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## Orca network's whale sighting network: citizen science and so much more

Susan Berta

*Orca Network, United States, susan@orcانetwork.org*

Howard Garrett

*Orca Network, United States, howard@orcانetwork.org*

Alisa Lemire Brooks

*Orca Network, United States, Alisa@orcانetwork.org*

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# Orca Network's WHALE SIGHTING NETWORK

## Citizen Science and SO Much More!



Susan Berta, Howard Garrett, Alisa Lemire Brooks  
Orca Network & the Langley Whale Center  
info@orcanetwork.org • www.orcanetwork.org • www.facebook.com/orcanetwork



**net-work [net-wurk]: n.** web of wires and transmitters for communication; intersecting combination of interconnected components (esp. computers); coordinated system involving a number of things or people. **net-work [net-wurk]: v.** make ties or acquaintances (esp. for professional support or business advantages); link computers for the exchange of information; broadcast something simultaneously on networked stations.

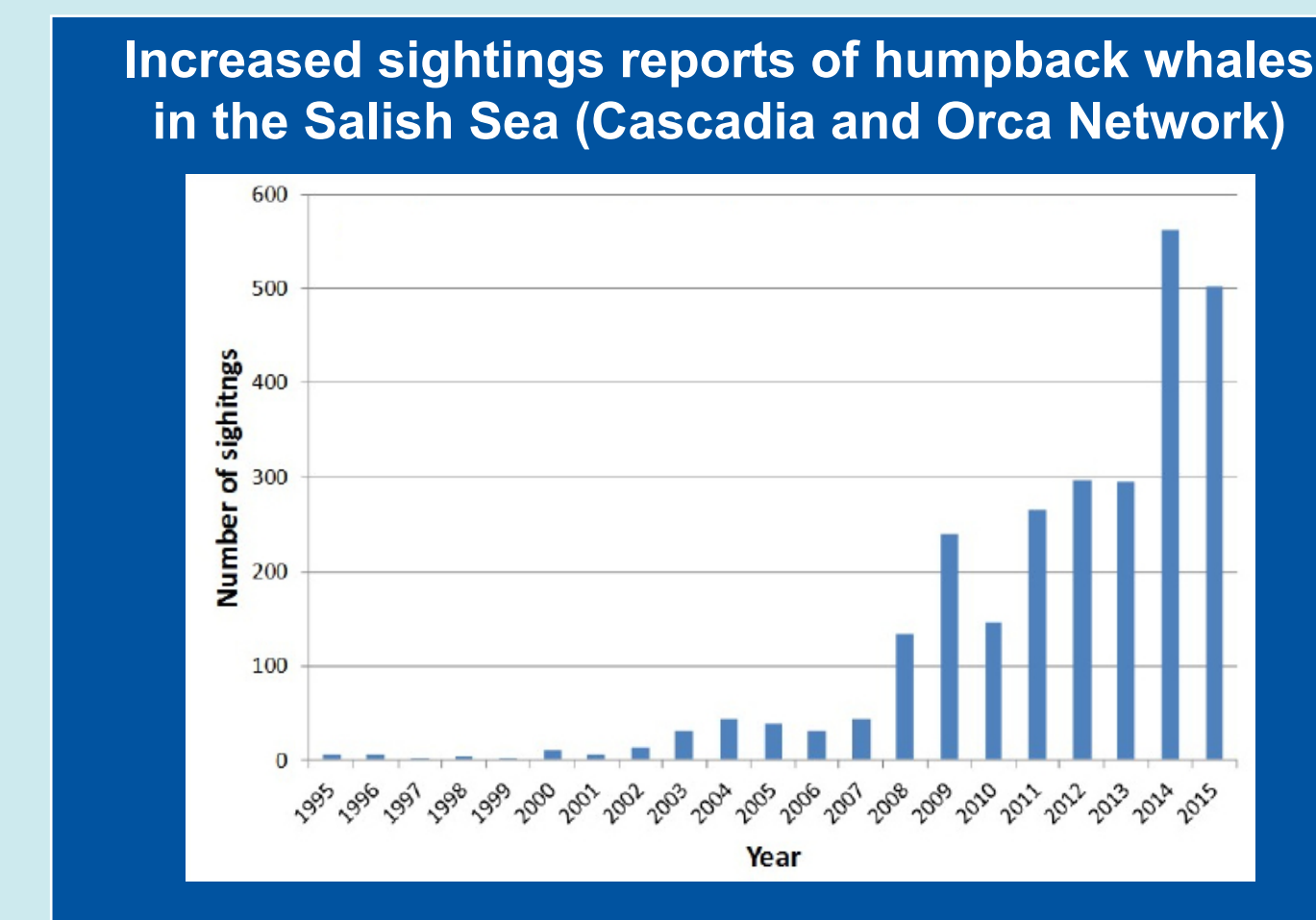
### Introduction

Volunteer citizen monitoring has increased over the past two decades due to public interest in the ecosystem and a desire to be part of the solution. Scientists and agencies are more receptive to using data collected by citizen volunteers, and new ways of collecting and sharing data (digital media, email, internet) have facilitated this cooperative effort.

