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Agenda Item F.1.b
Supplemental NWFSC Presentation 1
March 2023

Science Center Activities

March 6, 2023

Craig Russell and Dr. Jim Hastie
Northwest Fisheries Science Center



Overview

- Surveys Update
- Additional Related Activities
- Small Sablefish in Recent Surveys

Surveys Update



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Planned 2023 Surveys

- 2023 West Coast Groundfish Bottom Trawl Survey (May 15 - Oct. 24)
- 2023 Southern California Rockfish Hook and Line Survey (Sept. 17 - Oct. 6)
- 2023 Joint US-Canada Integrated Ecosystem and Pacific Hake Survey



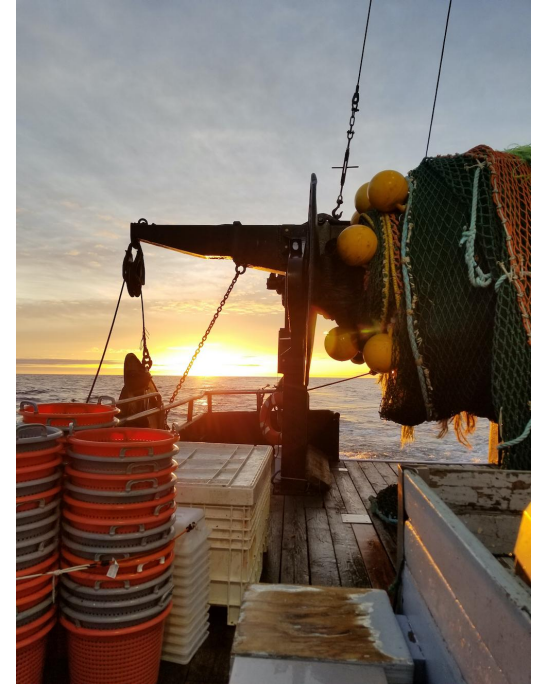
2023 West Coast Groundfish Bottom Trawl Survey

Cornerstone, long-term time series for 90+ species and California Current Ecosystem.

- 24th year in time series

Full-four vessel Survey:

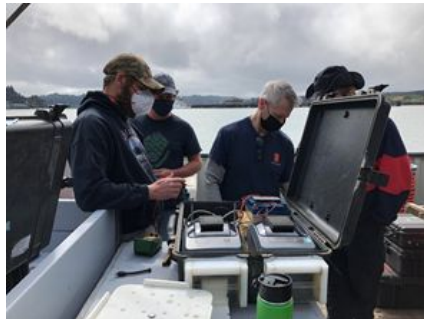
- Two passes, two chartered vessels each, from Cape Flattery to US-Mexico border.



2023 West Coast Groundfish Bottom Trawl Survey



Leg 1 2021



Mobilization 2021

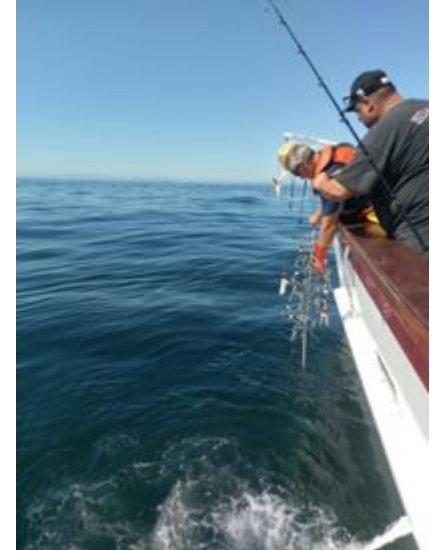
- **Pass 1:** F/V Last Straw and F/V Ms Julie planned (May 15 - July 25, 2023)
- **Pass 2:** F/V Noah's Ark and F/V Excalibur (Aug. 14 - Oct. 24, 2023)
- **5 legs** (8 -10 days per leg) per Pass with 3-day port calls between legs
- **752 sites** scheduled for sampling (188 per vessel)
- **US-Canada border to US-Mexico border** (55 to 1280 m) each pass

2023 Southern California Rockfish Hook and Line Survey



Cowcod 2021

- Southern CA Bight
- 19th year in time series
- Ongoing partnership: NWFSC, PSMFC, and sportfishing industry
- 3 chartered sportfishing vessels
- Sept. 17 - Oct. 6, 2023



