

GMT Report on Ecosystem Component Species and their Fishery Mortality

Agenda Item E.6.a
GMT Report 1
June 2025

Sandpaper skate



Image courtesy of ODFW.

Pacific grenadier



Image courtesy of NOAA/UAF/Oceaneering.

Outline

Agenda Item E.6.a
GMT Report 1
June 2025

1. **Background**
2. Taxonomy & Distribution
3. Mortality Analysis

Background

Agenda Item E.6.a
GMT Report 1
June 2025

March 2025: Council motioned to consider EC species as part of Stock Definitions
Phase 2

Section 4.4.4 of the Pacific Coast Groundfish Fishery Management Plan:

“EC species do not require specification of reference points (i.e., OFLs, ABCs, and ACLs) but are monitored to the extent that any new pertinent scientific information becomes available (e.g., catch trends, vulnerability, etc.) to determine changes in their status or their vulnerability to the fishery.”

EC species should also not be targeted, overfished/subject to overfishing (or not likely to become so in the absence of management), and not generally retained for sale or personal use

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Agenda Item E.6.a
GMT Report 1
June 2025

Table 1. Groundfish species designated as Ecosystem Component Species in the FMP (Table 3-3 of Section 3.3).

Common Name	Scientific Name
Shortbelly rockfish	<i>Sebastes jordani</i>
Aleutian skate	<i>Bathyraja aleutica</i>
Bering/sandpaper skate	<i>B. interrupta</i>
California skate	<i>R. inornata</i>
Roughtail/black skate	<i>Bathyraja trachura</i>
All other skates	Endemic species in the family <i>Arhynchobatidae</i>
Pacific grenadier	<i>Coryphaenoides acrolepis</i>
Giant grenadier	<i>Albatrossia pectoralis</i>
All other grenadiers	Endemic species in the family <i>Macrouridae</i>
Finescale codling (aka Pacific flatnose)	<i>Antimora microlepis</i>
Ratfish	<i>Hydrolagus colliei</i>
Soupfin shark	<i>Galeorhinus zyopterus</i>

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Agenda Item E.6.a
GMT Report 1
June 2025

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Taxonomy & Distribution

Agenda Item E.6.a
GMT Report 1
June 2025

- Species not explicitly listed in Table 3- 3 but that fall under the two “endemic” groups:

- Family Arhynchobatidae (softnose skates)
 - Deepsea skate (*Bathyraja abyssicola*)
 - Fine- spined skate (*Bathyraja microtrachys*) - no GEMM recorded harvest
 - Sandpaper skate (*Bathyraja kincaidii*) - separate from Bering skate
 - White skate (*Bathyraja spinosissima*)
- Family Macrouridae (grenadiers)
 - Abyssal grenadier (*Coryphaenoides armatus*)
 - California grenadier (*Nezumia stelgidolepis*)
 - Filamented grenadier (*Coryphaenoides filifer*)
 - Ghostly grenadier (*Coryphaenoides leptolepis*)
 - Popeye grenadier (*Coryphaenoides cinereus*)
 - Shoulderspot grenadier (*Coelorinchus scaphopsis*)
 - Smooth grenadier (*Nezumia liolepis*)
 - Softhead grenadier (*Malacocephalus laevis*)
 - Yaquina grenadier (*Coryphaenoides yaquinae*)

Taxonomy & Distribution

Agenda Item E.6.a
GMT Report 1
June 2025

- GMT consulted 2017 NOAA Tech. Memo. on the list of fishes captured in the West Coast surveys, along with FishBase to fill any information gaps
- IUCN Statuses:
 - Least Concern = 12
 - Data Deficient = 1 (Pacific flatnose/finescale codling)
 - Critically Endangered = 1 (soupfin shark or “tope shark”)
 - Not Evaluated = 9
- No West Coast populations have vulnerability scores, but four species have low to moderate concern vulnerability scores off of Alaska:
 - Aleutian skate, Bering skate, roughtail/black skate, and deepsea skate

Taxonomy & Distribution

Agenda Item E.6.a
GMT Report 1
June 2025

- Distributions:

- Entire West Coast = 17
 - 2 species are rare north of California (California grenadier and smooth grenadier)
- Portions of the West Coast = 5
- Range does not extend into West Coast waters = 1 (Bering skate)
- Many EC species are deep-dwelling fishes; however some are found in waters as shallow as inshore bays or the intertidal zone
- *Table 2 in GMT Report 1 lists IUCN status, known distribution, and depth for each species*

