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Agenda Item F.1.b
Supplemental Science Center Presentation 1
June 2022

Science Center Activities

June 10, 2022

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Northwest Fisheries Science Center



Overview

- Surveys Update
- Recent Workshops
- 2022 Assessor Workload
- Offshore Wind Energy: Potential Survey Impacts

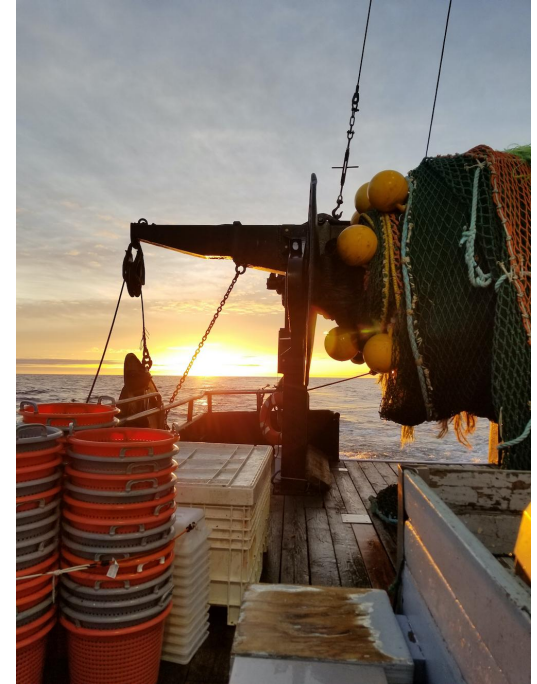
Surveys Update



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Planned 2022 Surveys On Schedule

- **2022 West Coast Groundfish Bottom Trawl Survey, 5/16-7/26**
- **2022 Southern California Rockfish Hook and Line Survey, 9/18-10/7**
- **California Current Ecosystem Hake Ecology and Survey Methods Research in support of Hake/Whiting Treaty, mid-late Summer 2022**



2022 West Coast Groundfish Bottom Trawl Survey

Leg 1 report: 5/23-6/2

- F/V Last Straw sampled from Newport, OR to US/Canada Border
- F/V Ms. Julie sampling impacted by COVID; area between Newport and the US/Canada border now scheduled as part of leg 2 (June 6 -17)



Recent Workshops



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Pacific Hake, environmental influences, and fishermen's knowledge workshop



Photo credit: Midwater Trawlers Cooperative

Co-hosted by NWFSC researchers, Pacific Whiting Conservation Cooperative, and Midwater Trawlers Cooperative – April 19, 2022
Funded by: NWFSC Cooperative Research Program

Pacific Hake, environmental influences, and fishermen's knowledge workshop

Goals:

- Increase knowledge about Pacific Hake and their interactions with the environment and other species
- Fishery participants share knowledge about Pacific Hake from their fishing experience

