

INVESTIGATING A SHARK DIVERSITY HOTSPOT IN SOUTH PUGET SOUND: FINDINGS FROM YEAR ONE

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South Sound Science Symposium, October 20, 2022

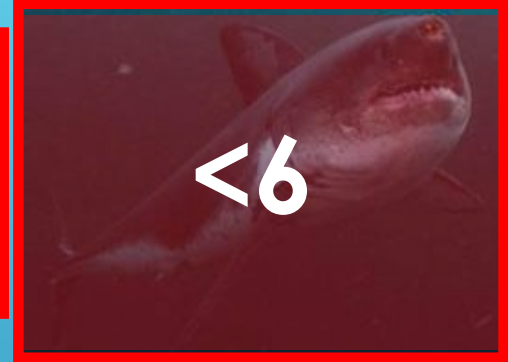
PUGET SOUND SHARK DIVERSITY



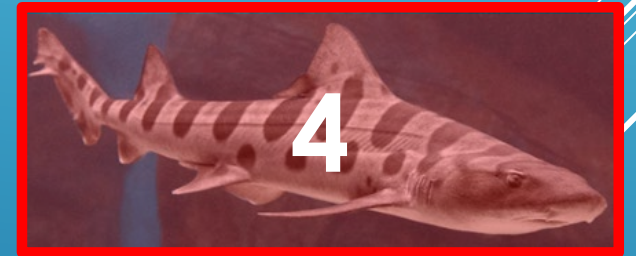
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Pietsch & Orr (2015) *Fishes of the Salish Sea* + WDFW records



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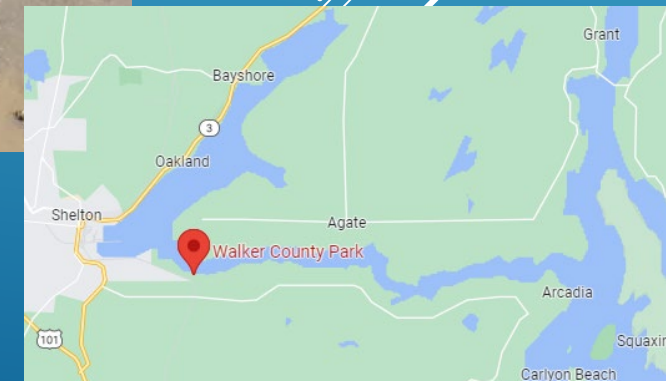
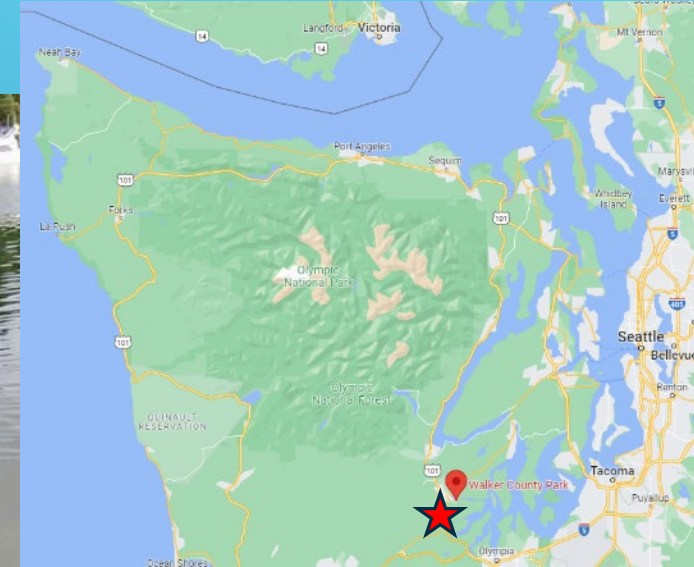
North Pacific Spiny Dogfish are especially common, with bluntnose sixgills and brown catsharks less regularly encountered

- All three have been reported numerous times in South Sound, the latter two mostly in scientific surveys



