

GOA Skate Stock Complex Update

Lee Cronin-Fine



September, 2026, Presentation to the GOA Groundfish Plan Team



Assessment Groups

Longnose Skate



Big Skate



Other Skates



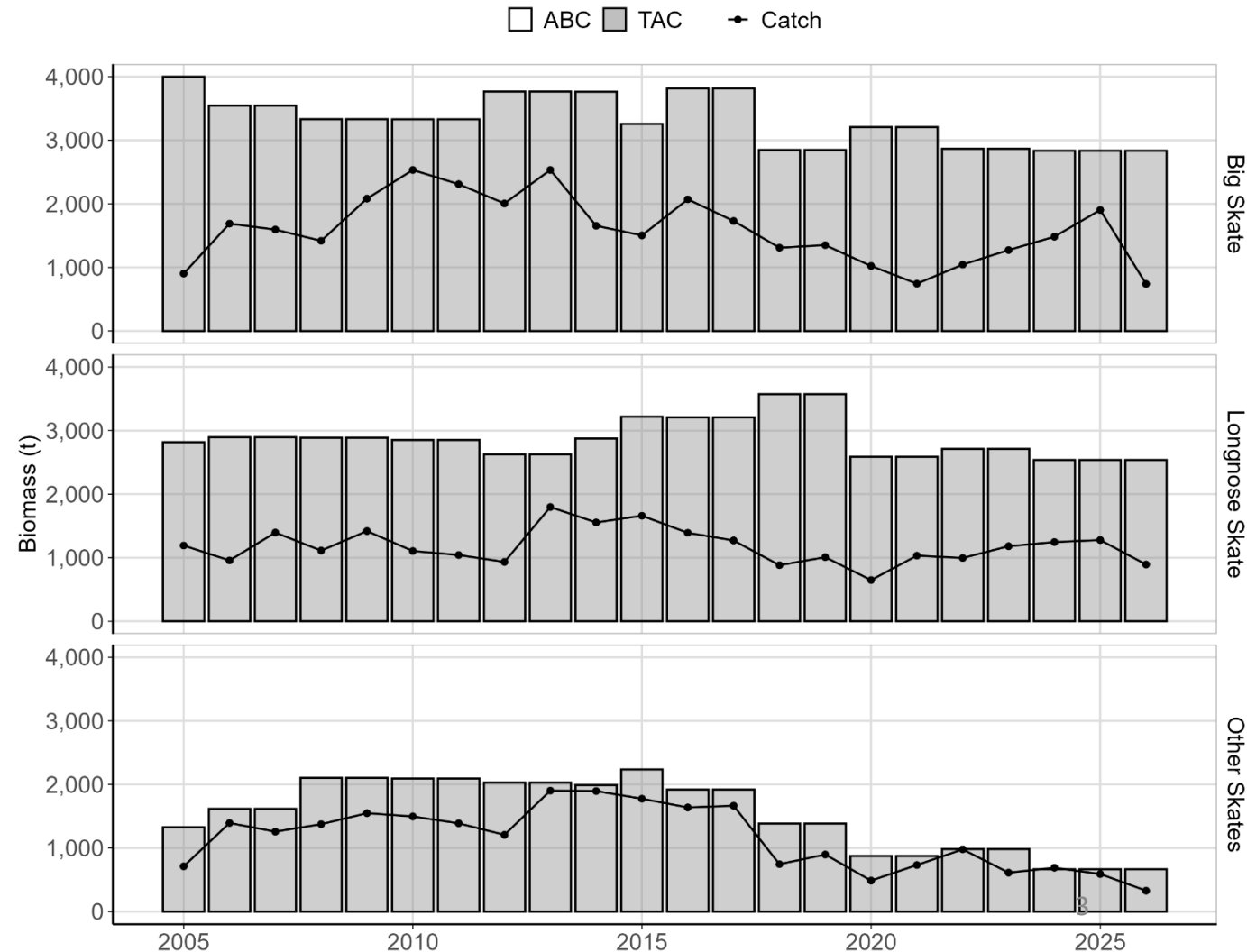
Stock Complex Overview

- Tier 5

2025

Group	OFL (t)	ABC (t)	Catch (t)
Big	3,780	2,835	1,903
Longnose	3,380	2,536	1,278
Other	887	665	591