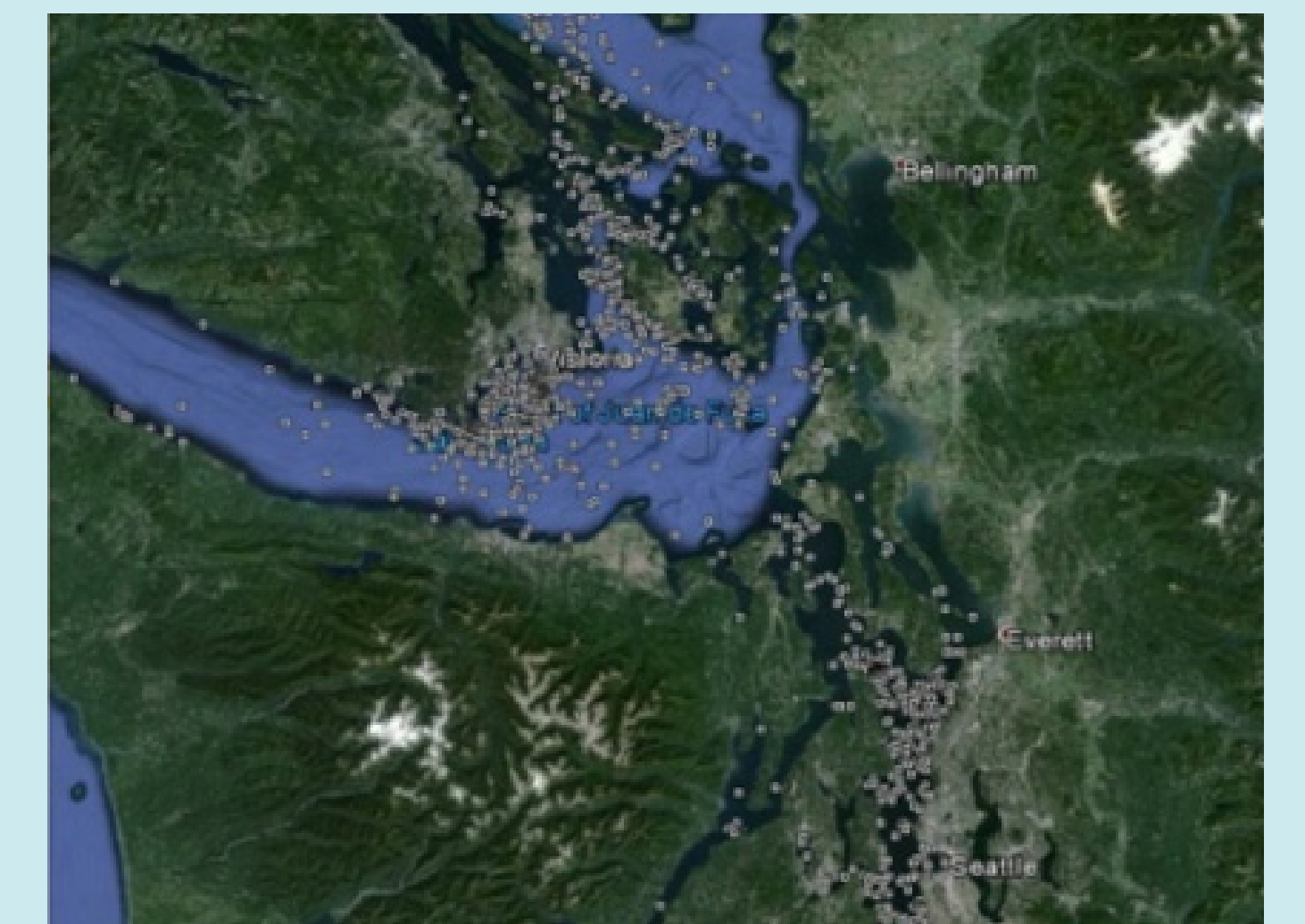
The use of citizen volunteers increases information collected for researchers and agencies, provides important data at little or no cost, and provides citizen volunteers a hands-on learning experience and opportunities to take action and become more involved in advocacy and working toward solutions.



