

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

Dayv Lowry, Lisa Hillier, Kate Olson, Jess Schulte, and Taylor Chapple



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THE SALISH SEA AND PUGET SOUND



SALISH SEA SHARK DIVERSITY



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



SOUTH PUGET SOUND SHARK DIVERSITY

North Pacific Spiny Dogfish common,
bluntnose sixgills and brown catsharks rare

- Recreational regs = no fishing for, or retaining, sixgills. Can't remove from water.
- Sixgills and catsharks mostly in scientific surveys, occasional strandings



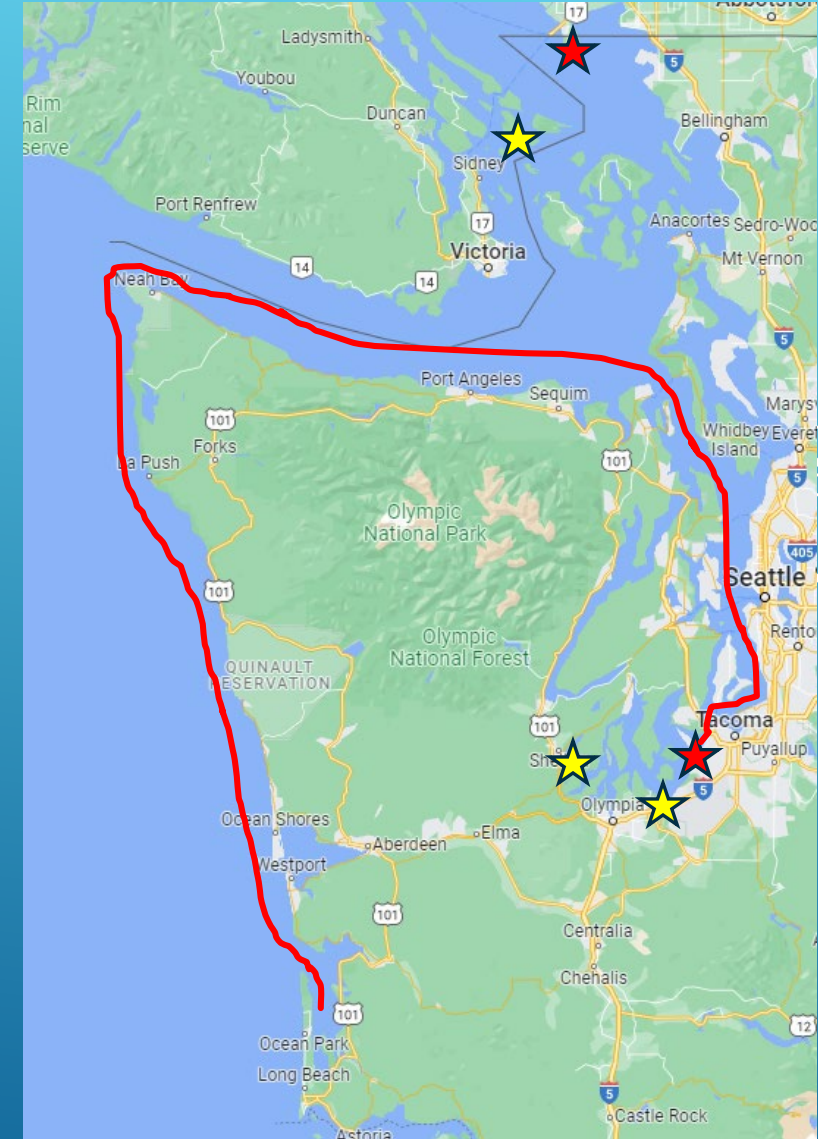
A NOVEL ENCOUNTER?

- 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 outside Shelton
 - NW of Olympia
 - ~10 caught over last 2 yrs!!