Rockfish Descender

2023 Joint U.S.-Canada Integrated Ecosystem & Pacific Hake Survey

75 DAS (U.S.) aboard *Bell M. Shimada* (June 18 - Sept 12)

30 DAS (Canada) aboard *Sir John Franklin* (Aug 16 - Sept 16)

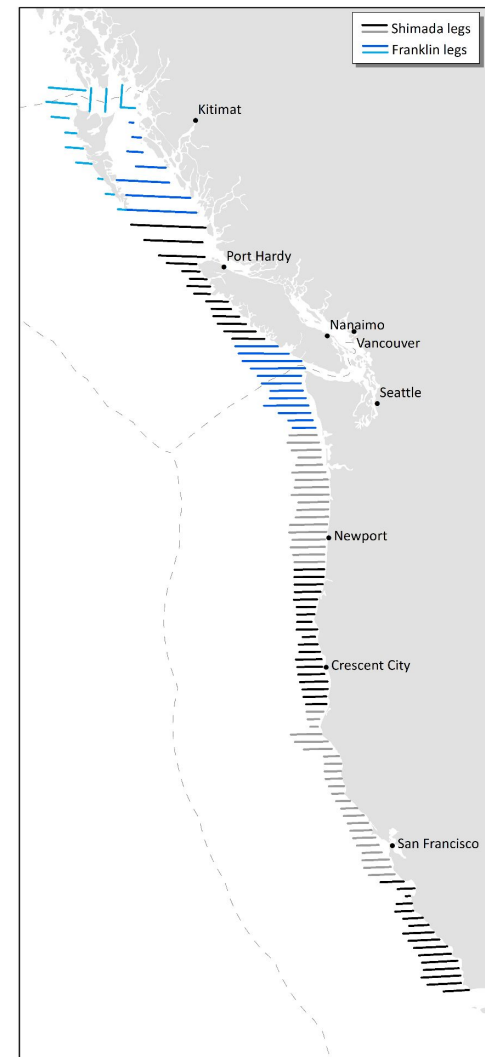
10-nm spaced transects Pt Conception to WCVI, 20-nm N to Dixon Entrance

Daytime:

- Acoustics - 18, 38, 70, 120, 200 kHz (both) + 333 kHz (Canada)
- AWT midwater trawling
- Underway CTD (U.S.), Bongo tows (Canada)
- Harmful Algal Bloom (U.S.)
- Isaacs-Kidd Midwater Trawl (U.S.), Tucker trawl (Canada)
- Marine mammal & seabird observers (Cape Mendocino to Columbia River; OSU collaboration)

Nighttime:

- CTD rosette, eDNA



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Additional Related Activities



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Workshop: Refining Groundfish Survey's Sampling Frame

Goals:

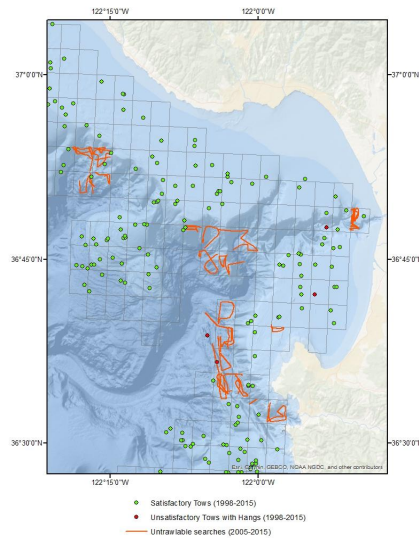
- Identify cells that can not be sampled by trawl gear
- Improve survey efficiency (reduce time searching and transiting to non-towable sites; reduce number of unsuccessful tows)
- Determine areas for alternative sampling techniques for future survey

Logistics:

- March 15-16, Bandon, OR
- Past and current survey Captains (11 invitees)
- NWFSC scientists (survey and assessment teams)

Decision Tools:

- Past survey search and tow data
- Captain's knowledge and experience
- Habitat data (existing GIS layers)



Integrated West Coast Pelagics Survey

- Anticipated integration in 2025.
- [Request For Information](#) - input opportunity open to all, closes March 17, 2023 (SAM.gov Notice ID: WAD-SRW-23-0001)
- First of several opportunities for input.
- Industry/stakeholder engagement workshop - still planned, date TBD.
- Suggestions for other engagement activities welcomed.