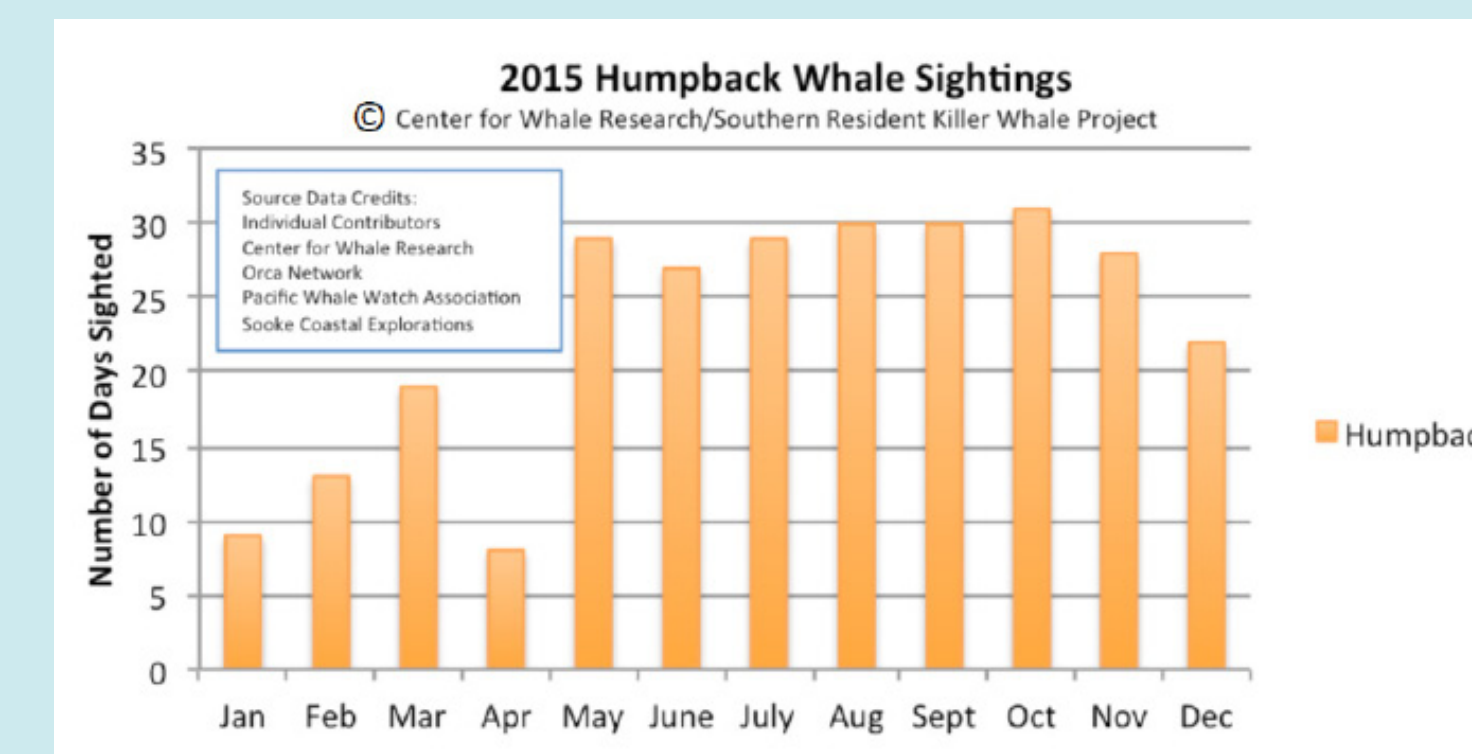
### Trends in species and habitat use of the Salish Sea Research informed through use of sightings data



Salish Sea Humpback Population Chart 1995 - 2015  
Cascadia Research Collective



Sighting reports of humpback whales to Cascadia and to Orca Network through 2015



Salish Sea Humpback Sightings by month - 2015  
Center for Whale Research/Jane Cogan



Humpback whale in Haro Strait, October 2017 with fish line entanglement  
Whale sightings can inform and track whales in need for stranding networks and entanglement teams



### History and Purpose

Orca Network's Whale Sighting Network began informally in the late 1990s, via phone calls to a short list of volunteers when whales were sighted from Whidbey Island. With the advent of email, a list-serv was started, and in 2008 Orca Network began a Facebook page to share whale sightings and news.