No Overfishing in 2025



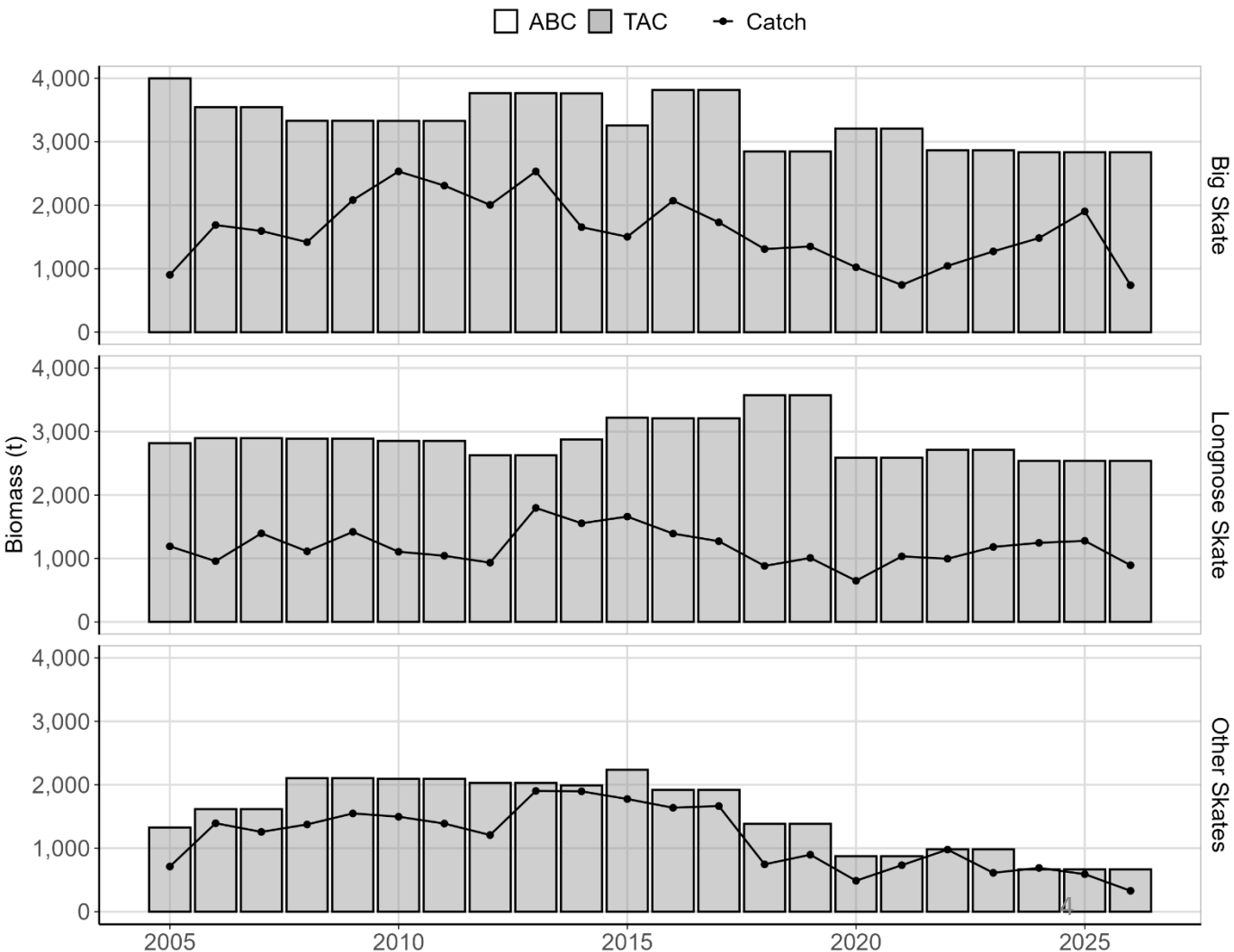
Stock Complex Overview

- Tier 5

2026

Group	OFL (t)	ABC (t)	Catch (t)*
Big	3,780	2,835	740
Longnose	3,380	2,536	893
Other	887	665	329

*As of August 19th, 2026

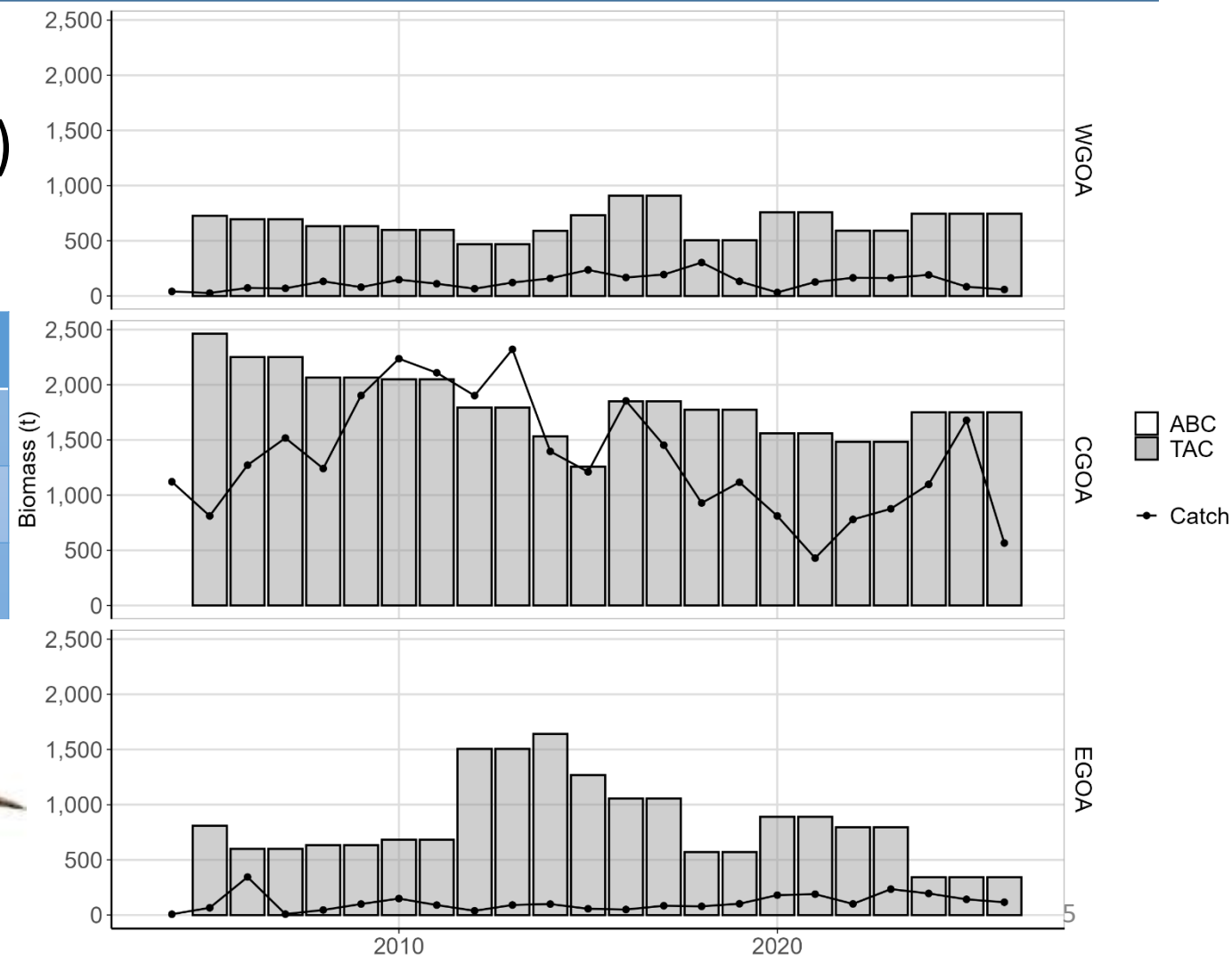


Big Skate Area Overview

- Biologically informed recommended distributions (BRDs)

2025

Area	ABC (t)	TAC (t)	Catch (t)
WGOA	745	745	83
CGOA	1,749	1,749	1,678
EGOA	341	341	142



