



# CITIZEN SCIENCE PROGRAM NEWSLETTER

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## 2021 SEASON KICKOFF

The 2021 Citizen Science season officially kicked off on February 22, 2021 — with two of our crews — the Gulf Islands and the Irvine's/Sechelt — being the first to officially test the **NEW AML 6 CTD's**. The new CTDs were delivered to all of the 6 existing crews before the first sample date.

This year marks the seventh annual season of PSF's Citizen Science Oceanography program. A huge shout out goes out to the veteran crews — Powell River, Ed Oldfield and John Sinclair and the Irvine's/Sechelt crew — particularly John Field and André Alarie. Thank you for an epic seventh year run with us — we look forward to many more!

While Ed, John, John and André take the cake for being with the program the longest, we also want to give a huge shoutout to the rest of the crews for sticking it out for the long-term as well. All our crews have been with us for multiple years now and we are so grateful to them all for sticking with us through the rough waves, endless technical issues, and piles of sample bottles taking up space in your freezers and garages!



*Orca observed near Secret Cove on February 22, 2021. Photos courtesy of John Field, Irvine's/Sechelt crew.*



*Nicole Frederickson picking up the new CTDS from ONC, Feb 2021*



*AML 6 cases at ONC, ready for delivery to the crews*



*Ed Oldfield, Powell River with his new AML 6 CTD and his boat, It'll Doo 2*



## HIGHLIGHTS FOR THE 2021 SEASON

There are a number of exciting highlights for this year's program:

1. **NEW AML 6 CTDs for ALL Patrols**
2. **NEW Niskin Bottles for ALL Patrols**
3. **NEW Rugged tablets for Five of Six Patrols**

The biggest and perhaps most exciting is the purchase of the new AML 6 CTD's. By now all crews have had a chance to hold them in their hands and become acquainted. The feedback to date has been fairly positive — with most crews expressing keen appreciation for the new devices. As with any new equipment, there are some new idiosyncrasies to learn and some improvements to be made (more on that on page 4) — but all in all, these seem to be a huge improvement to the old RBR CTD's. Five out of the six patrols were also supplied with a new rugged tablet. These function pretty much the same as the old tablet, but they have a longer lasting battery life — care of the dual battery pack, and handle the elements a bit better than the old tablets.

Along with the new CTD's, each crew will be receiving a brand new Niskin bottle. Nicole notes that these bottles have never been replaced since the start of the program seven years ago and they have collected a combined 6,000+ nutrient and phytoplankton samples and approximately 1600 chlorophyll samples. So, they have been working almost as hard as our crews!

### **DID YOU KNOW? AML is a local company!**

PSF is proud to support local companies where possible — so we were excited to find AML, which is located in Victoria, B.C. The AML 6 devices that our crews received this year were manufactured right here on Vancouver Island. This means that the annual manufacturer servicing done on the CTDs each season will occur in Victoria, rather than having to be sent across the country (which was the case with the RBR's). This led to higher than needed turnaround times due to shipping — and often made it difficult to meet our first sample date of the season. This resulted in missing the data collection for the spring phytoplankton bloom. For more information about AML, check out their website: [www.amloceanographic.com](http://www.amloceanographic.com)

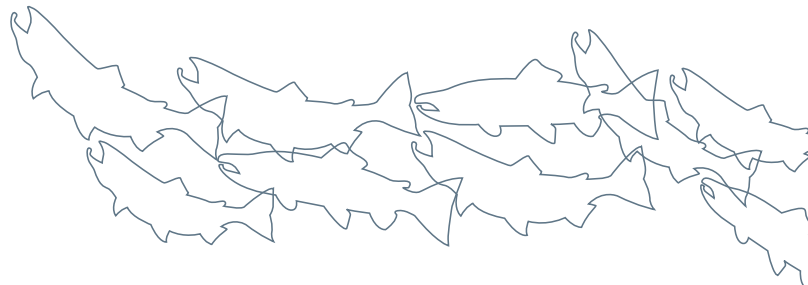


*New AML 6, taken by Nicole during pick-up at ONC in February 2021*

*Photo by Eiko Jones*







## Speaking of the Spring Bloom...

This year we are all set to capture the Spring bloom. According to oceanographic modelers at UBC (Dr. Susan Allen and colleagues) the spring phytoplankton bloom is predicted to occur on **March 27th, 2021** (range March 17 to April 13th).