The Whale Sighting Network has now grown from a small handful of volunteers and researchers to over 14,000 Whale Report subscribers and 142,000 Facebook followers from the Pacific Northwest and around the world.

Whale sightings are collected through a toll free number (866-ORCANET), email, website/phone app, and Facebook; and shared via our website, email list, Facebook and Twitter.



Orca Network's Whale Sighting Map May 2017

demonstrates the many species present in the inland waters of the Salish Sea



Photo by Jeff Harris, NOAA  
Ellison, born in 2015 (above); and March 2018 newborn pup with mom, Ellie (right)



**And some sightings have nothing to do with whales!**  
Ellie the elephant seal has been observed by our Sighting and Stranding Networks, returning to Whidbey to molt each year. She has now given birth to two pups, the first known elephant seal pups to be born on Whidbey Island

### Initial Goals

- ~ Gather whale sightings from the public, boaters, maritime industries
- ~ Share sightings with researchers, agencies, the public, naturalists, organizations
- ~ Raise awareness of the presence of whales, and motivate public involvement

*"I have been very impressed with the success of their (Orca Network's Sighting) network. Their use of the Internet and email to distribute sighting information and keep members informed has created a much higher level of participation than the existing networks including our own. This was rapidly clear to me and we have learned to take advantage of the large number of motivated and informed participants in the Orca Network. We try to keep them informed of our activities and their observations have frequently been of great assistance to our research."*  
John Calambokidis, Cascadia Research

### What Happened

- ~ Inspired and motivated citizens, actively participating in providing data for researchers and advocating for solutions such as salmon recovery, reducing toxic pollution and preserving habitat for whales and their prey
- ~ Increased data on habitat and prey use, travel patterns, and social/behavioral observations about whales and other cetaceans, documentation of new/unusual species
- ~ Expansion of Sighting Network to cover Pacific Coast, in collaboration with the Center for Whale Research and other orca researchers up and down the coast
- ~ Increased awareness of the presence of whales in our urban waterways, and the need for healthy, undisturbed habitats
- ~ Improved communication/collaboration between researchers/agencies and the public
- ~ Increased education for boaters, promotion of "Be Whale Wise" boating and new regulations, and motivation to respect whales while boating in their home
- ~ Increased shore-based whale watching in the Salish Sea, reports from WA State Ferries
- ~ Increase in Orca Network's educational programs and projects, volunteer trainings, and the birth of the Langley Whale Center on Whidbey Island