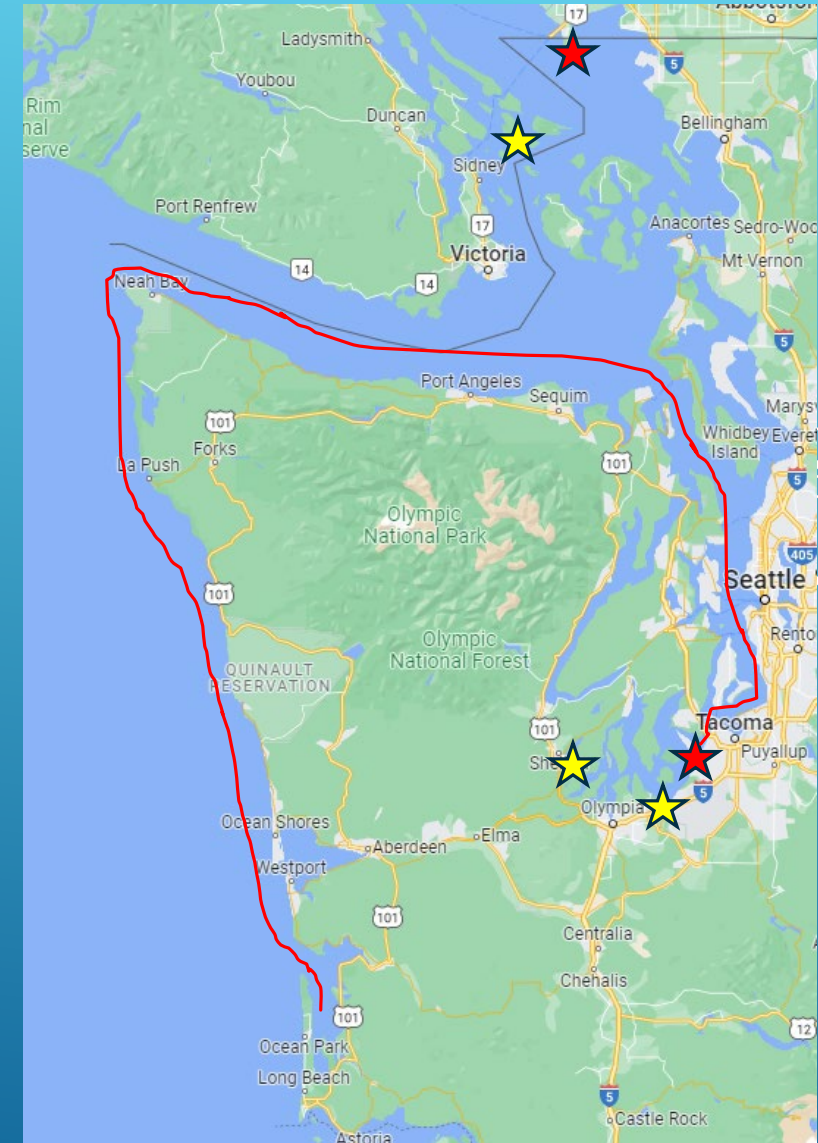
A NOVEL ENCOUNTER?

- August 2021: angler posts photo on FaceBook
- WDFW Enforcement flagged, passed on for validation
 - Broadnose sevengill shark
- Location confirmed as Hammersley Inlet, off Walker Park in Shelton
 - 7.2 mi north of here (star)
 - ~10 caught over last 2 yrs



OTHER SEVENGILL RECORDS IN THE SOUND

- 1863 jaws “presented at Nisqually”
- Specimen in UW Fish Collection from Point Roberts
 - *Only “verifiable” record in Salish Sea*
- Encounters reported from southern Strait of Georgia, off Pender Island
- Tagged animal from Willapa Bay to Fox Island and back (Williams et al. 2012)
- Report from south Puget Sound, off *Walker Park, Hammersley Inlet*