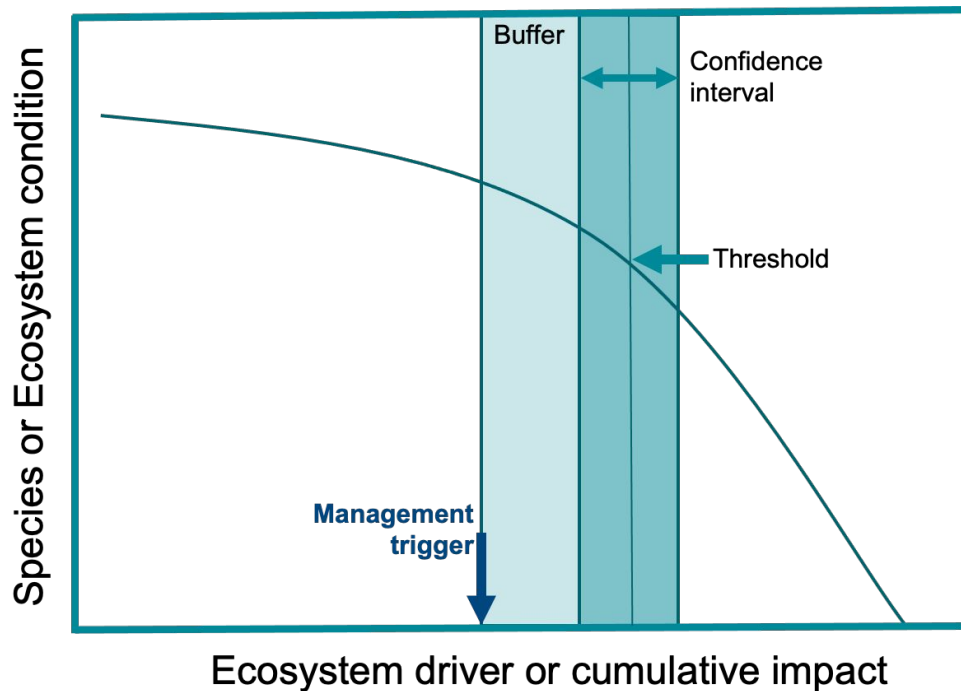
Topics:

- Drivers of hake recruitment
- Drivers of hake weight-at-age
- Drivers of the distribution of hake and incidentally caught species

Outcomes:

- Workshop summary report
- Research products informed by fishermen's knowledge
- Opportunities for future dialogue between hake fishermen and researchers to improve science for hake management

Ecosystem Thresholds Workshop



Participants: NWFSC, SWFSC, NEFSC, AFSC and UW researchers, current and former Pacific Council, GMT, STT, and SSC members - May 20, 2022
Funded by: NMFS Office of Science and Technology

Ecosystem Thresholds Workshop

Goals

- Explore onramps for incorporating ecosystem thresholds into management decisions
- Scope priority stocks and threshold detection methods that are most management-relevant to inform potential case studies

Topics

- Review current threshold research and potential applications to management
- Pathways for thresholds in management: assessments, risk tables, allocation of resources, and testing forecast skill

Outcomes

- Guidance for prioritizing research efforts on ecosystem thresholds
- Workshop summary, and possibly a position paper on management applications and onramps
- Potential to inform research to support new FEP initiatives

Report Back on 2022 Assessor Workload



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Assessor Workload Considerations: June-December, 2022

- Stock Definition issue
 - Assessor input on data & variability in bio processes and genetics
 - PPAs for 2023 assessment species by November
- 4 members of the SSC GF Sub-Comm are engaged in assessments or related research at the NW and SW SCs
 - 2-3 of those will attend the National SSC Meeting (August 15-17)
 - All will be at the September and November Council meetings (another assessor will attend those GMT meetings)

Assessor Workload Considerations (cont.)

- Other SSC GF Sub-Comm meetings
 - 1) Estimating fishery-independent indices of abundance (June 21-23)
 - 2) Coordinating aging & catch estimation for 2023 assessments (late July/early Aug.)
 - a) Most assessment staff will participate in this meeting
 - 3) Exploring approaches for modeling the impacts of large closed areas and other regulation changes in upcoming assessments (3 days during week of August 7)
 - 4) Reviewing ODFW's ROV/acoustic/drop camera methodology and WDFW's hook-and-line survey for use in assessments (~3 days in last week of Sept.)
 - 5) Reviewing approaches for using CDFW ROV survey data in assessments (Nov.-Dec.)
- The 4 NW/SW Center members of the SSC GF Sub-Comm will attend most of these and help in planning, executing, & summarizing them.
 - Other staff will contribute, as appropriate



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Assessor Workload Considerations (cont.)