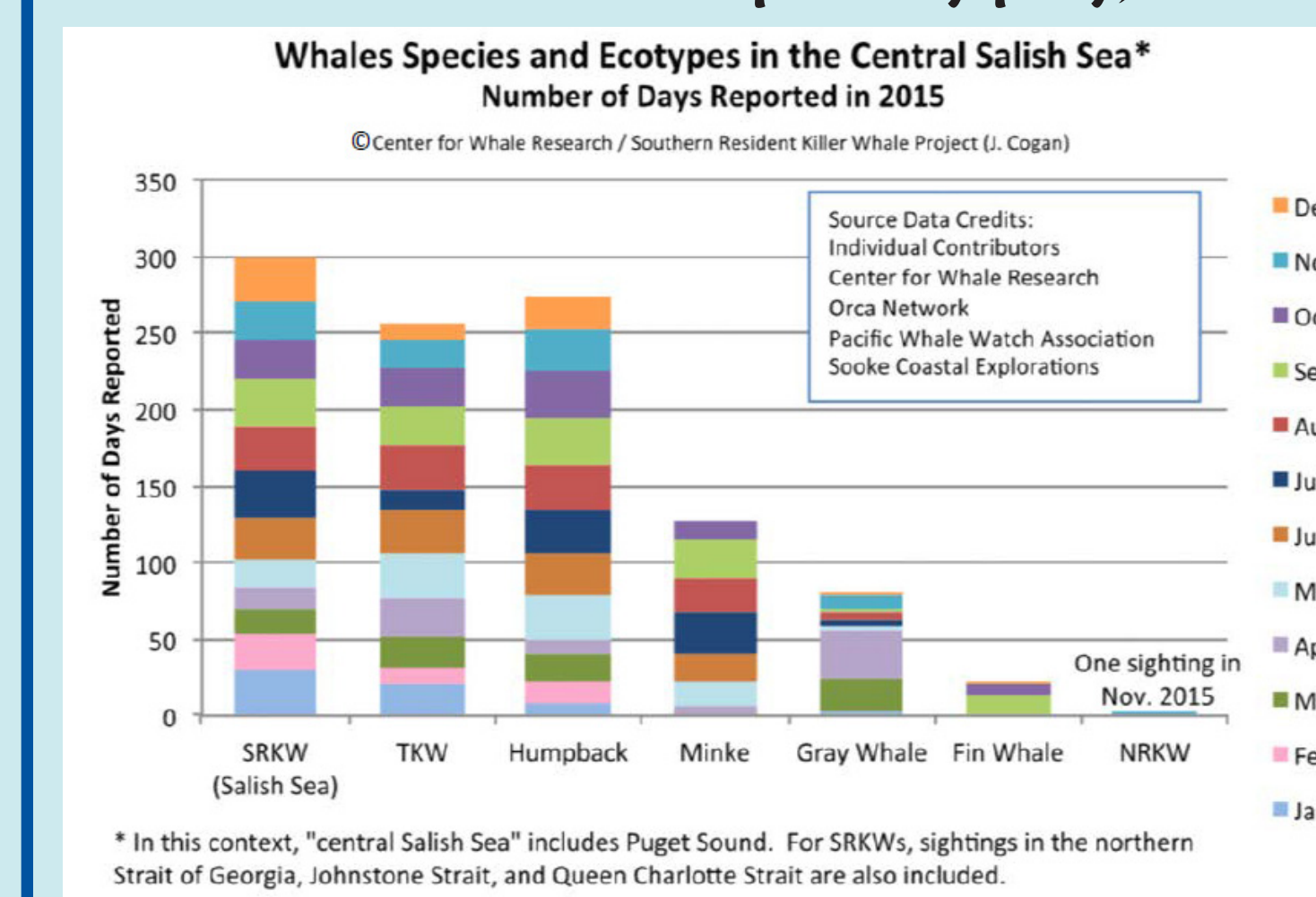
**This community shares not only whale sightings, but information about issues or solutions, concerns, emotional support, inspiration, and hope for the future ~**



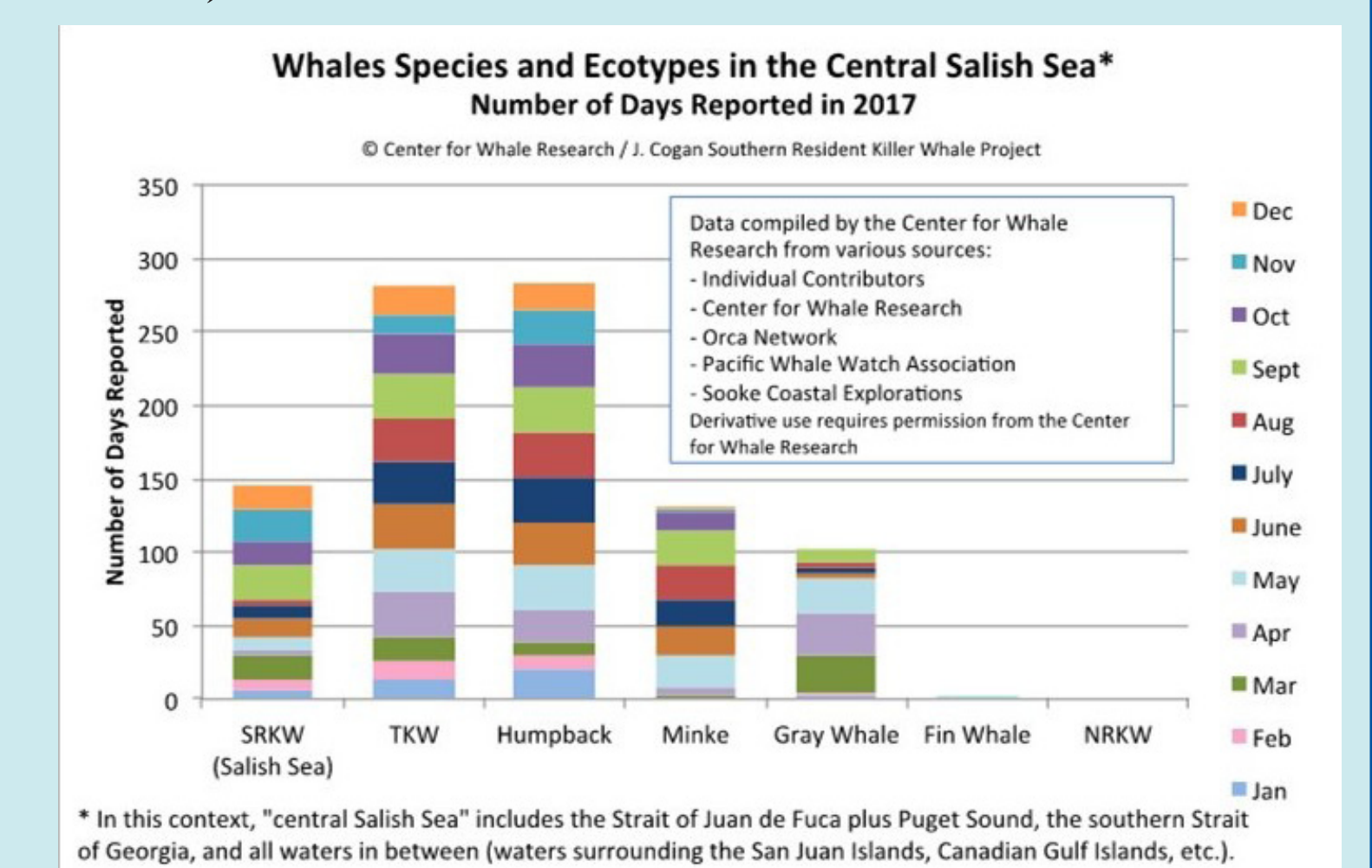
Photo by Alisa Lemire-Brooks, Orca Network