SEVENGILL REPORTS 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*



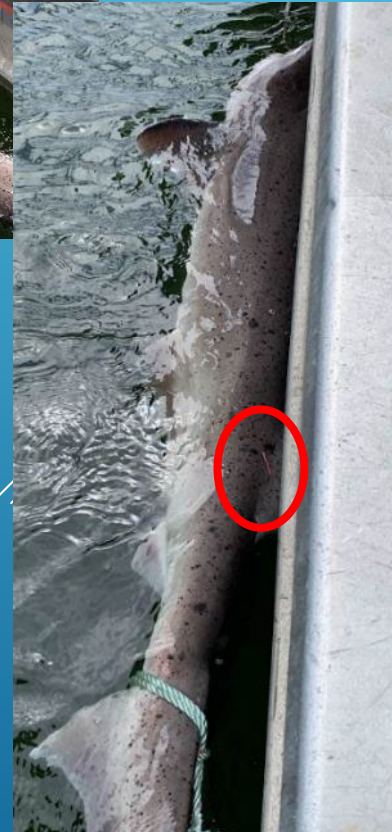
TIME TO GO FISHING!

- Goal: scientific validation and tagging, if possible
- OSU BFL actively tagging sevendrills in Willapa Bay with acoustic tags
- Hand lined from boat, circle hooks, salmon for bait
- Fished shallows (<10 m) off Walker park



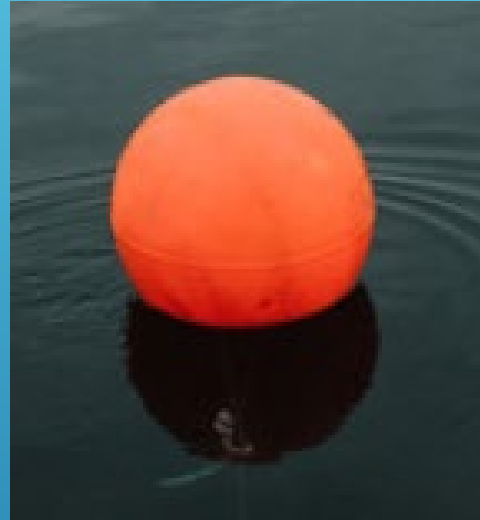
SUCCESS ON THE FIRST TRY!

- **Caught two sevengills!**
 - Male, 212 cm TL
 - Female, 138 cm TL
- **Muscle, blood, fin clips taken**
- **Innovasea V16s surgically implanted + dart tag at dorsal fin base**
- **No bycatch**
- **Voucher tissue, metadata to UW's Burke Museum**



... AND ON THE SECOND ...

- **July 7, 2022**
 - Male, 195 cm TL
 - Male, 185 cm TL
- **Drop lines in addition to hand lines**
- **Muscle, blood, fin clips taken, but only dart tags**
- **Several dogfish also captured, enhancing sevengill capture**



