



Western Washington University
Western CEDAR

Salish Sea Ecosystem Conference

2018 Salish Sea Ecosystem Conference
(Seattle, Wash.)

Apr 5th, 2:30 PM - 2:45 PM

Data and derelict fishing gear: implications for monitoring, predicting, and management

Samantha Farquhar

Univ. of Washington, United States, samfarq@uw.edu

Colton McDavid

Oregon State Univ., United States, coltonmcdavid@gmail.com

Follow this and additional works at: <https://cedar.wwu.edu/ssec>



Part of the [Fresh Water Studies Commons](#), [Marine Biology Commons](#), [Natural Resources and Conservation Commons](#), and the [Terrestrial and Aquatic Ecology Commons](#)

Farquhar, Samantha and McDavid, Colton, "Data and derelict fishing gear: implications for monitoring, predicting, and management" (2018). *Salish Sea Ecosystem Conference*. 356.
<https://cedar.wwu.edu/ssec/2018ssec/allsessions/356>

This Event is brought to you for free and open access by the Conferences and Events at Western CEDAR. It has been accepted for inclusion in Salish Sea Ecosystem Conference by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.



Data and derelict fishing gear: implications for monitoring, predicting, and management

Colton McDavid¹, Samantha Farquhar²

¹ *Oregon State University
Data Analytics Program*

² *University of Washington
School of Marine and Environmental Affairs*

Presentation Outline: DFG in Washington

- *What we know?*
- *What we learned?*
- *What can we do in the future?*

What we know: Derelict Fishing Gear (DFG)

- Fishing gear that has been lost, abandoned, or discarded in the marine environment and continues to trap and kill fish, crustaceans, marine mammals, sea turtles, or seabirds (Smolowitz, Corps, and Center, 1978).
- DFG is a relatively recent issue
- Problem appears to be growing
- Threats to other marine life, notably whales



What we know: Initiatives

- The Northwest Straits Foundation (NWSF), with the support of a NOAA Marine Debris Program Marine Debris Prevention through Education and Outreach Grant started an initiative to remove DFG.
- In 2009, the Washington Department of Fish and Wildlife (WDFW) has issued Crab-pot Recovery permits which allow commercial fishermen to salvage, keep, and use retrieved crab pots.



What we learned: Total DFG Survey

Crab Pot	8596
Gillnet	6174
Unknown Nets	1621
Sidescan Target	727
Debris	472
Purse Seine	257
Shrimp Pot	245
Crab Line	125
Crab Ring	100
Aquaculture Net	71
Unknown	43
Trawl Net	17
Longline	11
Aquaculture Bag	9
Leadline	5
Mixed Recreational	5
Urchin Collection Bag	2
Octopus Trap	1
Total	18481

Whatcom	3814
San Juan	3582
Snohomish	2937
Island	1586
Skagit	1400
Kiitsap	1147
Clallam	991
Jefferson	965
King	337
Grays Harbor	250
Pierce	106
Mason	97
Thurston	4
Pacific	1