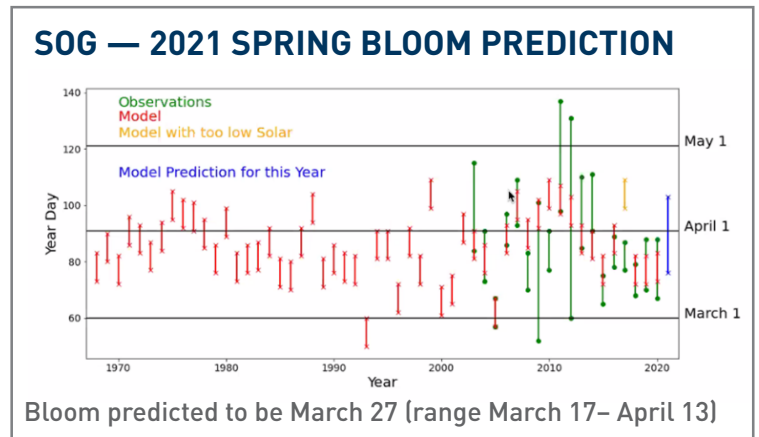
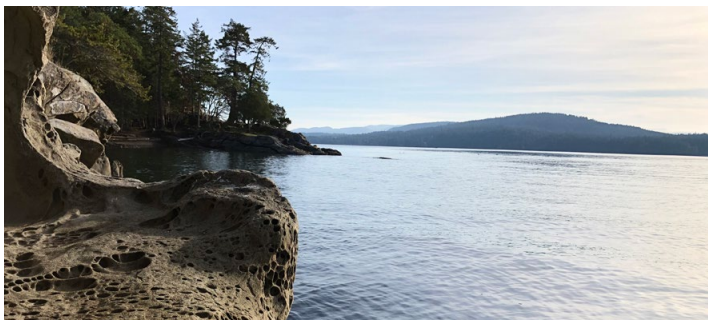
The spring phytoplankton bloom is an annual burst in phytoplankton productivity and is an important driver of ecosystem function and the food chain. The spring bloom fuels the growth of zooplankton, which then serve as food for everything else in the marine ecosystem. Scientists have indicated the importance of this annual spring bloom for out-migrating juvenile salmon. When the spring bloom occurs when the majority of salmon smolts are rearing in the Strait of Georgia, this is beneficial to early marine survival and can even influence adult survival later in life. However, an early or late bloom can lead to mismatches with out-migrating salmon (and other species) and affect the growth and survival of these animals further up the food chain.

## IN OTHER NEWS, IT'S HERRING SEASON

Some other interesting news which is somewhat related to the Citizen Science Program — it is the annual Pacific herring spawning season.

So far, this year has been exceptional, not only in the Strait of Georgia but also, on the West Coast of Vancouver Island. In fact, this year, herring spawn has been observed in a number of locations where it hasn't been seen for decades! It's always one of our favorite times of year on Vancouver Island.

Some of you have gotten the opportunity to see the spawn this year, either from your boats, or even from your own backyards, like Ed (see photos below). You can expect to see a lot of activity out there during the upcoming sample dates, as species from all around come to feed on the herring and their roe, including brant geese, chinook salmon, seals and sealions, whales and more!



Source: 2020 State of the Pacific Ocean Meeting, Dr. Susan Allen



Photos courtesy of Ed Oldfield — both images were taken from his home in Powell River. The left image was taken on March 9, 2021. The image on the right was taken on March 15, 2021.

## Upcoming Sample Dates

Below is a schedule of the upcoming sample dates for March through May:

March	April	May
Saturday March 13, 2021	Monday April 5, 2021	Tuesday May 11, 2021
Sunday March 21, 2021	Sunday April 11, 2021	Wednesday May 19, 2021
Sunday March 28, 2021	Tuesday April 20, 2021	

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