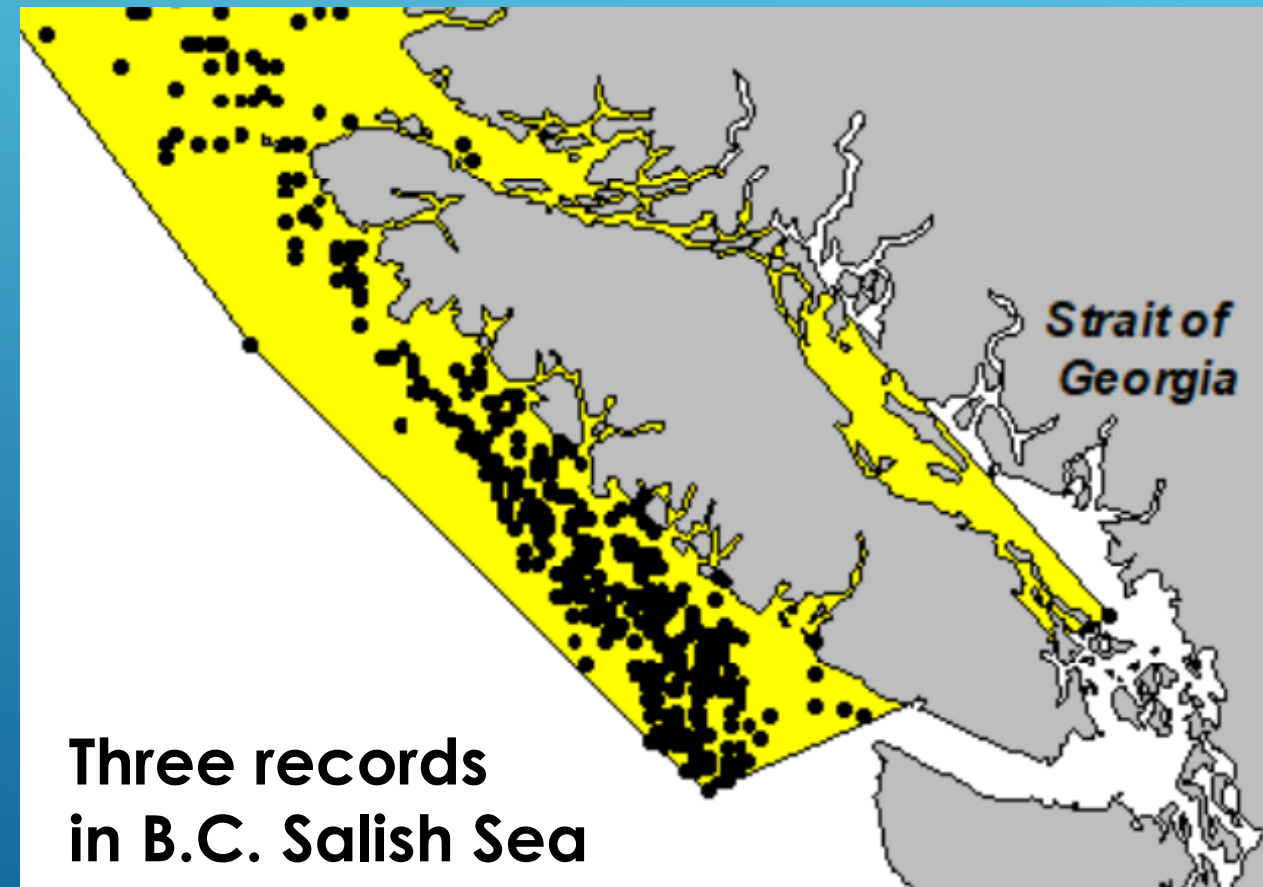


Male, 153 cm TL



AN UNEXPECTED SURPRISE . . .

- Tope shark (*Galeorhinus galeus*) – offshore species with 0 records in South Sound!
- Few caught in commercial fisheries in 1985 and 1987 in North Sound
- Tissue samples + metadata delivered to Burke Museum for posterity; dart tagged
- Reported our find to the sevengill angler . . .