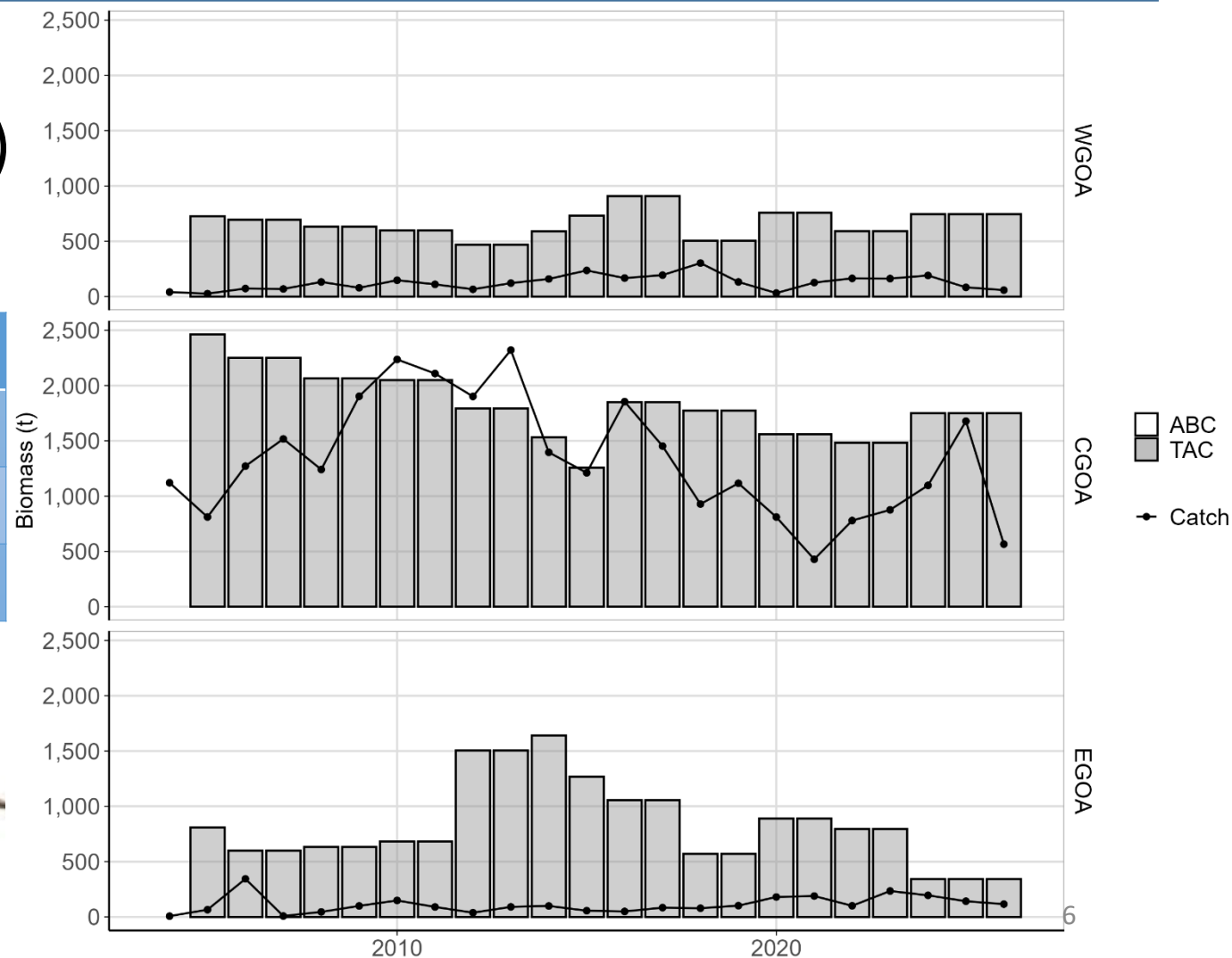
Big Skate Area Overview

- Biologically informed recommended distributions (BRDs)

2026

Area	ABC (t)	TAC (t)	Catch (t)*
WGOA	745	745	58
CGOA	1,749	1,749	566
EGOA	341	341	116

*As of August 19th, 2026

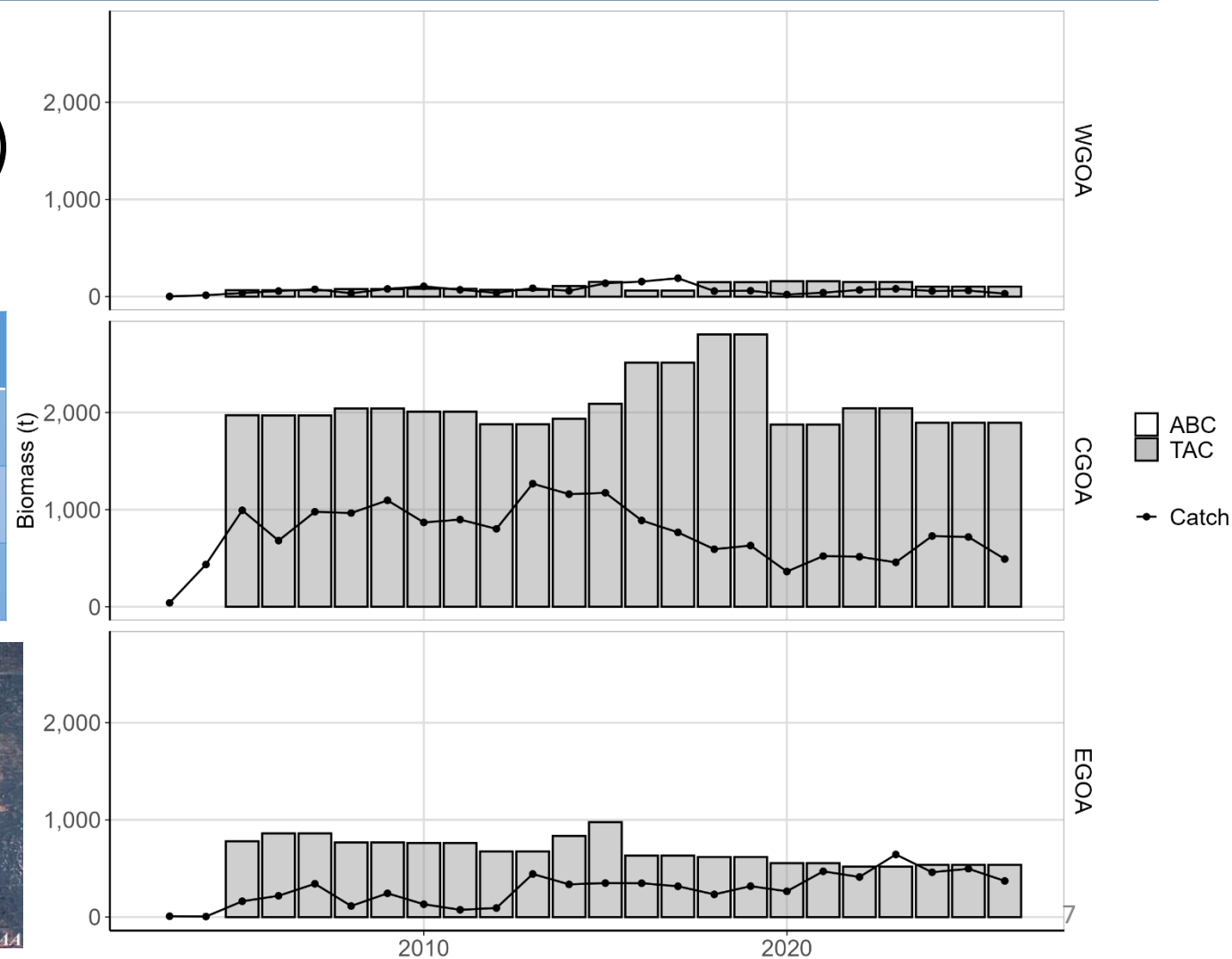


Longnose Skate Area Overview

- Biologically informed recommended distributions (BRDs)

