NOAA FISHERIES

NWFSC
SWFSC

# G.5: Groundfish Stock Definitions

## September 2022 Presentation to the Pacific Fishery Management Council

Dr. Jim Hastie and Dr. Chantel Wetzel
Northwest Fisheries Science Center

# Designation of Stock Status Areas

## G.5, Attach. 2: "Stock Assessment and Stock Definition Considerations for Selection of Species and Areas for Assessment in 2023"

- The Council will not make any formal decisions on stock definitions at this meeting
- **However**, the ultimate decision for copper rockfish will determine what assessments can be developed and how reviews are conducted in 2023
  - Changes after November will negatively impact assessment development
  - Only establishing a single stock boundary at 42º (or that with another at 46º) will allow the entire slate of assessments tentatively adopted in June to be done
- The three simplest choices (0 or 1 stock boundaries) for copper rockfish status areas are shown in the following table

NOAA FISHERIES

# Copper rockfish stock definition options,
## and assessment implications for determining stock status

- Assessment areas must be aggregate-able to stock-status areas

| Stock-Status Area | Copper Rockfish Assessment Options South | North | Comments |
|---|---|---|---|
| Coastwide | New Full Assessments Covering California | 1) Use 2021 LB-DMs for OR, WA | Maximum flexibility for structuring 2023 assessments. Potential to adversely impact harvest options coastwide if the coastwide stock status is below MSST[2]. Will require dropping one to two species from the proposed list if coastwide full assessments are selected. |
| | | 2) Update 2021 LB-DMs for OR, WA | |
| | | 3) New Full Assessments for OR, WA | |
| North and South 42° N. Lat. | New Full Assessments Covering California | 1) Use 2021 LB-DMs for OR, WA | Capacity to conduct assessments for all proposed species. All CCFRP[1] stations and California recreational catch-per-unit-effort used in California assessments. |
| | | 2) Update 2021 LB-DMs for OR, WA | |
| North and South 40° 10' N. Lat. | New Full Assessments Covering California South of 40° 10' N. Lat. | 1) New LB-DMs for OR+N.CA, WA | New model and data structure and the two northern-most CCFRP[1] stations would likely not be used and potentially no fishery CPUE in the N.CA+OR model. Will required dropping one species from the proposed list. |
| | | 2) New LB-DM for OR+N.CA only | |

NOAA FISHERIES

# Stock area considerations

## Management and assessment history

- Many deeper-water species have been assessed and managed at a coastwide scale
- A few species (e.g. lingcod, yellowtail rf) have been assessed and managed with a break @ 40°10′ N. Lat., based on genetic analysis
- Management of species within complexes has most commonly been split north and south of 40°10′ N. Lat.
- However, most broadly-distributed nearshore species with full assessments have had Central-coast modeling breaks @ 42° N. Lat.

NOAA FISHERIES

# Stock area considerations

## Relevant factors to consider

- Genetic differentiation provides a strong rationale for specifying stock boundaries
  - We lack comprehensive, modern genetic analysis for most groundfish
  - Other evidence can also support defining stock boundaries
- Notable differences in observed/estimated population dynamics
  - For example: growth, maturity/fecundity, recruitment success
- Known (or surmised) levels of latitudinal (adult or larval) mixing
- Notable differences in historical rates of exploitation
- Data continuity/consistency within defined stock areas
- Boundary consistency with coincidentally-caught/managed species

NOAA FISHERIES

# Questions?