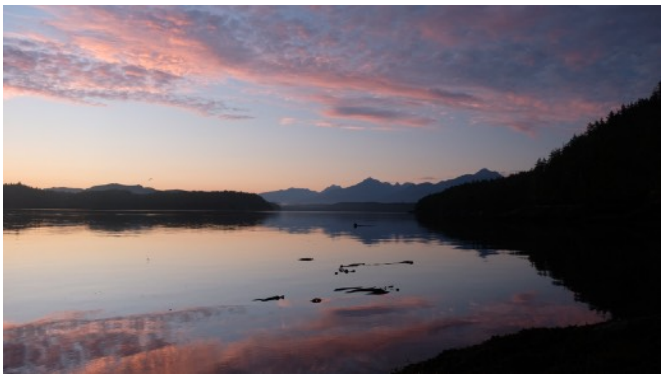
to Hanson Island David had climbed this same tree and removed what branches he could. The most substantial of these were piled up for the next winter. After the tree came down with a solid thump, David bucked it up and with Barbara's help stacked the rounds, cleared and piled the thin branches and swept the forrest floor of debris. Whew! What a relief, the bathhouse saved! Soon after, David and Barbara sailed to Double Bay where they continued their busman's holiday and helped Michael Reppy, who is also an old friend of David's, with some of the renovation work at the Lodge. They sailed home just as the weather was beginning to break-up.

Lisa Larsson returned later in October to resume her role as OrcaLab's winter caretaker. Handing the reins over to Lisa was easy as this was her second winter on Hanson and she had volunteered before. She first came in 1993! Late in 2018, OrcaLab purchased a 17 foot aluminum skiff with a centre consul. This boat was originally owned by the nearby fishing lodge at Double Bay. The Lodge had a surplus of these boats (not all in good order) and we chose #16, quite fittingly Corky's "number" as well. Lisa was very happy with this acquisition as she had been reluctant to run the very much smaller boat called the "Car". Lisa was now able to attend to battery, fuel, maintenance and make town trips for supplies much more easily. Lisa went about the task of removing the lodge's decals and replacing them with the new name "SONIC" which had been suggested by WDC on behalf of SEGA, the video game creator, who had donated the funds to purchase the boat.

Lisa was kept very busy with the whales, continuing the tradition of responding throughout the day or night as needed. The improvements to the power systems meant that she did not have to run the generator often, and this in itself improved the quality of life and the amount of work required to keep OrcaLab functioning.

Lisa's friend, Bo Ignall from Sweden, visited in November, so Lisa got to show him her Canadian life in the wilds. Bo was lucky in that he saw Northern Resident orcas, Humpbacks and Bigg's orcas before he left.

After this visit, Lisa's life returned to winter routines and the island solitude she loves.



We are deeply grateful to everyone; friends, family, film crews, visitors and the supporters who contributed to making 2018 successful and interesting. We anticipate that 2019 will be another productive year, and we look forward to sharing many more exciting moments with you.

With our sincere best wishes,

Helena & Paul