2025

Area	ABC (t)	TAC (t)	Catch (t)
WGOA	104	104	62
CGOA	1,894	1,894	719
EGOA	538	538	497



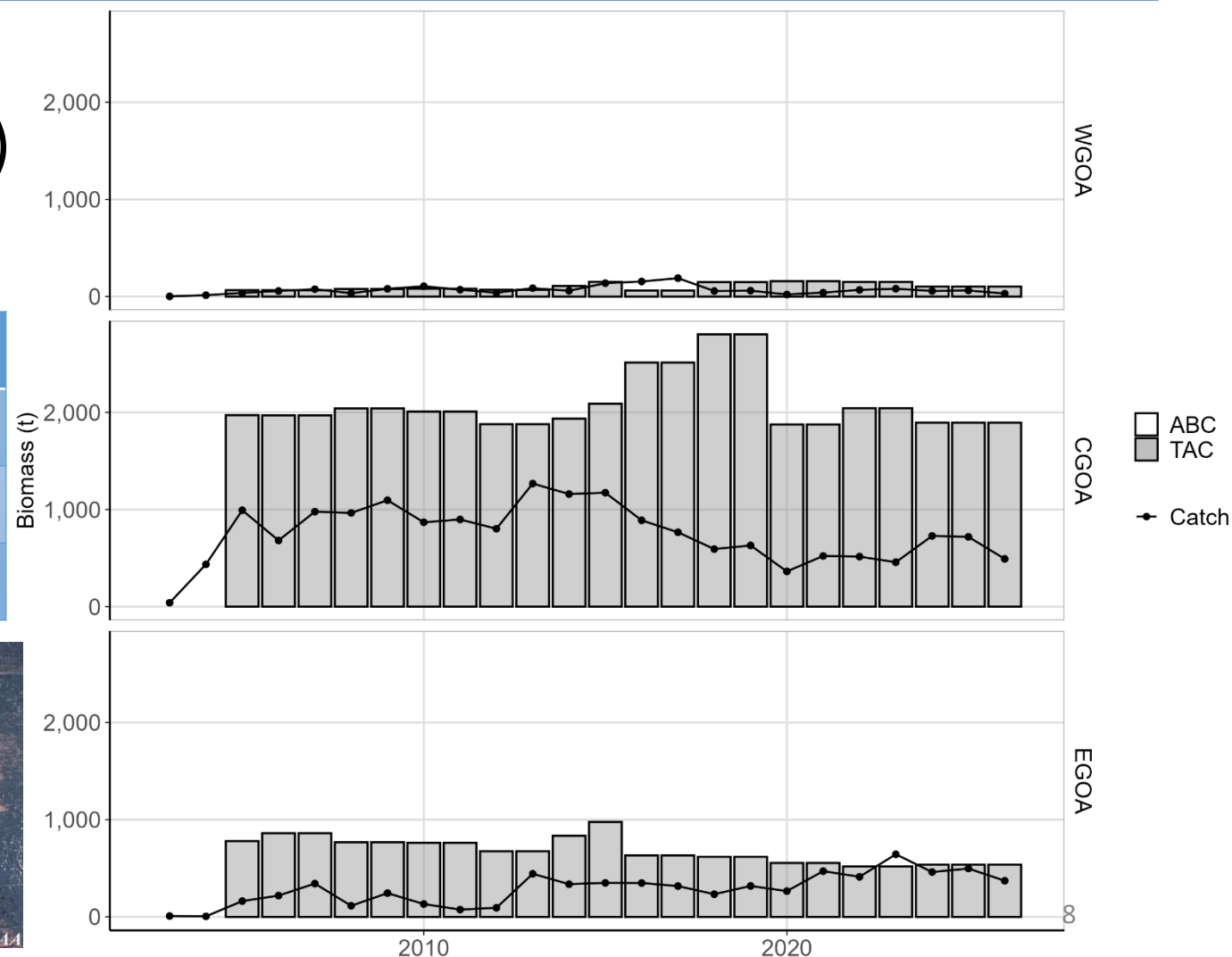
Longnose Skate Area Overview

- Biologically informed recommended distributions (BRDs)

2026

Area	ABC (t)	TAC (t)	Catch (t)*
WGOA	104	104	30
CGOA	1,894	1,894	492
EGOA	538	538	371