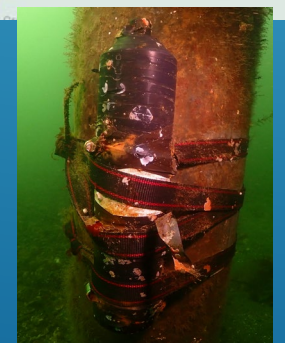
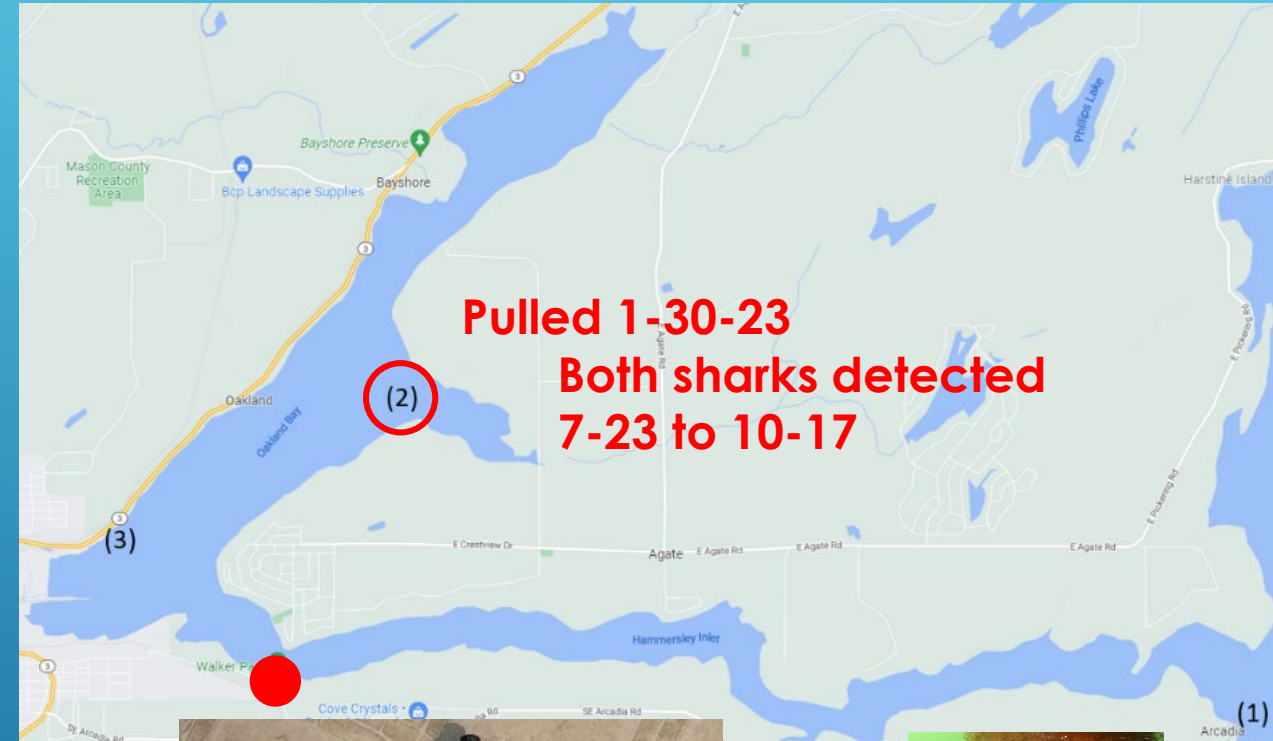
... OR MAYBE NOT UNEXPECTED



- Have been catching, keeping, and eating them at Walker park since summer of 2021. At least 6 retained to date.
- Note: tope petitioned for ESA listing Feb 2022; Candidate

IF A SHARK “PINGS” IN THE SEA . . .

- Sharks unlikely to hang near Walker park all year
- WDFW/DNR placed receivers
 1. Dock/pier at Arcadia
 2. Taylor Shellfish mussel raft
 3. Oakland Bay Marina
- Checking at ~6-mo interval, downloading annually
- Outside Hammersley Inlet?