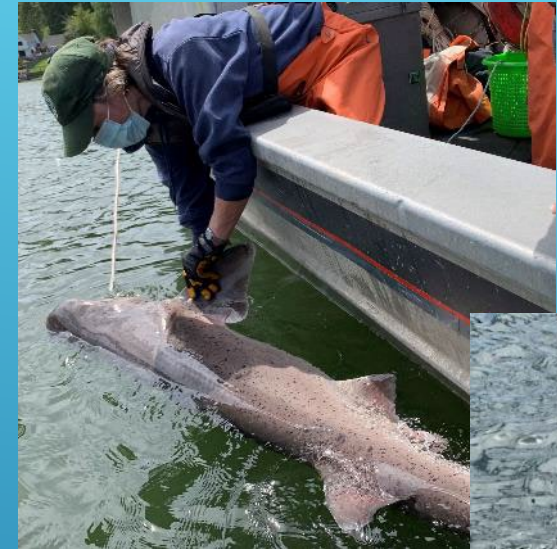
ORGANIZING A FISHING EXPEDITION

- Goal: scientific validation and tagging
- OSU BFL actively tagging sevendrills in Willapa Bay
 - WDFW and NOAA had tagged there in mid-2000s
- **Launched at Boston Harbor**
 - Used hand lines, circle hooks, salmon for bait
 - Fished shallows (<10 m) off Walker park



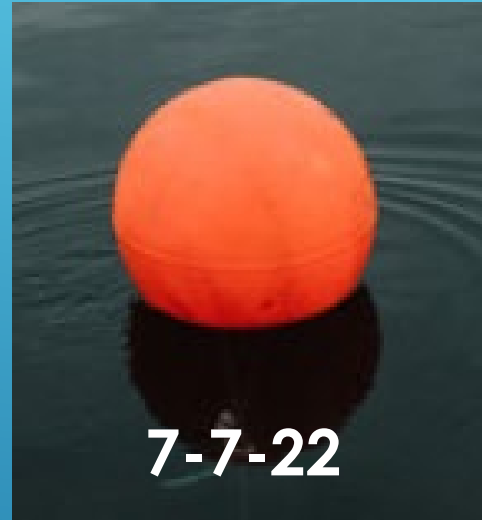
SUCCESS ON THE FIRST TRY!

- **Caught two sevengills!**
 - Male, 212 cm TL
 - Female, 138 cm TL
- **Muscle, blood, fin clips taken**
- **Acoustic tags surgically implanted, dart tagged at dorsal fin base**
- **No bycatch**
- **Voucher details sent to Burke Museum**



IF AT FIRST YOU SUCCEED . . .