*As of August 19th, 2026



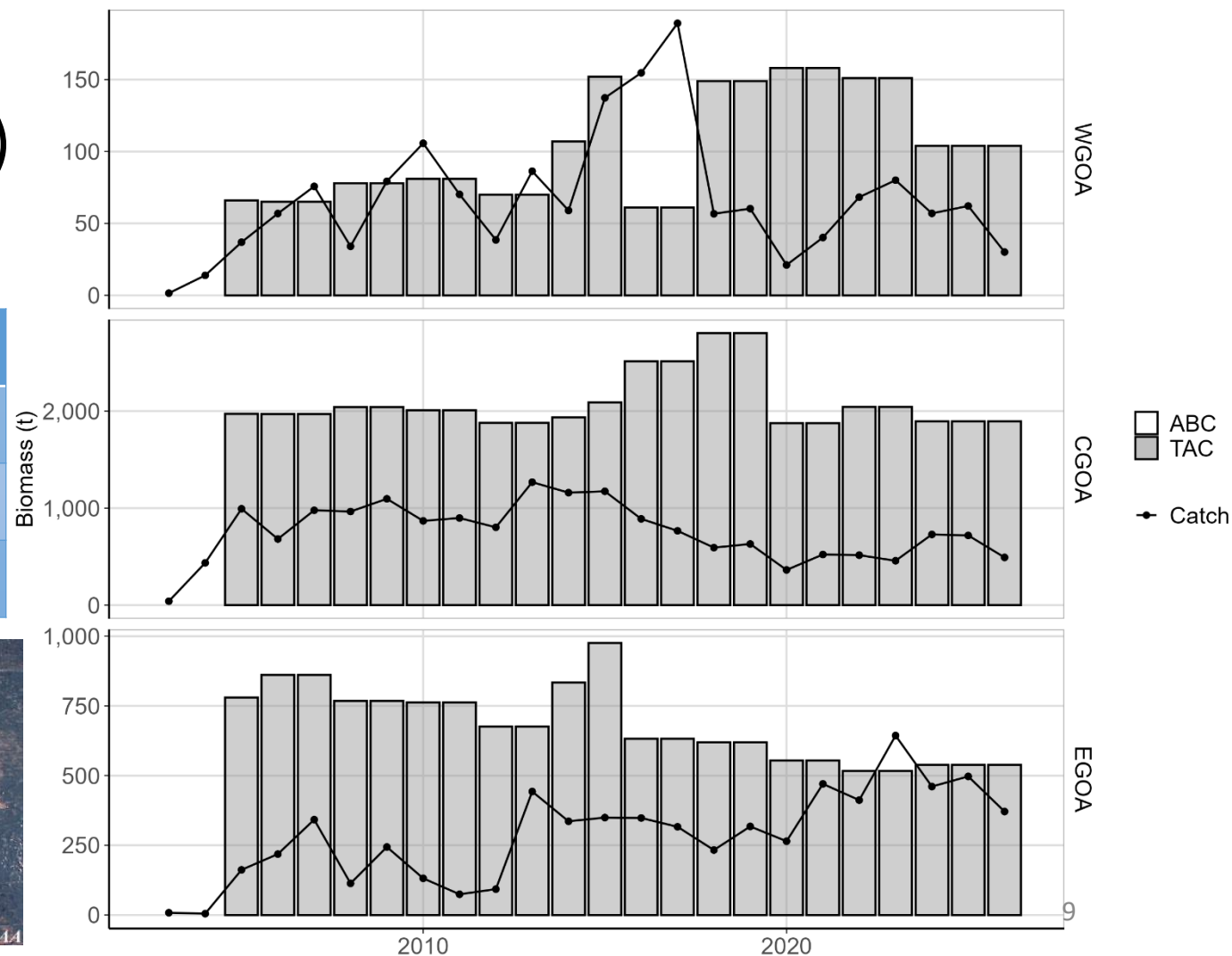
Longnose Skate Area Overview

- Biologically informed recommended distributions (BRDs)

2026

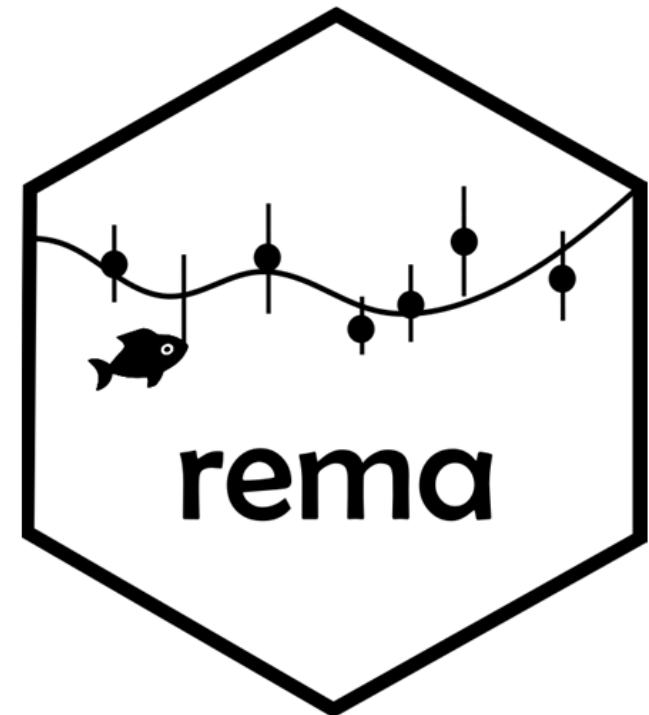
Area	ABC (t)	TAC (t)	Catch (t)*
WGOA	104	104	30
CGOA	1,894	1,894	492
EGOA	538	538	371

*As of August 19th, 2026



Analytical Approach

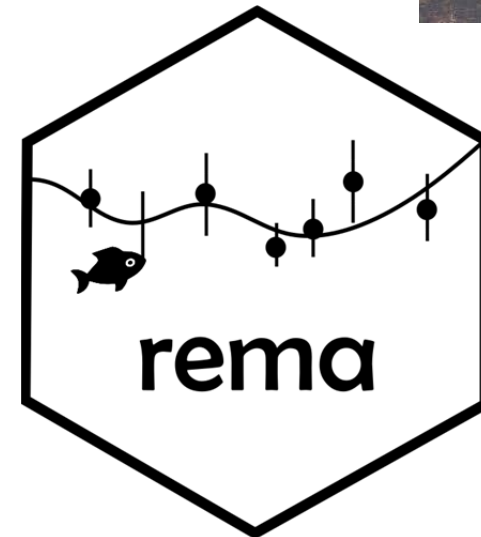
- Update Assessment
- Random Effects (RE) model
 - $M = 0.1$
- Updated Data
 - Catch (2025-2026 as of August 19th)
 - Survey Biomass Estimate from AFSC bottom trawl survey for 2025.



Analytical Approach

- Single Gulf wide RE model

Other Skates



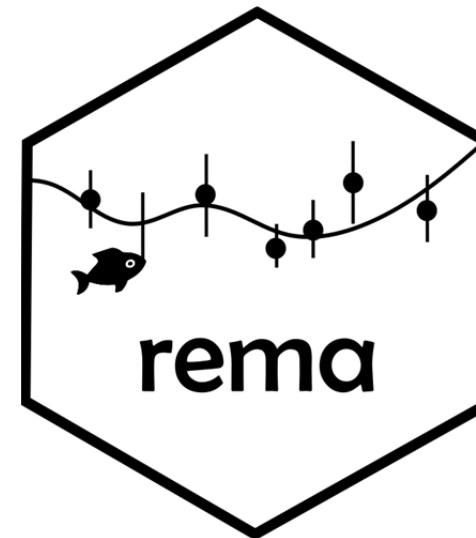
Analytical Approach

- Single Gulf wide RE model
 - Other Skates
- Two Models
 - Gulf wide RE model
 - Area-specific multivariate version of the RE model (REM)