### Salish Sea Whale Species and Ecotypes ~ Center for Whale Research Sightings by month comparison for 2015 and 2017

The take away message in comparing 2015 to 2017 CWR data (comprised from several sources including Orca Network), is the stark contrast in the number of Southern Resident Killer Whale sightings in the Salish Sea - **observed only half as often in 2017 as in 2015.** The most drastic decrease is seen in the summer months, the season when Southern Residents have historically been observed on a near daily basis in the San Juan Islands when their primary prey, Chinook salmon, were more abundant.



\* In this context, "central Salish Sea" includes Puget Sound. For SRKWs, sightings in the northern Strait of Georgia, Johnstone Strait, and Queen Charlotte Strait are also included.



\* In this context, "central Salish Sea" includes the Strait of Juan de Fuca plus Puget Sound, the southern Strait of Georgia, and all waters in between (waters surrounding the San Juan Islands, Canadian Gulf Islands, etc.)

Orca Network Whale Sightings data contributes to important research on the endangered Southern Resident orcas, as well as Transient/Bigg's orcas, gray whales, humpbacks, minkes, fin whales, a sperm whale, porpoise, dolphins and pinnipeds

### Unexpected Side Effects

- ~ Assisting researchers with tracking whales in trouble: entanglements, ill/injured, lone calves, species out of usual habitat
- ~ Data has shown changes in species/habitat use over time: increase in Humpbacks and Transient orcas in the Salish Sea and Puget Sound
- ~ Data used by industry consultants for projects such as pile driving, seismic testing, gravel pit expansion, tidal turbines
- ~ Volunteers on shore observe boater behavior while they are watching whales, and report improper boating behavior to NOAA fisheries as well as on social media, creating peer pressure to boat safely and respectfully around whales
- ~ Educate and inform agencies, elected officials, media, Navy/Coast Guard about the presence of whales in Salish Sea
- ~ City of Langley partnered with Orca Network to install a Whale Bell, named their City Park "Whale Bell Park," supported the birth of the Langley Whale Center, and cosponsors our Welcome the Whales Festival and Parade (we also partnered with the City of Coupeville to install a Whale Bell at the Coupeville Wharf)
- ~ Through discussions with City of Langley and Dept. of Natural Resources, we were able to change ghost shrimp harvesting practices in Puget Sound gray whale habitat, and help get funding for Cascadia Research to study this small population of grays
- ~ Improve economy through increase in tourism, and people visiting and moving to the Pacific Northwest to be closer to the whales
- ~ Partnering with WA State Ferries and OrcaSound on an App and digital mapping for Sightings; installing hydrophones on Whidbey Island
- ~ Orca Network now has five paid staff for our Whale Sighting Network, Langley Whale Center and Education programs
- ~ Creating a community of whale lovers, who become devout advocates for the whales of the Salish Sea, their habitat, and their prey

**"The sighting reports arriving in my inbox are always interesting and encourage me to be a more careful, sensitive boater."**  
Tom Salzar, Sighting Network member