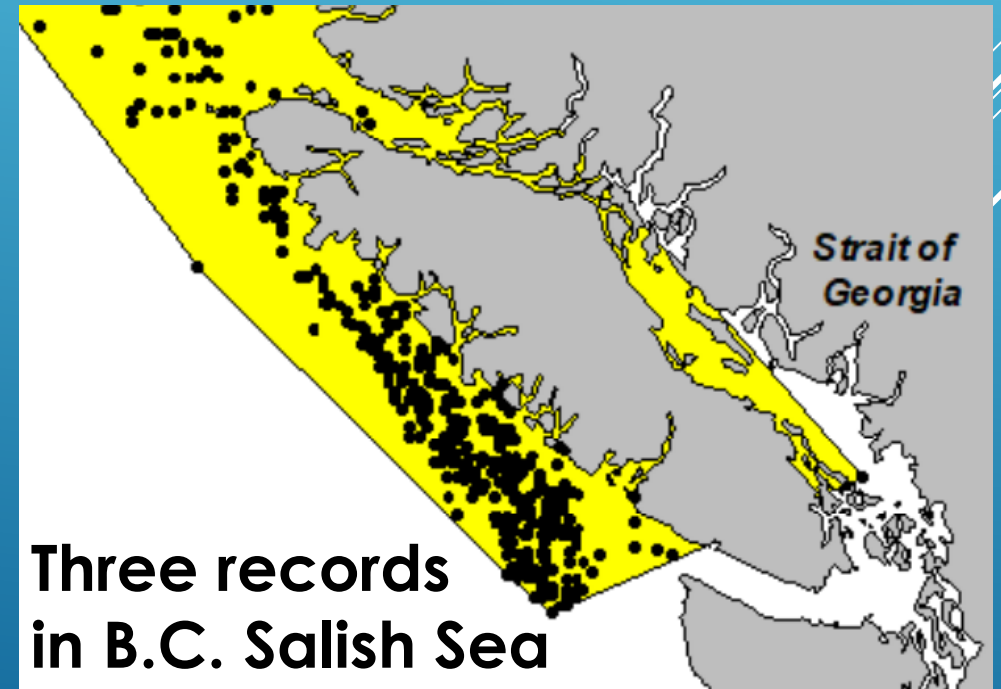
- . . . Go catch more!
 - Male, 195 cm TL
 - Male, 185 cm TL
- Employed drop lines in addition to hand lines
- Muscle, blood, fin clips taken, but only Dart tags
- Several dogfish also captured, enhancing sevengill capture



AN UNEXPECTED SURPRISE . . .

- **Tope shark** – offshore species with 0 records in South Sound!
- Few caught in commercial fisheries in 1985 and 1987 in North Sound