In addition to all of these Council-related activities over the next 6 months, staff will be engaged in the following activities:

- Development and testing of NMFS' new stock assessment modeling platform (FIMS)
- Pacific hake JMC meeting on MSE research (~July 28-29)
- American Fisheries Society meeting (August 21-25)
- MREP meeting, hosted by the NWFSC (early October)
- Development of the 2023 assessment for Pacific hake (beginning around October) and research on the management strategy evaluation
- Beginning work on other 2023 stock assessments (October-December)
- CAPAM 'good practices in assessment' workshop (October)
- Potentially a pre-assessment workshop for species that will be reviewed in an early STAR Panel
- Stock assessment training activities



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Offshore Wind Energy: Potential Survey Impacts



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Offshore Wind Energy: Oregon Call Areas

- Alert the Council to an informational report summarizing recently-completed analysis:
- F.1.b, Supplemental NWFSC Report 1: Potential of wind-energy areas currently-identified off Oregon to adversely impact future groundfish surveys conducted by the NOAA Northwest Fisheries Science Center
- Addresses two main questions:
 - Value of the Oregon Call Areas to survey catch of some species
 - Relative value of survey cells within the Call Areas



Percentage of NW bottom trawl survey catch in OR Call Areas

	Coos Bay Call Area				Brookings Call Area				Both Oregon Call Areas			
	Avg. % for years:				Avg. % for years:				Avg. % for years:			
	2003-2019	2015-2019	2003-2019		2003-2019	2015-2019	2003-2019		2003-2019	2015-2019	2003-2019	
			Min %	Max %			Min %	Max %			Min %	Max %
% of BT Survey Hauls	3.3	3.4	2.5	4.3	1.2	1.0	0.7	2.2	4.5	4.4	3.4	5.8
% of species catch wt for:												
Longspine thornyhead	4.3	4.0	1.9	6.2	5.4	4.6	1.2	9.5	9.7	8.6	5.2	14.0
Shortspine thornyhead	6.6	10.6	2.5	15.4	1.7	1.6	0.8	2.9	8.3	12.2	4.6	16.9
Sablefish	4.6	5.8	1.6	8.1	2.8	3.0	0.6	10.2	7.4	8.9	3.8	15.5
Dover sole	5.0	5.3	2.6	7.5	2.8	2.2	1.3	6.7	7.8	7.6	4.1	12.3
Darkblotched	6.4	14.5	0.4	69.4	0.4	0.9	-	4.7	6.8	15.4	0.4	69.4
Longnose	4.8	5.0	2.3	7.8	0.8	0.9	0.0	2.1	5.6	5.9	2.7	8.8
Rougheye rockfish	3.6	4.1	-	10.3	-	-	-	-	3.6	4.1	-	10.3
Lingcod	2.3	2.4	0.3	5.7	1.0	0.8	-	7.8	3.3	3.2	1.0	10.3
Widow rockfish	6.9	11.2	-	54.8	0.1	0.1	-	0.6	7.0	11.4	-	54.8

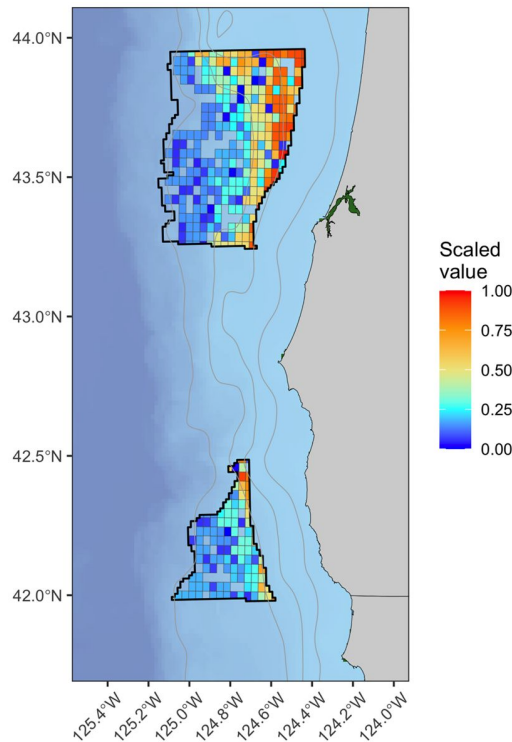
Percentage of hake survey 2+ biomass in OR Call Areas