SOUTH SOUND SHARK DIVERSITY

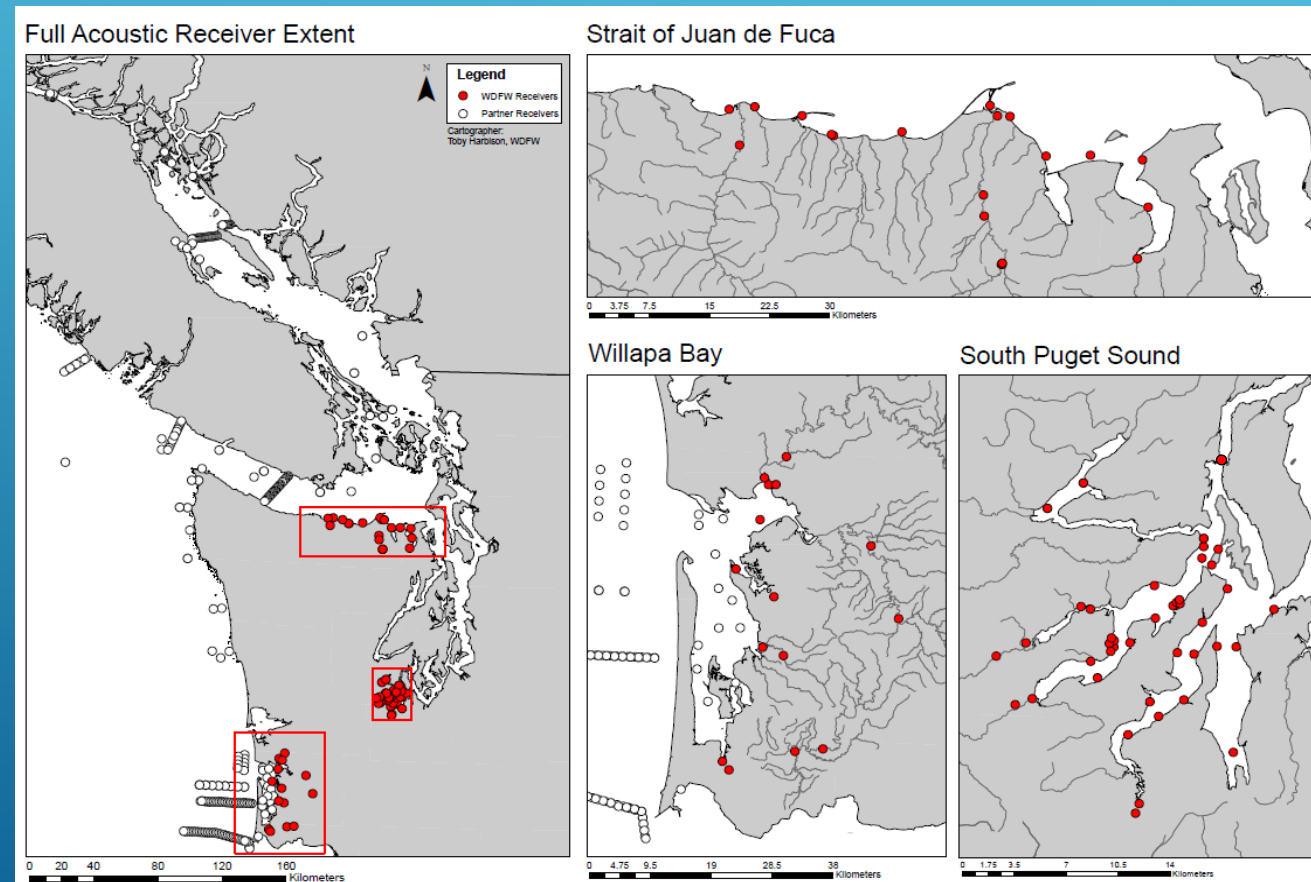


66% increase in shark biodiversity!!



NEXT STEPS: 2023+ PLANS

- Fishing again in May/June; acoustically tagging 20+ sharks
- Leverage expanded receiver network (WDFW, NOAA, OSU)
- Run genetics to evaluate connection with coastal populations?
 - Sevengill & dogfish data available, needed for tope
- Noodle on the “whys??”
- Publish results, integrate into management



ACKNOWLEDGEMENTS

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- 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), Michael Ulrich (DNR), and their colleagues for placing acoustic receivers
- James Losee and Gabe Madel, WDFW, for sharing acoustic receiver network and ongoing collaboration to better understand the South Sound ecosystem

DID SOMEONE SAY DOGS??

