

ReClam the Bay / Bay Notes

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The northern swing of Fran and Brian's trip to the United Kingdom prearranged a meeting with members of **SeaWilding**, the marine restoration group on NW Scotland's coast. What they saw and experienced at Loch Craignish over two days is recounted in this issue.

Founded in 2019, **SeaWilding** pioneers low cost restoration projects with the intention of empowering communities to carry out similar projects. Their projects include oyster restoration for their water filtering abilities, to sequester carbon and contribute to biodiversity, creating reefs that become spawning grounds and habitat for fish and other marine life.

Seagrass, another restoration project of **SeaWilding**, is focused on "the ocean's only flowering plant and provides a vital habitat for marine biodiversity as well as being an important carbon sink".

"SeaWilding is both an entity and an idea that was born out of the hopes, aspirations, and motivations of a community association called CROMACH. To them, 'SeaWilding' is about community action and stewardship, and the belief that we should all be working together to repair damaged ecosystems and restore degraded seascapes" – United Nations

From their organizational statement:

SeaWilding, based in Lock Craignish, is the UK's first community-led native oyster and seagrass restoration project. Our aim is to restore lost biodiversity, sequester carbon, and to create green jobs.

We're pioneering low-cost, best-practice marine habitat restoration methodologies and empowering other coastal communities to carry out similar projects.

Like RCTB, this group is growing both the local awareness of, and the science that is the foundation of their coastal marine environment, by raising oysters and seagrass (the same *zostera marina* eelgrass species that grows in Barnegat Bay) to repopulate their Atlantic coast estuaries. Their outreach to scientific communities has been determined and wide-ranging.

"SeaWilding works with universities to contribute towards vital restoration methodologies and marine research. But behind all of this stands a small Scottish community in waders, wetsuits and welly boots, determined to revert the damage to Loch Craignish caused by scallop dredging, fish farms, anchoring, and pollution."

Sound familiar?

In January, look for RCTB to send out a survey to you, our membership, seeking to find out what questions you have concerning Barnegat Bay, its ecosystems, and what you think we could be doing to improve it.



This Issue: **SeaWilding and ReClam the Bay**

RCTB's Fran Sanchez becomes our ambassador in Scotland for a remarkable "hands on" visit and tour!



Scotland's coastal communities battle with man and climate change

On October's oyster survey day, Fran learned of NW Scotland's similar history and challenges to those RCTB faces. Her report follows on pages 2-3.



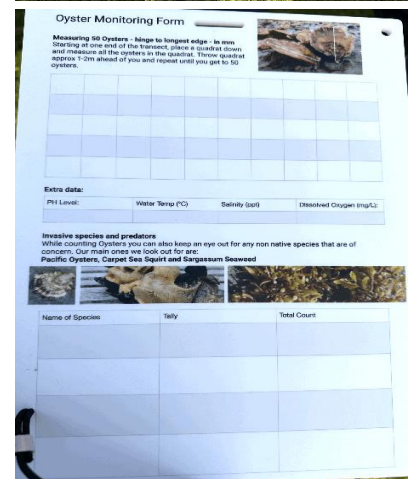
Oyster Survey-October 19, 2024 Today was the Oyster survey and the "Everything SeaWilding" talk. While that day is still fresh in my mind, I wanted to fill you in on our "cousins" across the Atlantic. The day started at the Craignish Village Center. Luckily my *Airbnb* was right up the hill, in walking distance. Phillip Price (SeaWilding program manager) presented our mission, to survey oysters in the Loch. SeaWilding wanted to see if the oysters they previously raised and distributed into the seabed were reproducing. We received an orientation to the process and some background knowledge. There were 20 of us, and Brian and I were the only ones unprepared! However, a well-prepared woman lent us each a pair of "wellies" and we were now prepared to enter the Loch Craignish. The day was gorgeous, and the surroundings outstanding. Some of us chose to walk the narrow one lane road to the end of the Loch, about one half mile distance.

Phillip then explained each of the items he brought, which we needed to do the survey. First we spread out and searched for oysters. As we found one, we put a stake in the ground to mark the spot. After five minutes, we looked at the stakes and decided where to create transit lines. Then measured out two meters on either side of the transit line and created two parallel lines 25 meters in length. This was where half our group completed the first survey. The other half of our group went to a different section of the Loch, maybe 1000 feet away.

As we walked the section of our transit, we counted oysters and recorded their size on the clipboard. Pictures were taken and additional data collected included longitude and latitude, weather conditions and date.

Each group had one clipboard to share. My group found hardly any oysters. . . under ten maybe?

However, they were very excited about the second group's findings, which were great! They stopped counting oysters at about 50 or so. This meant they believed their oysters were reproducing, since they counted young oysters under 30 mm that were attached to any hard surface (usually a rock or a shell)! Oysters they distributed previously into the Loch were not attached to anything, merely broadcast into the waters, similar to how RCTB broadcasts clams into our bay.