Pre-Assessment Workshops

- A series of virtual pre-assessment sessions was held Jan. 31–Feb. 1 for copper, canary, and black rockfishes
 - Sessions were well-attended by state agency staff and the public
 - Assessment teams presented information about data, anticipated modeling approaches, and potential challenges; and also fielded questions from attendees
- Similar virtual pre-assessment discussions for petrale and rex soles and shortspine thornyhead are scheduled for 1–5 PM on March 20
 - The petrale assessment is a Full, to be reviewed July 24–28 along with canary rockfish
 - The other two will be Length-Based Data-Moderate assessments that will be:
 - Developed as part of a graduate course being taught by NWFSC staff at UW-SAFS
 - Reviewed with the two copper rockfish assessment models June 5–9
- We encourage anyone interested in these assessments to attend!



Ageing Fish Using Spectroscopy

- NMFS is supporting a multi-year Strategic Initiative to explore the use of Fourier-Transform Near-Infrared Spectroscopy as a means of expediting age determination using otoliths
- This research seeks to identify reliable relationships between otolith spectral data and traditional age reads
- Spectral data can be gathered 5–10 times faster than otoliths can be aged, traditionally
- Staff from Science Centers around the country will gather at the Alaska Fishery Science Center's Seattle office the week of April 3 to share results and discuss challenges and continuing research plans
- Both the NW and SW Science Centers will participate in this meeting

Small Sablefish in Recent Surveys

Dr. Jim Hastie



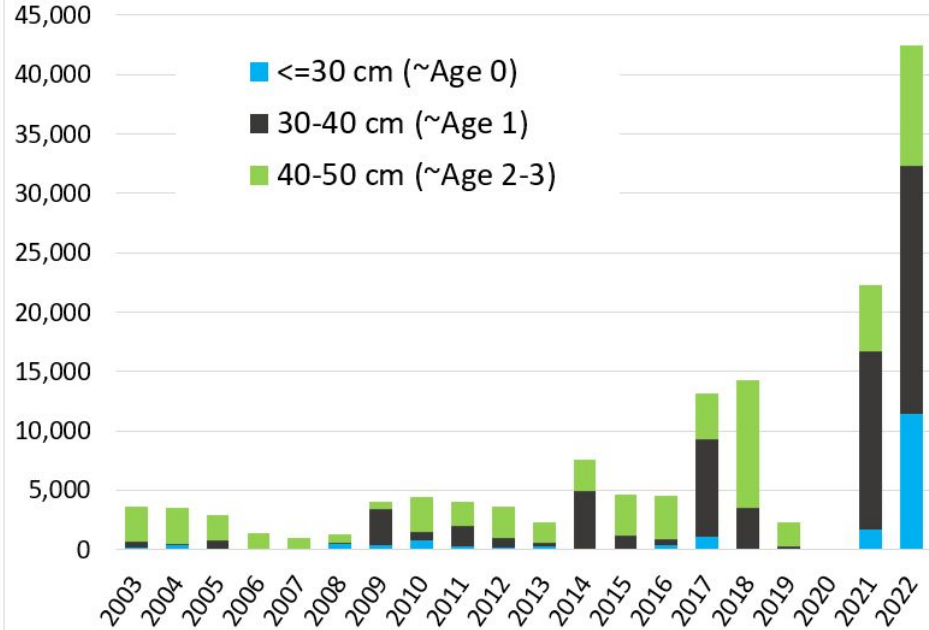
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Recent Evidence of Abundant Small Sablefish

- A preliminary review of length data from the 2021 and 2022 bottom trawl surveys suggests unprecedented recruitment success in the 2020-22 timeframe
- Because the 2020 survey was not conducted, no information about possible 2020 recruitment was available for the 2021 update
- This evidence raises concerns about sablefish bycatch challenges in non-target fisheries,
 - Particularly in 2025-26, before results of a planned 2025 full assessment could be incorporated in specifications (2027)

Preliminary summary of small sablefish caught in the NWFSC shelf-slope survey

Preliminary approximate numbers of survey-caught sablefish falling into 3 length ranges representing