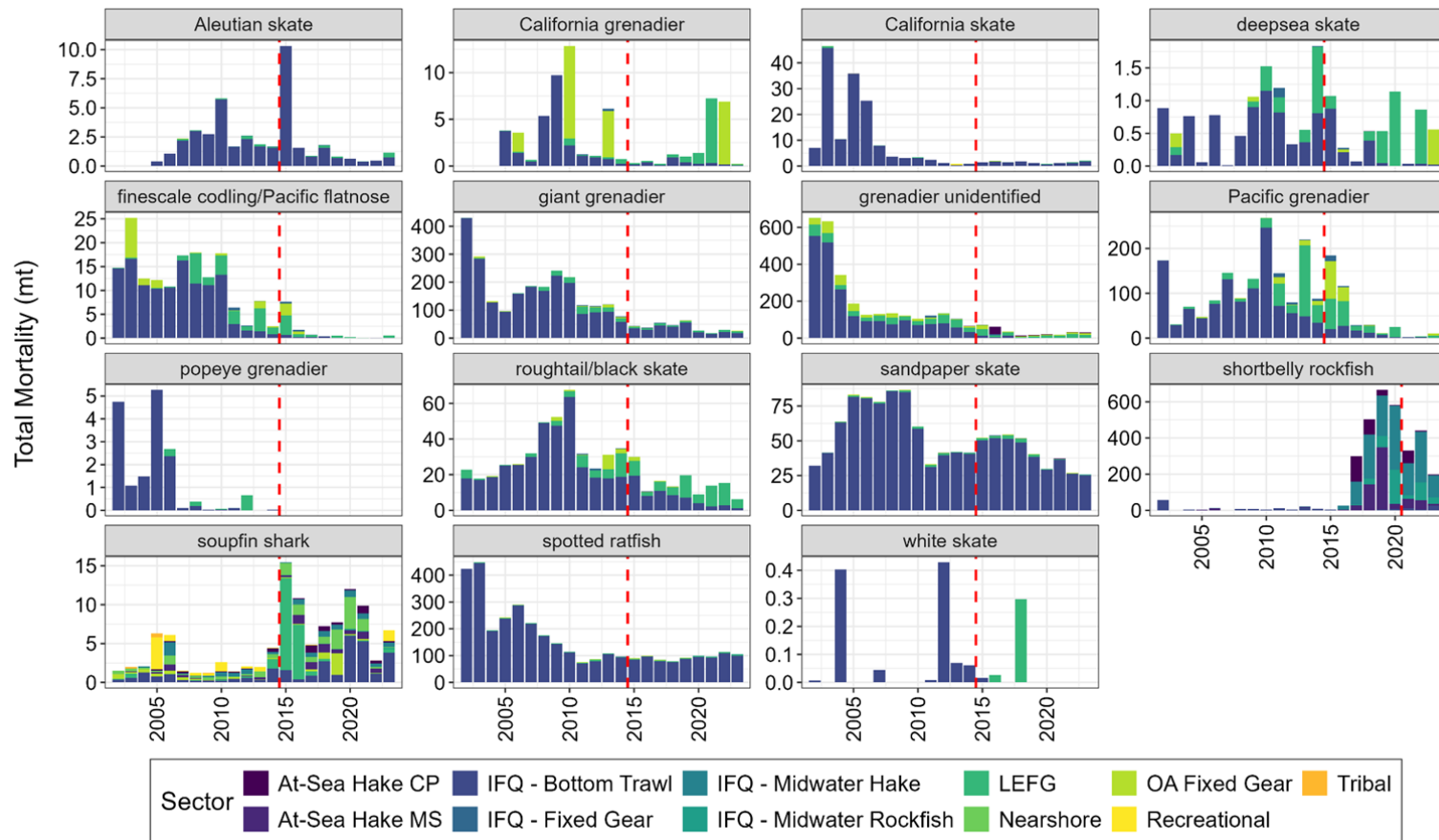
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Agenda Item E.6.a
GMT Report 1
June 2025