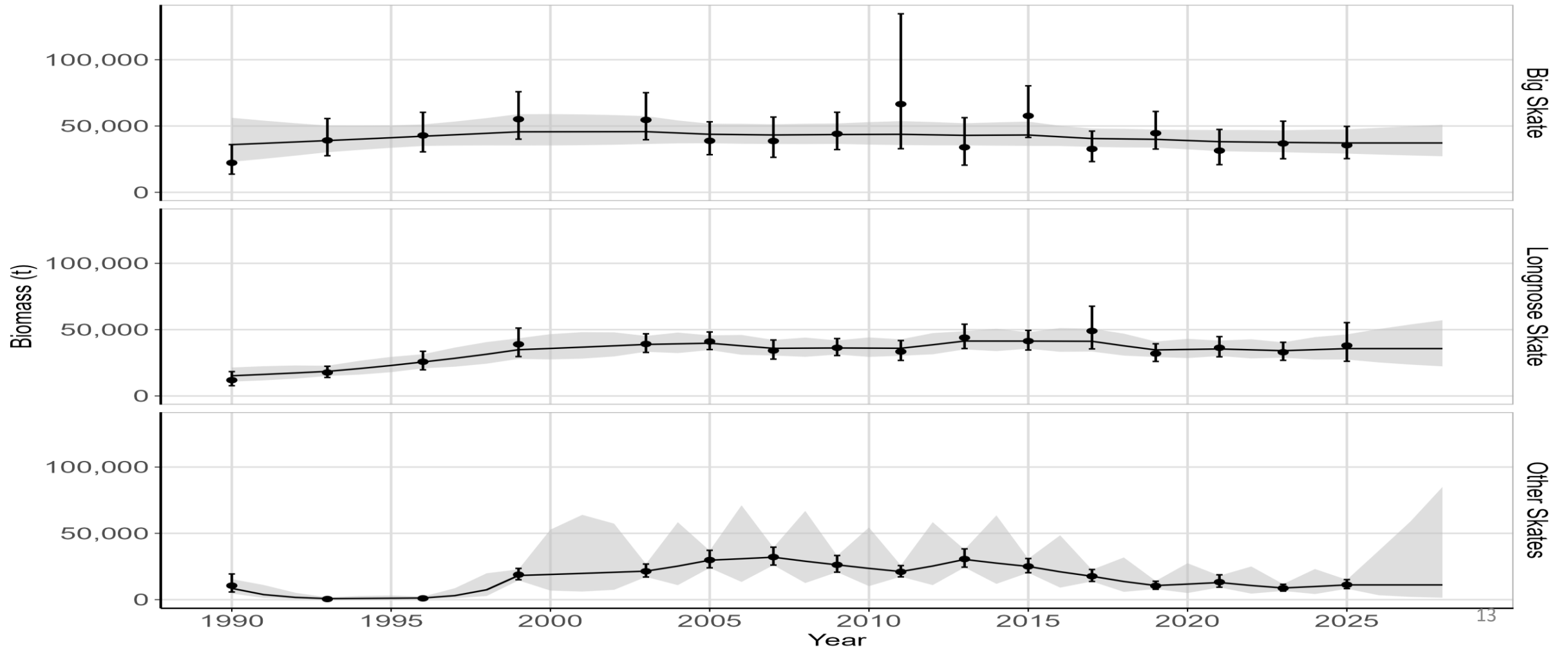
Big Skate



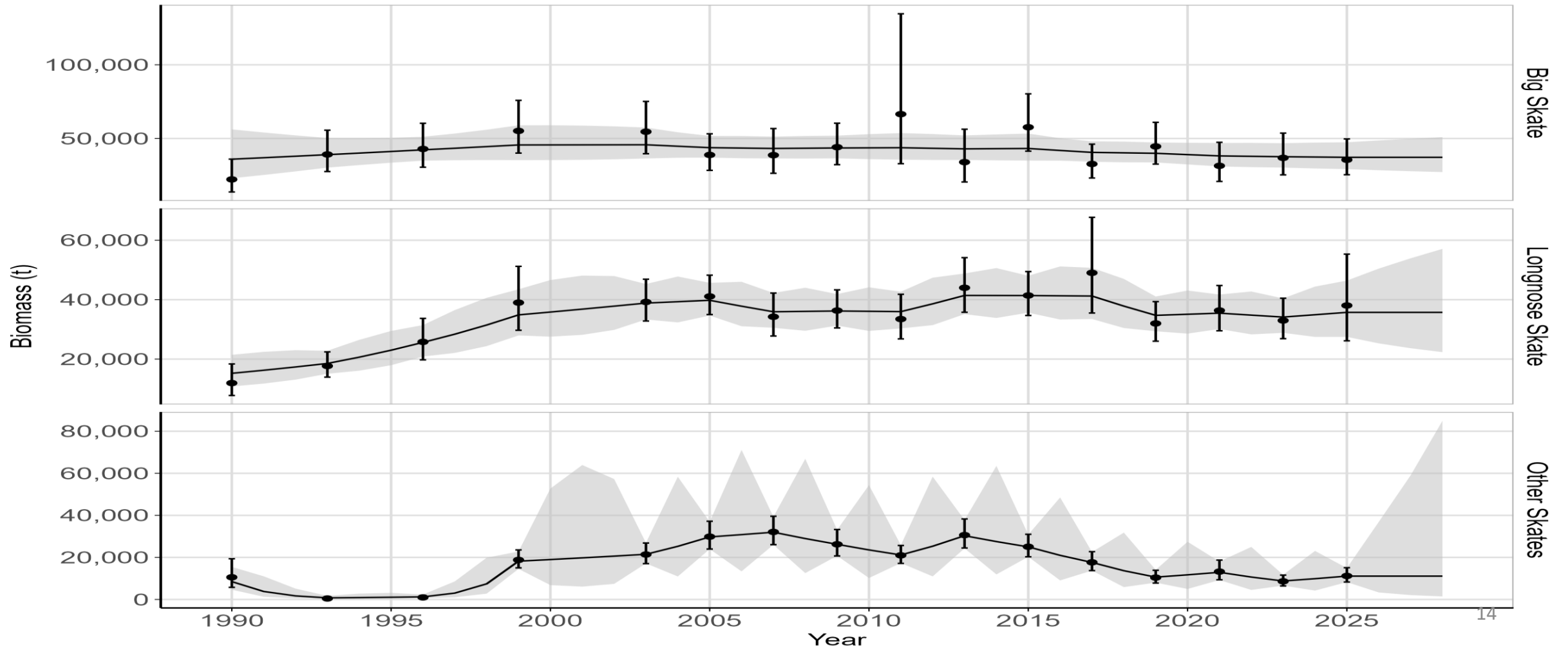
Longnose Skate



Gulf-wide RE model