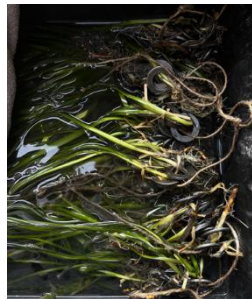


October 19, 5 PM "Everything SeaWilding" Craignish Community Center, Ardfern We were lucky enough to be in Scotland at the same time as SeaWilding's Oyster Survey, then additionally we were able to attend their **Everything SeaWilding** presentation in the evening! This two hour presentation began with a bit of nostalgia. We listened to a recording of "Memories of the Loch" from community members that shared what it was like growing up around Loch Craignish, and all that it offered to the residents in beauty, fishing, and recreation. Similar to RCTB's own 20-year history project, they are requesting residents provide photos and videos of the area. Memories reflected on the abundance of fish from the 1950s-1970s: Mackerel, salmon, mullet, basking sharks, scallops, lobsters, mussels, oysters. I found this ten minute listening activity to be very interesting and effective in portraying the abundance of resources the sea provided in those days. **But the point is to let us know that intervention is needed.**

Danny Renton, founder and head of SeaWilding, informed us that the biodiversity of their Loch has dramatically changed. It is very hard once the ecosystem has been compromised to put things back together again. **SeaWilding is using two methods familiar to RCTB to restore Loch Craignish: native oysters and seagrass.**

Seagrass is an important habitat providing fish nursery. There are five hectares of seagrass currently in the Loch, but 90 hectares where they could possibly expand seagrass beds.

After an unsuccessful attempt at growing seagrass by putting seed in hessian bags, SeaWilding next took plants with roots, called "rhizomes", attached a metal washer to them, and planted them on the seabed. This method was learned from Canadian scientists. It is labor intensive, needs to be done in May and June, and goes faster with divers (who can also avoid damaging planted areas).



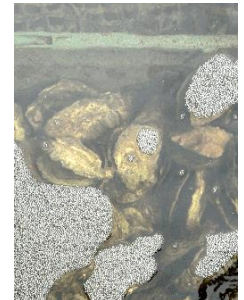
The **Seagrass Restoration in Chesapeake Bay** in the USA was mentioned as being a very successful program they are trying to emulate. In May 2024, seagrass was planted in areas that were less anoxic (with more oxygen) and SeaWilding saw more success, so they feel more promise for next year. Dan also spoke of a project where they will put sand mixture down to cover anoxic bottom soil, and attempt to grow seagrass from seed.

Re: **Oysters**, SeaWilding purchases fingernail size oyster seed, and grows it in nurseries (cases in the water column), to biscuit size. Next, volunteers throw the oysters onto the Loch's seabed, aiming to have 50 oysters per square meter. Starfish are their number one predator. The oyster surveys conducted show that oysters they put on the seabed are breeding. SeaWilding gets oyster seed

from two hatcheries, but there has been a supply issue this year. Recognizing oyster larvae spends 14 days in the water column, they're using "spat collectors" to [hopefully] collect larvae from native oysters, so they can be put into their own nurseries.



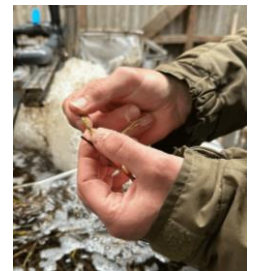
Two other presenters were at this event: **SAMS** (Scottish Association for Marine Science) **Seagrass Team** and "**Looking after the Loch**" by Kate of **Cromach**.



SAMS' Seagrass Team monitors the nutrient quality of lochs in Western Scotland. Discussion included sampling sediment scrapes, drone surveys, building an accurate map of seagrass in Loch Craignish, among other topics.

Yearly comparison allows you to notice gaps on an annual basis. Seagrass meadow went from 2.4 hectares to 5.6 hectares since 2023. How habitats will change when seagrass is reintroduced can be evaluated by **eDNA** (environmental DNA) measurement, where water column samples contain DNA of *all species present over the prior 48 hours*. This presents a picture of that area's entire community, when coupled with core samples of seabed taken to visually observe all organisms over 1 mm size. Sediment REDOX profiling also identifies the oxygenation and inhabitability in an area.

An intern study by Eddie Cantley on Seagrass rhizome microbial research intends to establish a baseline report for seagrass restorations in Loch Craignish. **WATCH FOR THIS REPORT**, documenting how seagrass pumps nutrients from the sea water column to the sea floor – *unique to seagrass, and 20X greater nutrient and carbon capture than tropical rainforests.*



Fran and Brian Sanchez received a wonderful first-hand experience observing SeaWilding and its volunteers in action. They witnessed a strongly committed organization – scientifically led, but community organized and with a rapidly growing primary school education program called "Wildlings". All of this remarkable effort has its source in SW's recognition that engagement and training empowers their inshore regional communities to sustainably manage the health of their seas. RCTB looks forward to working with them.

Additional News: FDA has recently authorized use of **Traumagel**, an algae-derived injectable gel that stops even heavy bleeding in seconds. Its maker, Cresilon, cites its unmatched performance in surgical and emergency trauma use, even for the deepest wounds. A similar product, **Vetigel**, is successfully used in veterinary applications.