	Percent in both Oregon Call Areas											2003-2021 Avg. in		
	2003	2005	2007	2009	2011	2012	2013	2015	2017	2019	2021	Both	C.B.	Brk.
% of total transects	7.8	7.5	6.1	5.8	5.6	6.7	6.0	4.2	6.2	5.3	7.4	6.2	3.6	2.7
% of hake survey 2+ biomass	20.3	8.1	10.6	16.6	3.6	7.1	5.6	17.9	5.7	14.0	22.2	12.0	7.9	4.0

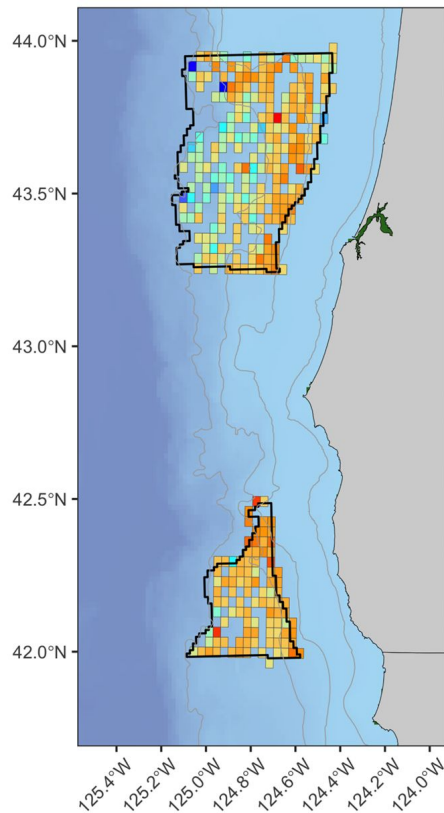


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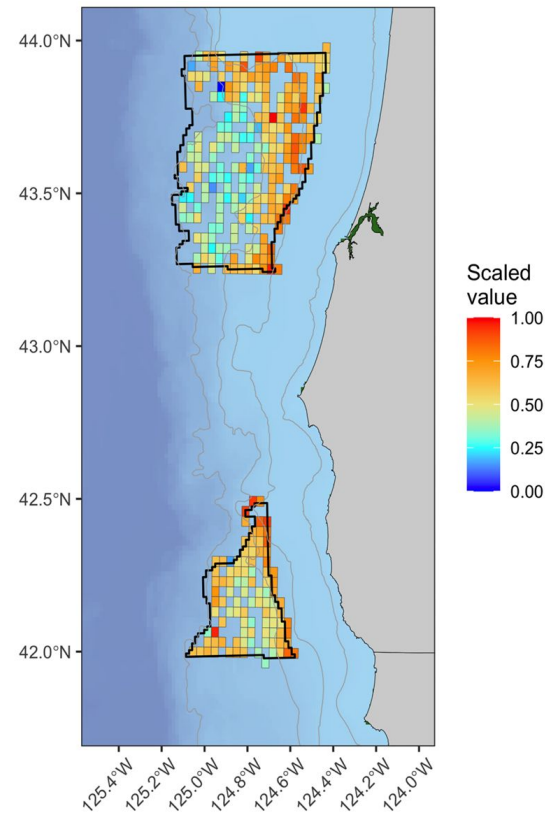
Relative value of individual survey cells, based on 5 factors (2 are shown)



Presence of young fish (13 sp)



Avg. survey catch of 22 species



5-factor composite value

Questions?



