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Exploring Our Little Corner of the World with the Galiano Naturalists

by Pearl Roberts

The Orcas of the Salish Sea

They're big, they're beautiful and they're back. From April to September, three pods of orca whales fish and frolic in the protected inshore waters of the Southern Gulf Islands, the San Juans and the southern tip of Vancouver Island. Known as the "southern resident community", the three pods – J pod, K pod and L pod – are a large extended family, or clan.

Around Galiano Island, you are most likely to see J pod, a group of 27 orcas led by "Granny", who is estimated to be in her nineties. Orca pods are led by grandmothers and great-grandmothers and it is thought that whales of advanced years pass on their knowledge to younger generations. Other than humans, whales are the only mammals known to live 30 to 40 years past their childbearing years.

Named after Orcus, the Roman god of the underworld, *Orcinus orca* are often called killer whales, although attacks on humans are rare and usually only occur with orcas in captivity.

Orcas are listed as endangered and are threatened by declining salmon runs, pollution, oil spills and disturbance from vessels and sound. Once numbering over 120, there are now 85 whales in the southern resident community. Two new calves were born in 2009 but seven died in 2008.

Orcas are not really whales at all, but large dolphins, members of the Cetacean order. For more than 50 million years, Cetaceans have filled the seas and each species has developed its own unique way of adapting to the environment. Our resident orcas specialize by eating only fish, rather than the seals or sea lions favoured by transient or offshore whales.

Unfortunately, the orcas preference for Chinook or Spring salmon poses a further risk to their survival. Chinook are often polluted with chemicals from flame retardants, pesticides and industrial effluent and researchers have found that our southern orcas have toxin levels four times higher than whales in northern waters.

The first scientist to observe orca behavior was the late Dr. Michael Bigg who began his field studies in the 1970s. By travelling around Vancouver Island and photographing every pod he encountered, Dr. Bigg established the baseline for further study into these magnificent creatures. Because each individual orca has unique markings on the dorsal fin and the grey "saddle" patch at the base of the fin, each orca can be identified by sight or photograph. This enables researchers to monitor the movements and behavior of members and groups over long periods of time.

Orcas brains are massive, over four times the size of a human brain. The neocortex area, responsible for sophisticated cognitive processes, is highly developed leading to speculation that the orca brain can support a degree of consciousness that enables meaningful communication. Through observation and sound recordings, scientists have discovered that each orca pod uses a

unique dialect of calls to communicate, with certain calls used in common between pods. The calls used by the southern community are unlike those made by any other group.

Although we think of them as Pacific creatures, orcas can be found in every ocean, from frigid Arctic waters to balmy tropical seas. Worldwide, it's estimated that there are 50 distinct orca communities, with the total number of individuals about 30,000.

You can help to preserve our orcas by staying back at least 100 meters when encountering them by boat or kayak, avoiding the use of chemical pesticides and fertilizers, and choosing furniture and electronics that are free from flame retardants.

For more information, go to:

www.orcanetwork.org: Contains information on orca whale movement on a daily basis; Includes sighting archives, news, etc.

www.whaleresearch.com: Site from Friday Harbor, WA organization contains sightings, programs, and info on the Southern Resident pods.

www.georgiastrait.org/orcapass.php: Proposed "Orca Pass" International Stewardship Area in BC and Washington hopes to establish North America's first transboundary marine protected area.

www.vanaqua.org: Vancouver Aquarium Marine Science Centre

www.pugetsound.org: Activists working to restore the waters and shoreline of Puget Sound, including Orca habitat.

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Natural Mysteries

Last month's mystery was: *Why are there so many seashells on the beaches around Montague Park?*

For at least 3200 years ago before colonization, the Penelakut people enjoyed the rich shellfish beds around Sun'nuw (named Montague Park by white people). Over thousands of years of harvesting butter clams and other delicious morsels, the shells were used to mark the paths to the clam beds and also piled up to become what we now call middens. Over those same thousands of years, wave action ground all those shells down into bits so small that at first glance, it's difficult to see evidence of their origin.

This month's Natural Mystery: *Is it true that limpets always return to the same spot on the rocks to wait out low tide?*

Have an answer? Send your thoughts to galianonaturalists@gulfislands.com. Have a Natural Mystery of your own? Let us know, and we'll do our best to solve it.

THE GALIANO NATURALISTS are a group of curious explorers who enjoy observing, marveling, and sharing information about the natural world around us. Come join us. How? Just send us an email at galianonaturalists@gulfislands.com. Visit our website at <http://gulfnet.sd64.bc.ca/GalianoNaturalists.html>.