



What I Did on My Summer Vacation

It has certainly been a summer for record-breaking weather. Beginning in March, a mass of very warm air pushed northward from west of the Great Lakes region, and subsequently spread eastward, bringing record high temperatures to Manitoba, Ontario, and the maritime provinces.¹ As summer progressed, this warm air mass moved westward, causing drought conditions in central and eastern Canada and the midwestern US.^{2,3} Finally, in August, the heat wave reached the west coast, with the Lower Mainland experiencing the driest August and September in 107 years.⁴ Here in Prince Rupert, while the weather wasn't record-breaking, it was definitely one of the strangest summers that I have seen in my 18 years of residence on the North Coast, with hot and foggy being good descriptors.

Even the oceans were undergoing unusual "weather" events. During the first six months of 2012, sea surface temperatures on the Northeast Atlantic Shelf were the highest ever recorded. Above-average temperatures were found in all parts of the ecosystem, from the ocean bottom to the sea surface, and across the region extending to out beyond the shelf break front to the Gulf Stream. The annual 2012 spring plankton bloom was intense, and started earlier and lasted longer than average. This has implications for marine life from the smallest creatures to the largest marine mammals like whales.⁵ In the North, Arctic sea ice reached record-breaking low extents during the summer of 2012, weeks before the end of the melt season.⁶

The summer's politics were much like the weather - hot and heavy. Here in the

North, Enbridge became the main topic of discussion, with the Joint Review Panel hearings and Enbridge's pastel ad campaign, which clearly demonstrated that difficult marine passages could be easily fixed with a simple stroke of a Photoshop paintbrush. As Bill C-38's amendments to Section 35 of the Fisheries Act came into effect, I had the unique experience of having the federal government clear my entire slate of summer environmental assessment work as my clients realized that they no longer needed, nor were required, to pay for a marine habitat survey at their site. This left me with an unexpected extended summer vacation ...

The nice thing about not being paid to work for anybody is that you can do the things that you like to do ... and I decided to devote my summer to studying the health and abundance of eelgrass in Chatham Sound.

I have been doing a variety of eelgrass research projects in the Prince Rupert area for a number of years. Eelgrass beds are both ecologically valuable and potentially threatened. They provide rearing habitats for the juvenile stages of many species of fish, including a number of commercially harvested species, foraging habitats for both migratory and resident bird species, and play a role in carbon sequestering. They fall within the "critical" category of DFO's habitat rating system and meet the criteria of an Ecologically Significant Species ... and they frequently occur in areas which are highly valued for development. The United Nations recently estimated a 15% loss in seagrass habitat globally over the last decade.⁷ However, in spite of the importance and vulnerability of eelgrass habitat, there is little funding available from government and none from industry to carry out the vital research needed to better understand cumulative and complex anthropogenic impacts on eelgrass. The eelgrass research that I do is funded in part by eNGOs, and in part by in-kind (read volunteer) time and resources provided by my company, Ocean Ecology.

I can't think of a better way to have spent the summer - cruising around Chatham Sound in our research ship, the *Moody Blue*, filming lush eelgrass beds occupied with a diversity of marine creatures, paddling our kayaks along the shorelines, walking the beaches, even catching a fish or two for supper. Regardless of the unusual weather, Chatham Sound abounded with life - whales frolicked around the boat, seabirds were present in huge flocks,

and many species of fish swam with curiosity around our camera. For the present, it seems that my home ecosystem is healthy and productive. However, a moment spent on the internet or reading the newspaper quickly reminds me that change is in the air ... and it is this change that makes holistic ecosystem-based research, such as the eelgrass studies which I do, so important. These projects aren't about which habitat must be preserved and which can be destroyed for the sake of progress; rather, they help us understand how these ecosystems function and what role humans must play to ensure they are maintained in the future. Some may think this research unnecessary ... but as the old saying goes, time will tell ...

Barb Faggetter

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Editor

Association of Professional Biology

¹Historic Heat in North America Turns Winter to Summer. March 21, 2012. <http://earthobservatory.nasa.gov/IOTD/view.php?id=77465>.

²Drought in Central, Eastern Canada baking crops: Weather a 'double whammy,' expert says. CBC News. <http://www.cbc.ca/news-canada/story/2012/07/15/canada-hot-weather-lack-of-rain.html>.

³State of the Climate Drought 2012. NOAA National Climatic Data Center. <http://www.ncdc.noaa.gov/sotc/drought/2012/>.

⁴B.C.'s sunny weather may come to an end. The Province. <http://www.theprovince.com/technology/seemingly+endless+stretch+sunshine+later+this+week/7357112/story.html>.

⁵Sea Surface Temperatures Reach Record Highs on Northeast Continental Shelf. NFSC Science Spotlight. http://www.nefsc.noaa.gov/press_release/2012/SciSpot/SS1209/.

⁶Canadian Arctic Sea Ice Reached Record Low in Summer 2012. Environment Canada. <http://www.ec.gc.ca/glaces-ice/?lang=En&n=0417829C-1&ws-doc=765F63E4-FA97-4971-89E0-4F5A08986134>.

⁷Wright, N. 2004. The BC Coastal Eelgrass Stewardship Project. 2002-2004 Report. Seagrass Conservation Working Group.

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