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Supplemental Detailed Survey Slides



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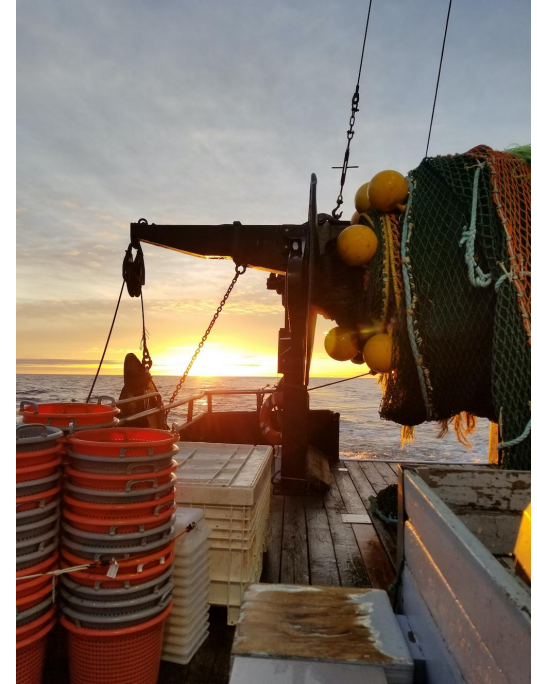
2022 West Coast Groundfish Bottom Trawl Survey

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

- 23rd year in time series

Full-four vessel Survey:

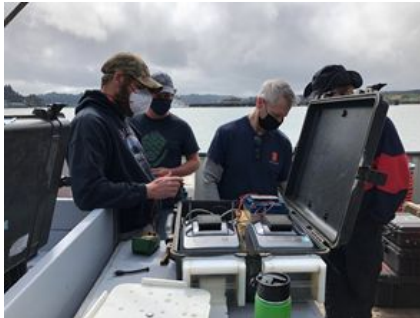
- Two passes, two chartered vessels each, from Cape Flattery to US-Mexico border.



2022 West Coast Groundfish Bottom Trawl Survey



Leg 1 2021



Mobilization 2021

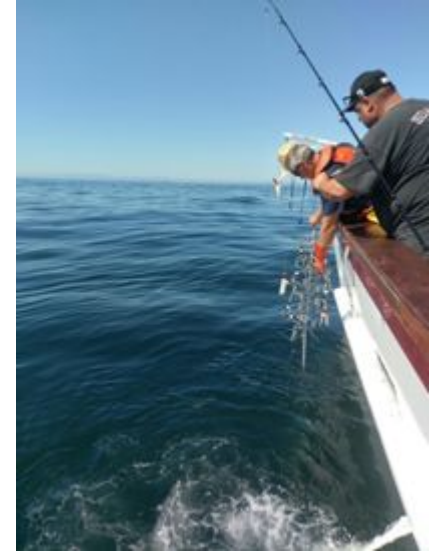
- **Pass 1: May 16 – July 26, 2022**
 - *F/V Ms. Julie, F/V Last Straw* (Pass 1)
- **Pass 2; Aug. 22 – Oct 28, 2022**
 - *F/V Excalibur, F/V Noah's Ark* (Pass 2)
- 4 Legs (11-12 days each) per Pass
- 752 stations (376 per Pass)
- 188 sea-days

2022 Southern California Rockfish Hook and Line Survey



Cowcod 2021

- Southern CA Bight
- 18th year in time series
- Ongoing partnership: NWFSC, PSMFC, and sportfishing industry
- 3 chartered sportfishing vessels
- 201 sites (79 in CCAs)
- Sept. 18 – Oct. 7



Rockfish Descender

The California Current Ecosystem Hake Ecology and Survey Methods Research in support of Hake/Whiting Treaty

- **2022 is a non-survey year for hake**
 - Research focus
 - NWFSC - 30 days on *Shimada*; DFO - 21 days on *Franklin*, mid-late Summer 2022
- **Main objectives:**
 - Complete an Inter-Vessel Calibration (IVC) between *Shimada* and *Franklin*
 - EK80 research (use new system to understand fish acoustic properties) (*Shimada* and *Franklin*)
 - Hake-mesopelagic interactions (*Franklin*)
 - Hake mix & rockfish/habitat characterization (*Shimada*)