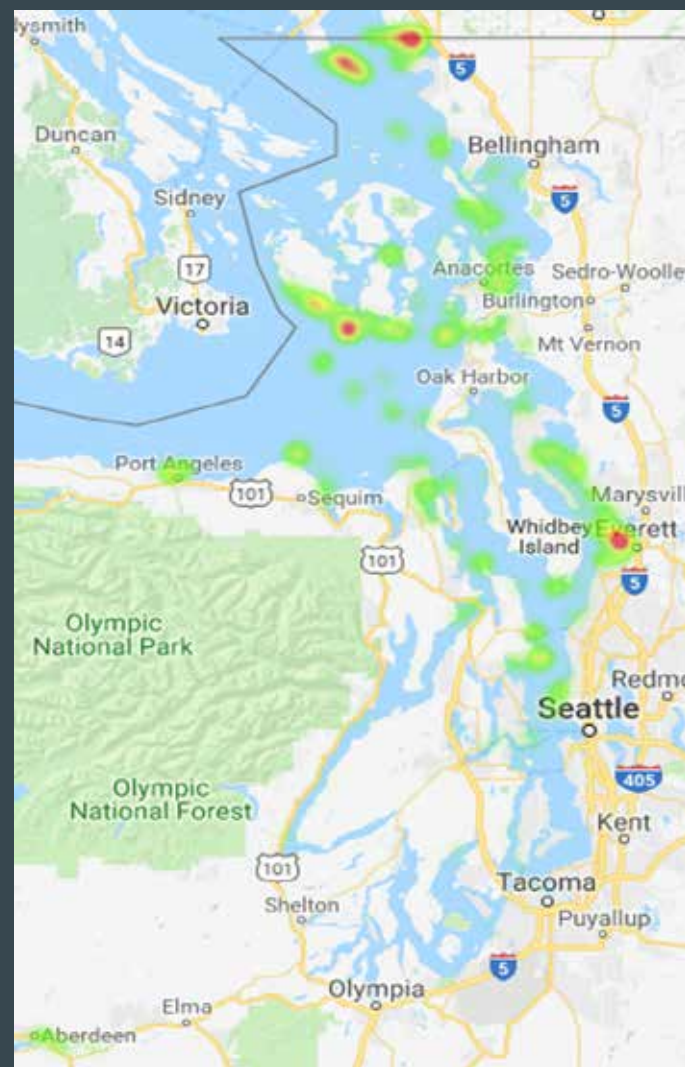
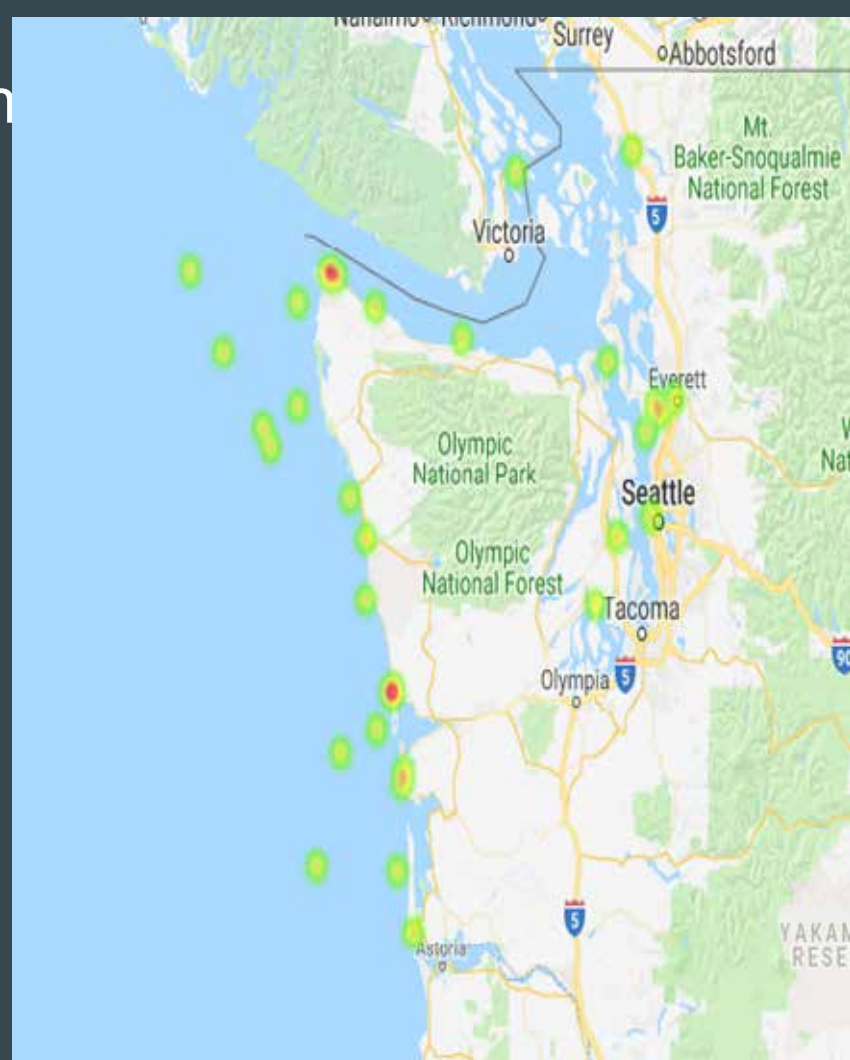


Fig 1. Total area survey of Salish Sea DFG reports shows distinct concentrations of gear. Data provided courtesy of NSFW.