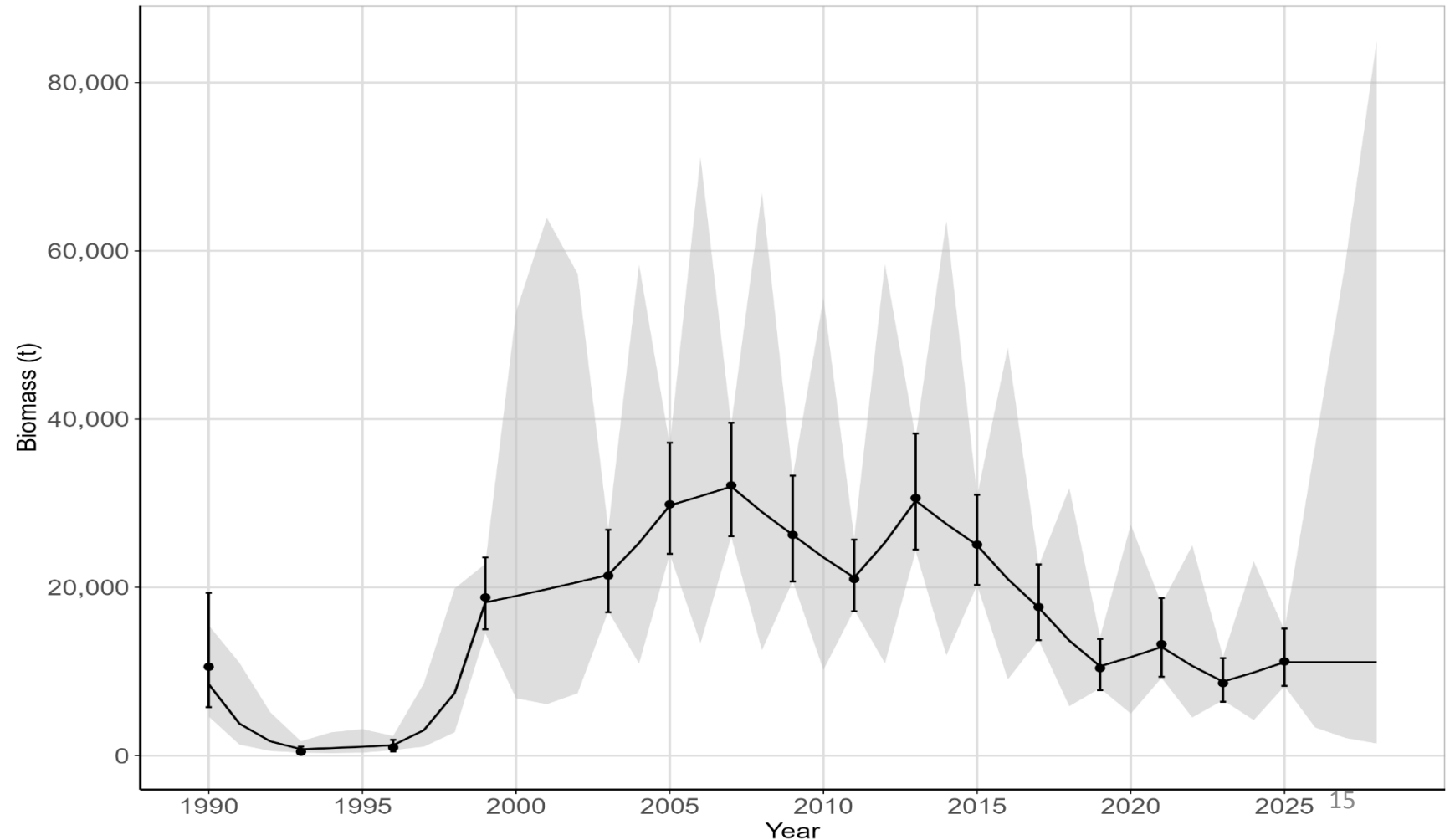


Gulf-wide RE model



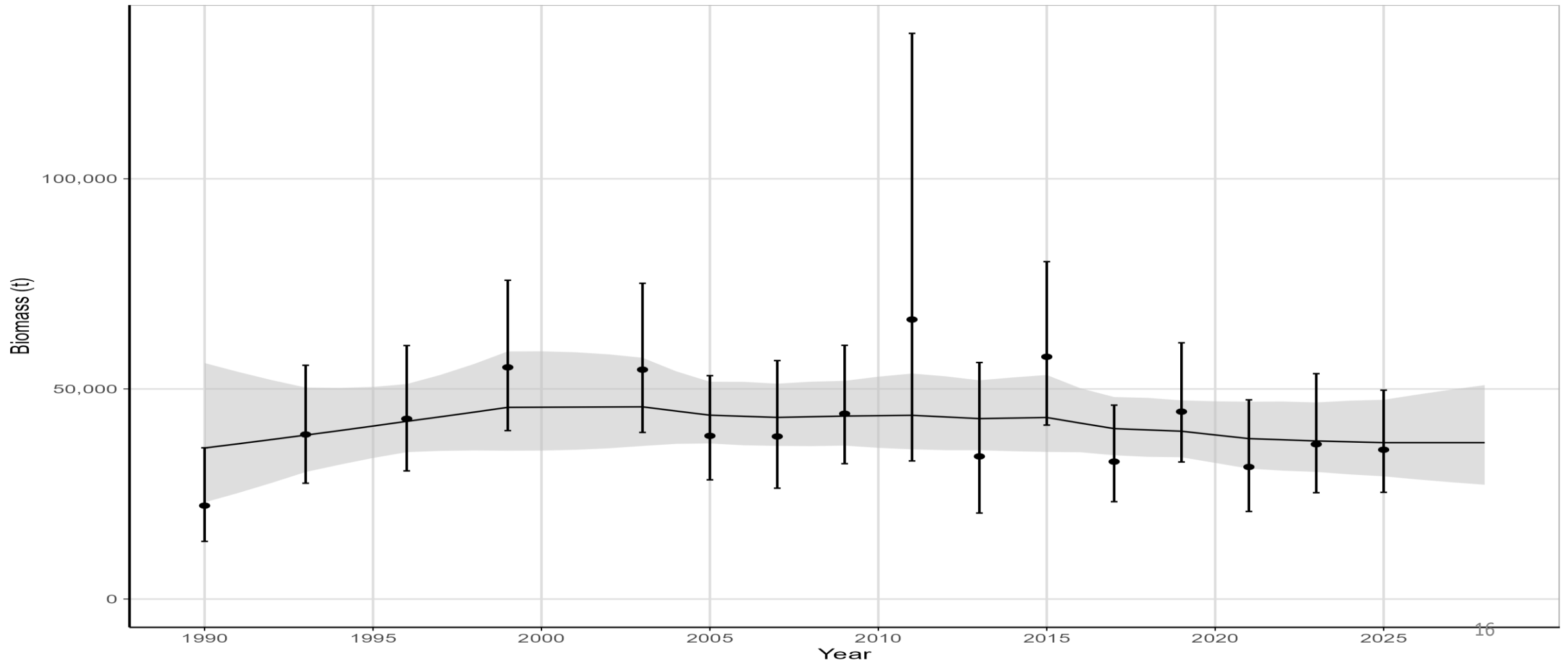
Gulf-wide Other Skate RE model

Other Skates