Male, 153 cm TL



Again, tissue sample and catch data to Burke Fish Collection

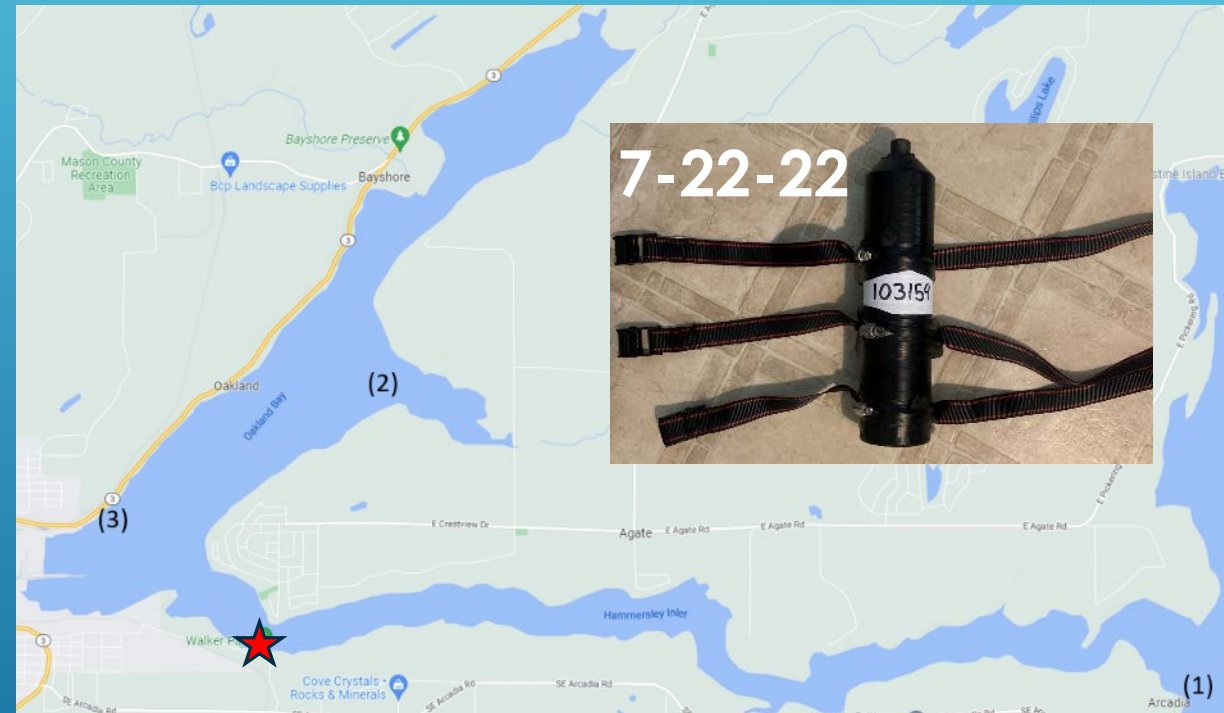
... OR MAYBE NOT



- Have been catching, keeping, and eating them at Walker park since 2021. At least 6 retained to date.
- Notable because tope were petitioned for ESA listing in 2021