What we learned: Whale Entanglements

- Whale entanglement largely associated with crab pots
- Humpback and Grey Whales most affected

Fig 2. Whale entanglements show a wide distribution along WA coast. Data provided courtesy NOAA.



What we learned:

- Some spatial overlap
- 2 Entanglements confirmed to have gear from WA
- Other considerations?

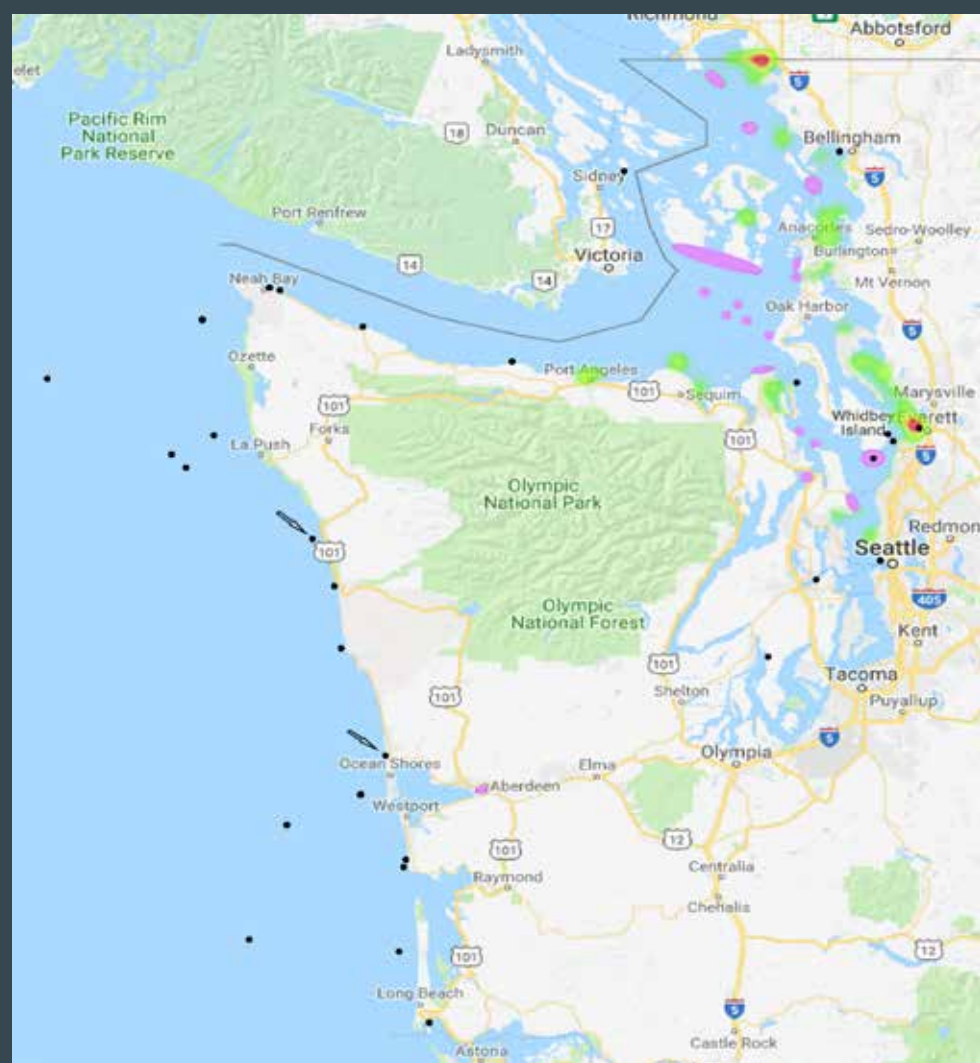


Fig 3. Whale entanglements, spatial intersection with DFG hotspots? Data provided courtesy of NSFW and NOAA.

What can we do in the future?