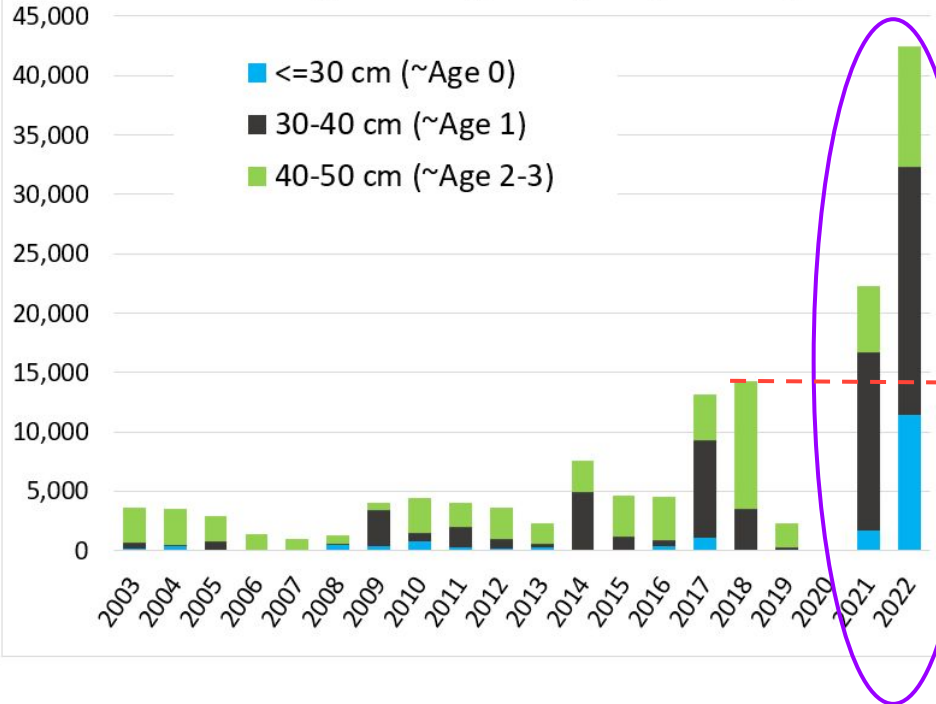
	Number of age-0 recruits, from 2021 assessment	Approx. numbers of survey-caught sablefish falling within length ranges			
		<=30 cm	30-40 cm	40-50 cm	<=50 cm
		~Age 0	~Age 1	~Age 2-3	
2003	2,277	164	491	2,996	3,652
2004*	7,244	367	164	3,028	3,559
2005	500	19	803	2,098	2,919
2006	2,107	6	49	1,353	1,408
2007	768	5	80	928	1,013
2008	41,726	512	51	725	1,288
2009	2,030	386	3,086	610	4,082
2010	16,187	748	717	3,016	4,481
2011	6,446	283	1,704	2,054	4,041
2012	2,759	155	884	2,630	3,669
2013*	34,308	263	321	1,771	2,355
2014	6,709	82	4,882	2,645	7,610
2015	18,011	34	1,197	3,438	4,669
2016	55,595	362	563	3,618	4,543
2017	10,689	1,064	8,232	3,915	13,211
2018	8,151	43	3,491	10,781	14,315
2019*	6,274	92	232	2,033	2,357
2020		No Survey, due to COVID			
2021	2021/largest	1,751	14,949	5,638	22,338
		1.6	1.8	0.5	1.6
2022	2022/largest	11,393	20,959	10,158	42,510
		10.7	2.5	0.9	3.0

*Only 2 vessels used in 2019 and 3 in both 2013 and 2004.



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Possible 2023 Option for Sablefish

- The NWFSC believes that it would be possible to develop an intermediate-level update assessment before August:
 - Would require prioritizing survey ageing this spring;
 - Would add new data from 2020-21 for fishing mortality, along with age data and abundance index values from the trawl survey;
 - No new age data from the fishery
- This update would then be reviewed by the SSC Groundfish Sub-Comm (normal for updates) in August, and feed into the Sept Council consideration of new assessments
- We would like to know by the April Council meeting whether the Council would like us to move forward with this update

Questions?



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