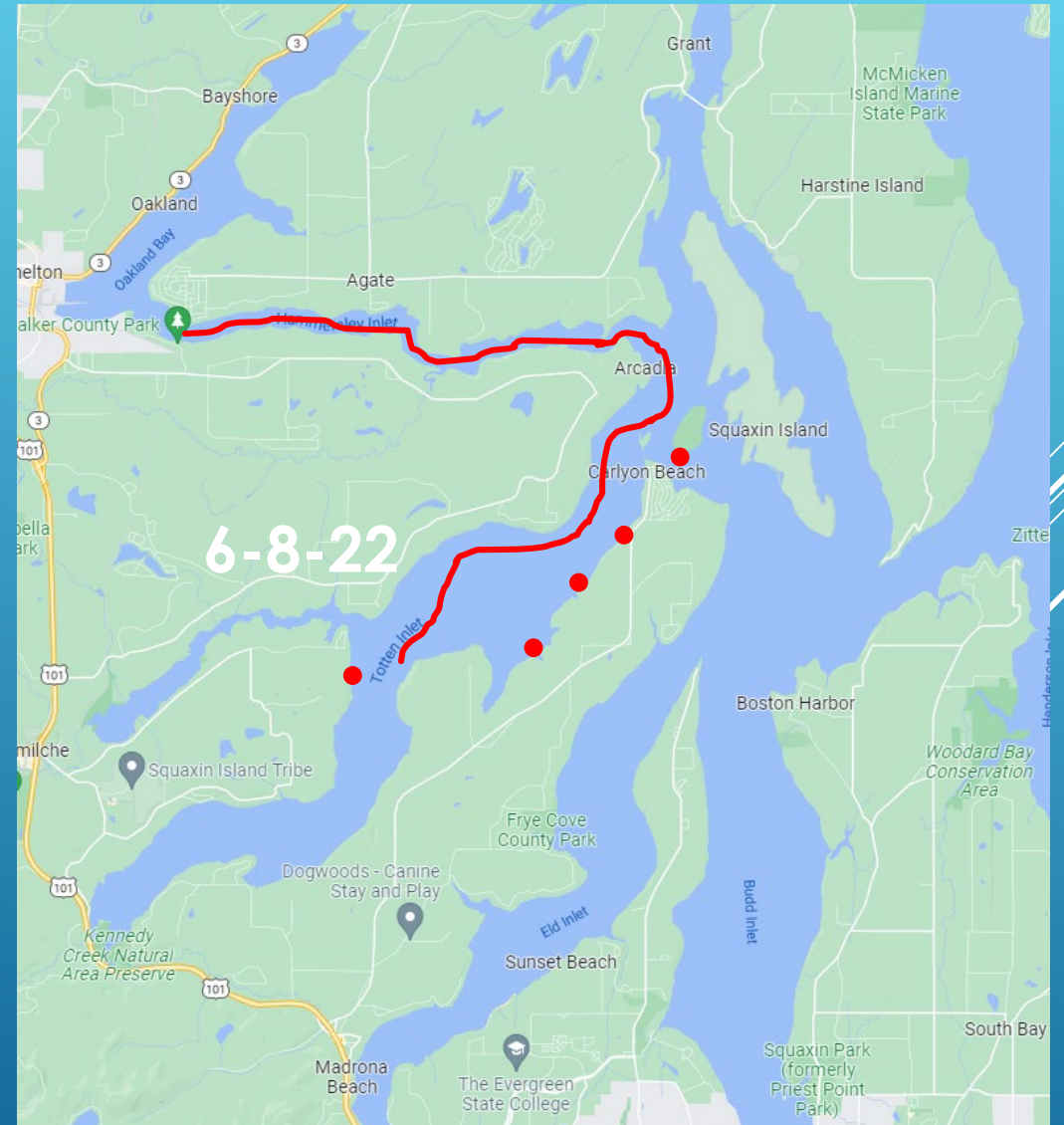
TRANSMITTERS WARRANT RECEIVERS

- Sharks unlikely to hang near Walker park all year
- WDFW/DNR placed receivers
 1. Dock/pier at Arcadia
 2. Taylor Shellfish FLUPSY
 3. Oakland Bay Marina
- Will be checked at ~6-mo interval to monitor motion
- Outside Hammersley Inlet?

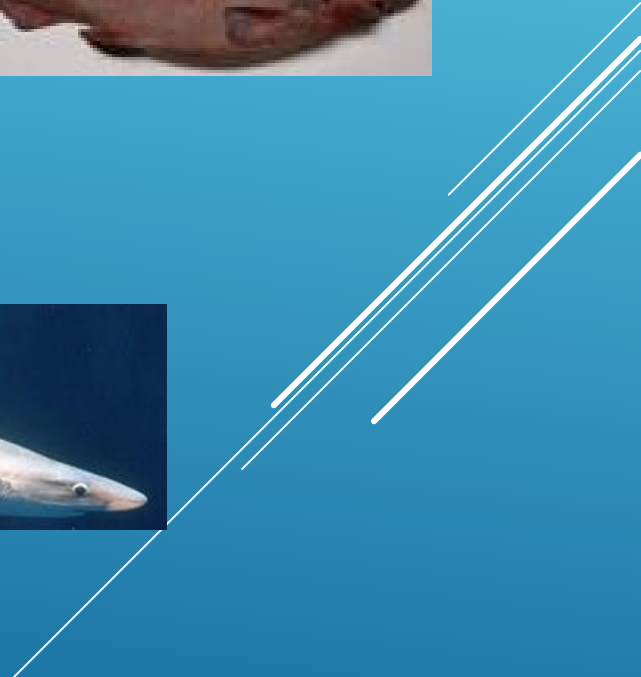


RECEIVER ARRAY FOR TROUT

- WDFW Region 6 acoustically tagging/tracking coastal cutthroat trout
 - Same receivers, smaller tags
 - Interested in ecology of predators/competitors too
- **Have already detected sevengills throughout Totten Inlet, south of Hammersley**
- **Will listen through at least 2024**



SOUTH SOUND SHARK DIVERSITY



NEXT STEPS: 2023+ PLANS

- **Passively monitor over winter and early spring**
- **Fish again in earnest in April/May 2023 with plans to acoustically tag sevengills, topes, and large dogfish**
- **Run genetics to determine how individuals relate to outer coastal populations**
 - Sevengill and dogfish data readily available
 - Fishing needed for topes on coast
- **Publish findings and integrate into management**
- **For more details on BFL efforts in WA an OR see the poster!**

ACKNOWLEDGEMENTS

- Maddie English and Ethan Personius for field assistance
- Scott Steltzner (Squaxin island Tribe), Steve Jones (Taylor Shellfish), and Dave Mariano (Oakland Bay Marina) for authorizing placement of receivers in key locations
- Taylor Frierson (WDFW) and Michael Ulrich (DNR) for placing acoustic receivers
- James Losee and Gabe Madel, WDFW, for sharing their acoustic receiver network and being willing to collaborate down the road

THANKS, ANY QUESTIONS?