- Expand scope geographically and biologically
- Assess effects of other variables on DFG distribution and high-risk areas
- Should we keep focusing DFG attention on hotspots or expand to new areas?
- Are fishermen aware of initiatives?
- Are their technology improvements?



Future considerations

Crab Pot	8596
Gillnet	6174
Unknown Nets	1621
Sidescan Target	727
Debris	472
Purse Seine	257
Shrimp Pot	245
Crab Line	125
Crab Ring	100
Aquaculture Net	71
Unknown	43
Trawl Net	17
Longline	11
Aquaculture Bag	9
Leadline	5
Mixed Recreational	5
Urchin Collection Bag	2
Octopus Trap	1
Total	18481

Whatcom	3814
San Juan	3582
Snohomish	2937
Island	1586
Skagit	1400
Kiitsap	1147
Clallam	991
Jefferson	965
King	337
Grays Harbor	250
Pierce	106
Mason	97
Thurston	4
Pacific	1

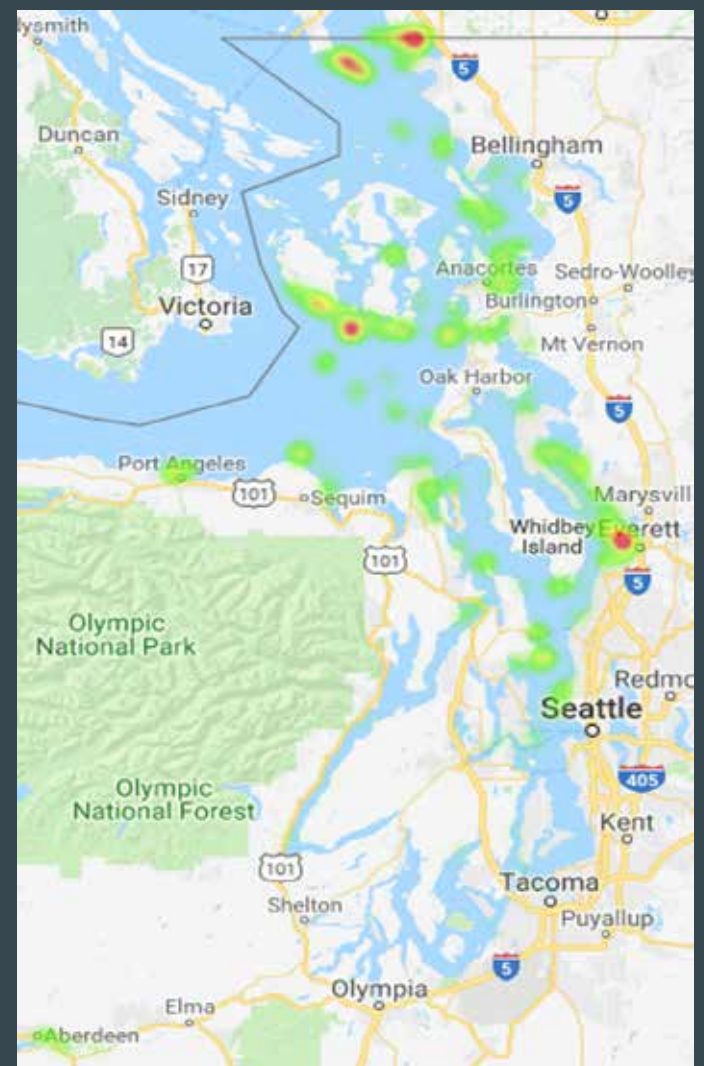


Fig 1. Total area survey of Salish Sea DFG reports shows distinct concentrations of gear. Data provided courtesy of NSFW.

Acknowledgements



References

- Smolowitz, R. J., Corps, L. N., and Center, N. F. (1978). Lobster, *Homarus americanus*, trap design and ghost fishing. *Marine Fisheries Review* 40, 2–8.
- Drinkwin, J. (2016). Puget Sound Lost Crab Pot Prevention Plan
- NOAA (2016). 2016 West Coast Entanglement Summary
- NW Straits Foundation. (2010). Performance Report. Seattle, Washington.
- Pecci, K. (1978). Ghost fishing of vented and unvented lobster, *Homarus americanus*, traps. *Marine Fisheries Review* 40, 9–43.