1. Background
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3. **Mortality Analysis**

Mortality Analysis - Total Mortality

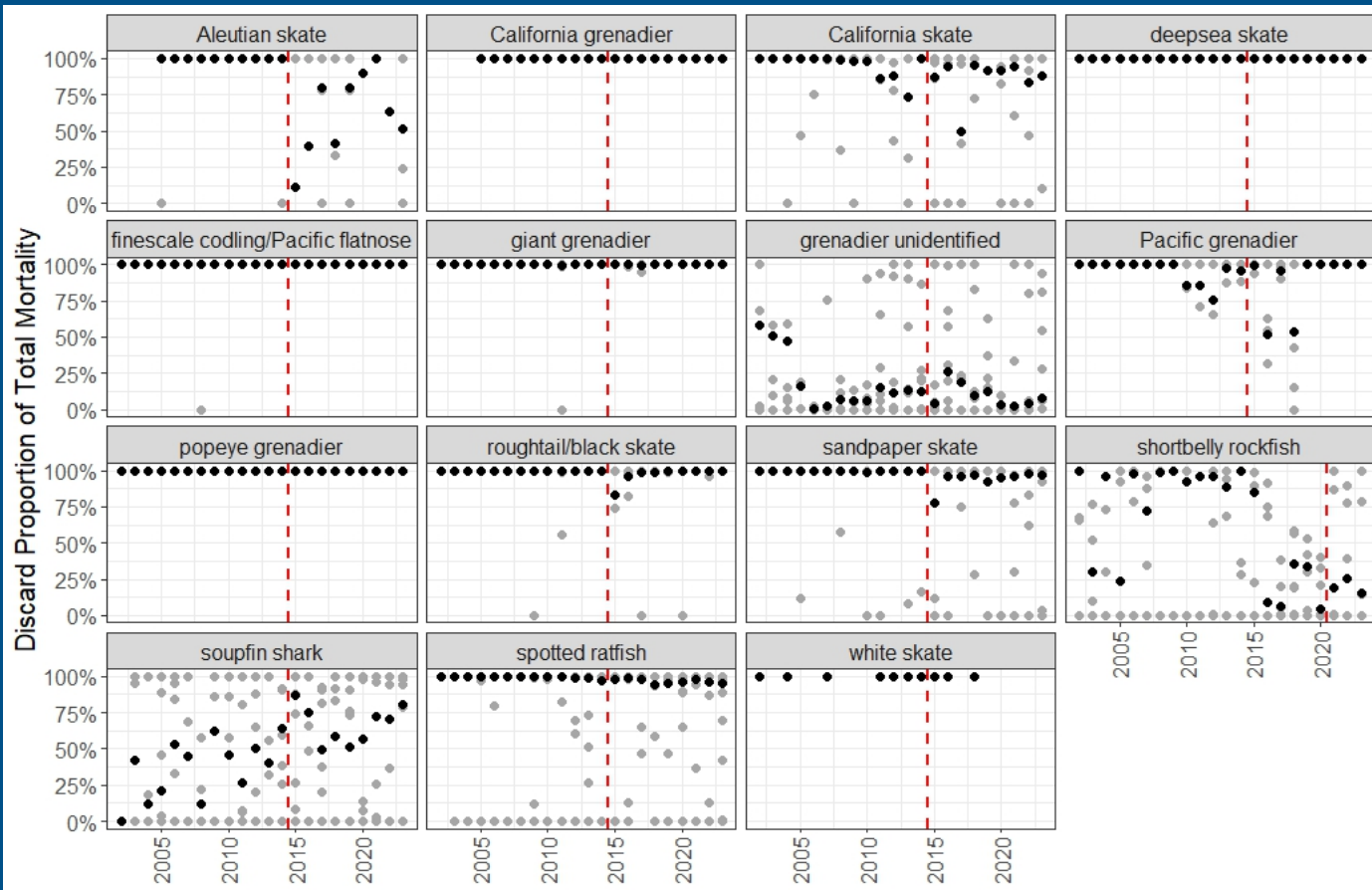
Agenda Item E.6.a
GMT Report 1
June 2025



- Annual mortality by sector for EC species with total mortality >1 mt between 2002 - 2023
- Sectors are color coded
- Red line shows the year of EC designation
- Mortality scales vary by species

Mortality Analysis - Discarding

Agenda Item E.6.a
GMT Report 1
June 2025



- Annual discard mortality as a proportion of total mortality for species with total mortality >1 mt between 2002 - 2023
- Gray dots are annual discard sector - level discards & black dots are averages across all sectors
- Red line shows the year of EC designation

Mortality Analysis - Trend

Shortbelly rockfish is the only species that increased after 2015 by more than 0.1 mt.

However, shortbelly was not an EC species until 2021.

Shortbelly mortality decreased by 55% when comparing 2017- 2020 to 2021- 2023

EC species	Change from 2002 - 2014 Avg. to 2015 - 2023 Avg. (mt)	% Change
Abyssal grenadier	- 0.1	- 100%
Aleutian skate	- 0.3	- 13%
Bering skate	0.0	- 47%
Roughtail/black skate	- 18.0	- 54%
California grenadier	- 2.3	- 52%
California skate	- 1.4	- 5%
Deepsea skate	- 0.2	- 22%
Filamented grenadier	0.0	196%
Ghostly grenadier	0.0	- 94%
Giant grenadier	- 142.4	- 78%
Finescale codling/Pacific flatnose	- 11.0	- 88%
Pacific grenadier	- 72.3	- 59%
Popeye grenadier	- 1.3	- 100%
Sandpaper skate	- 17.6	- 29%
Shortbelly rockfish ^{a/}	329.6	2,331%
Shoulderspot grenadier	0.0	- 97%
Smooth grenadier	0.0	20%
Softhead grenadier	0.0	64%
Soupfin shark	- 0.3	- 2%
Spotted ratfish	- 110.1	- 53%
White skate	0.0	- 12%
Yaquina/rough abyssal grenadier	0.0	- 100%

Mortality Analysis - Sectors

Agenda Item E.6.a
GMT Report 1
June 2025

- Majority of mortality from the IFQ bottom trawl sector, followed by LEFG
 - EC species are discarded at high rates in these sectors, with a few species-specific exceptions
- Soupfin shark & spotted ratfish were the only two species caught in every groundfish sector since 2015
- While soupfin shark saw an overall decline in mortality of 2 percent, mortality increased when examining directed groundfish sectors only
- Shortbelly rockfish & sandpaper skate were caught in all but two groundfish sectors since 2015
- IFQ midwater hake and Tribal shoreside whiting sectors are maximized/full retention, so they exhibit low EC discard rates compared to other sectors
- Discard proportions for the IFQ midwater rockfish, Open Access, nearshore, and recreational sectors varied widely depending on the species



Questions?