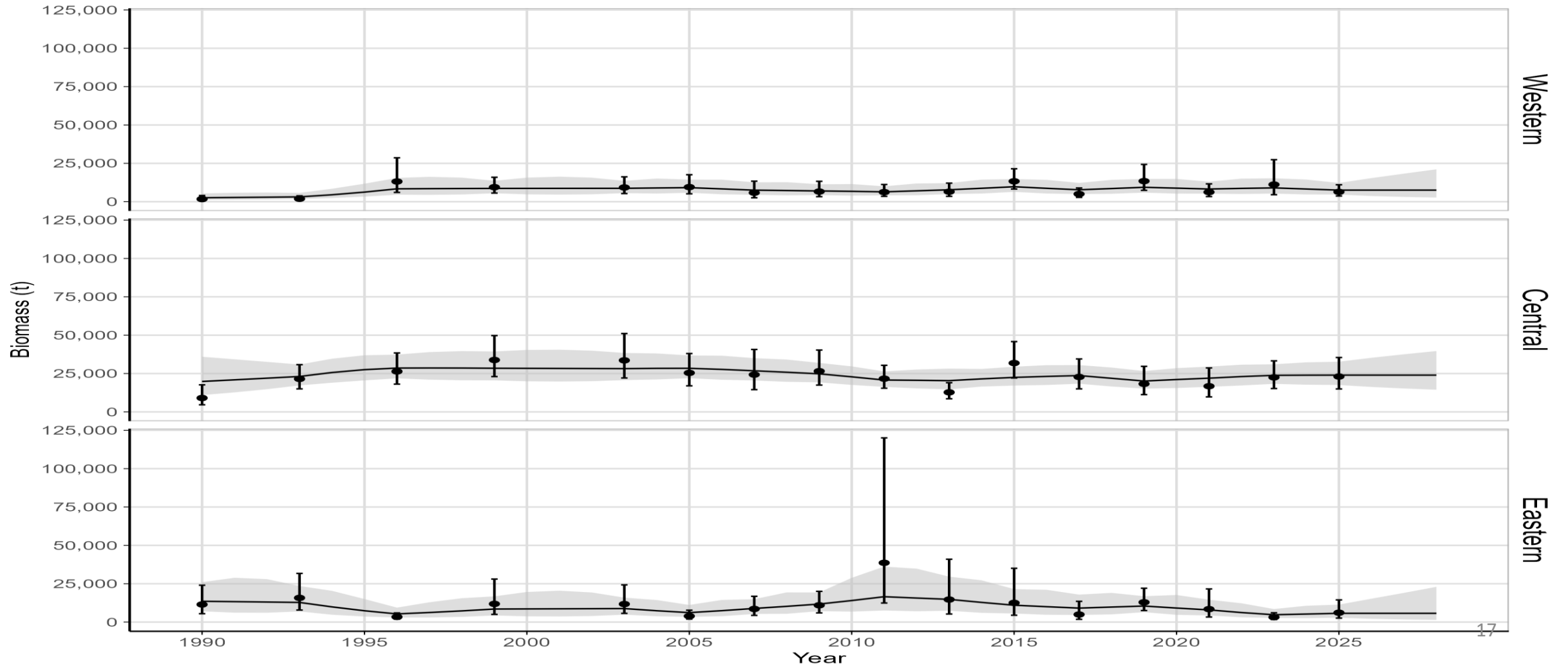


2025 Estimated
Biomass increased
by 29.9% from 2023

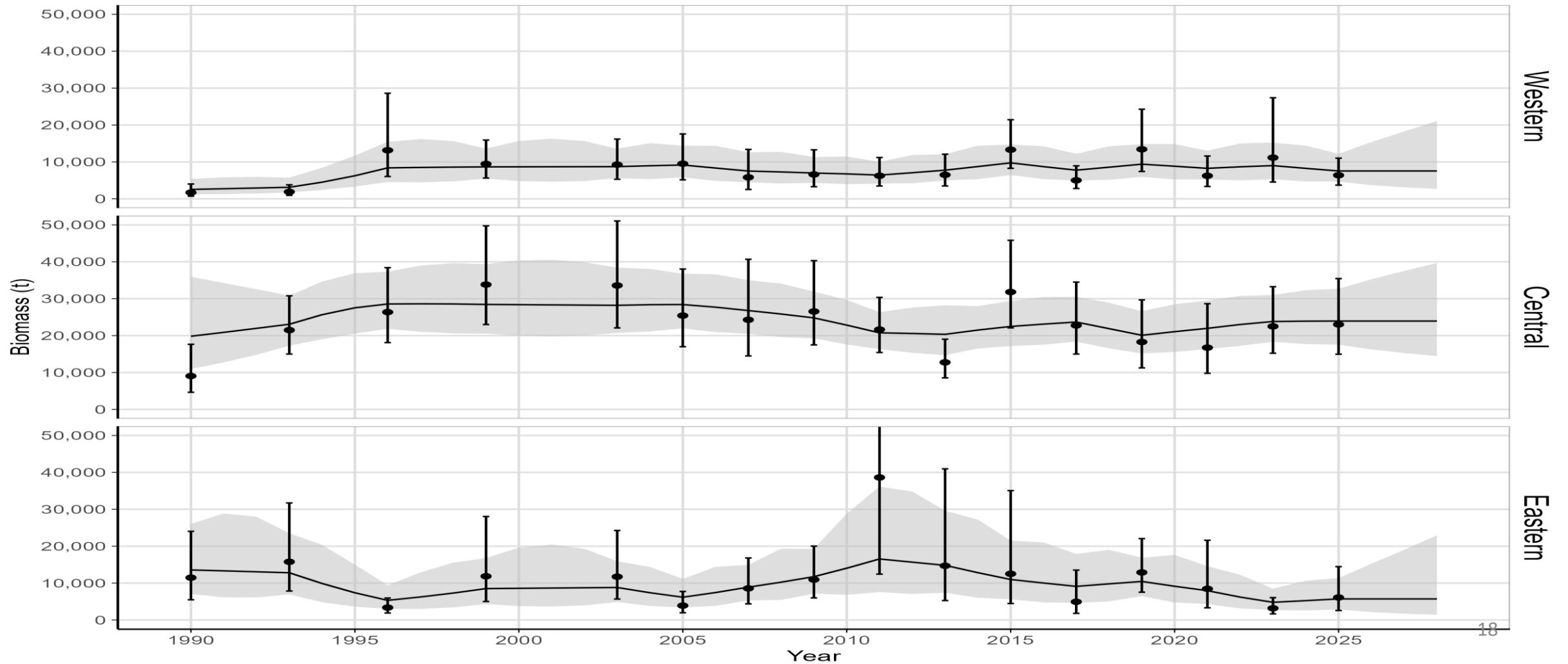
Gulf-wide Big Skate RE model



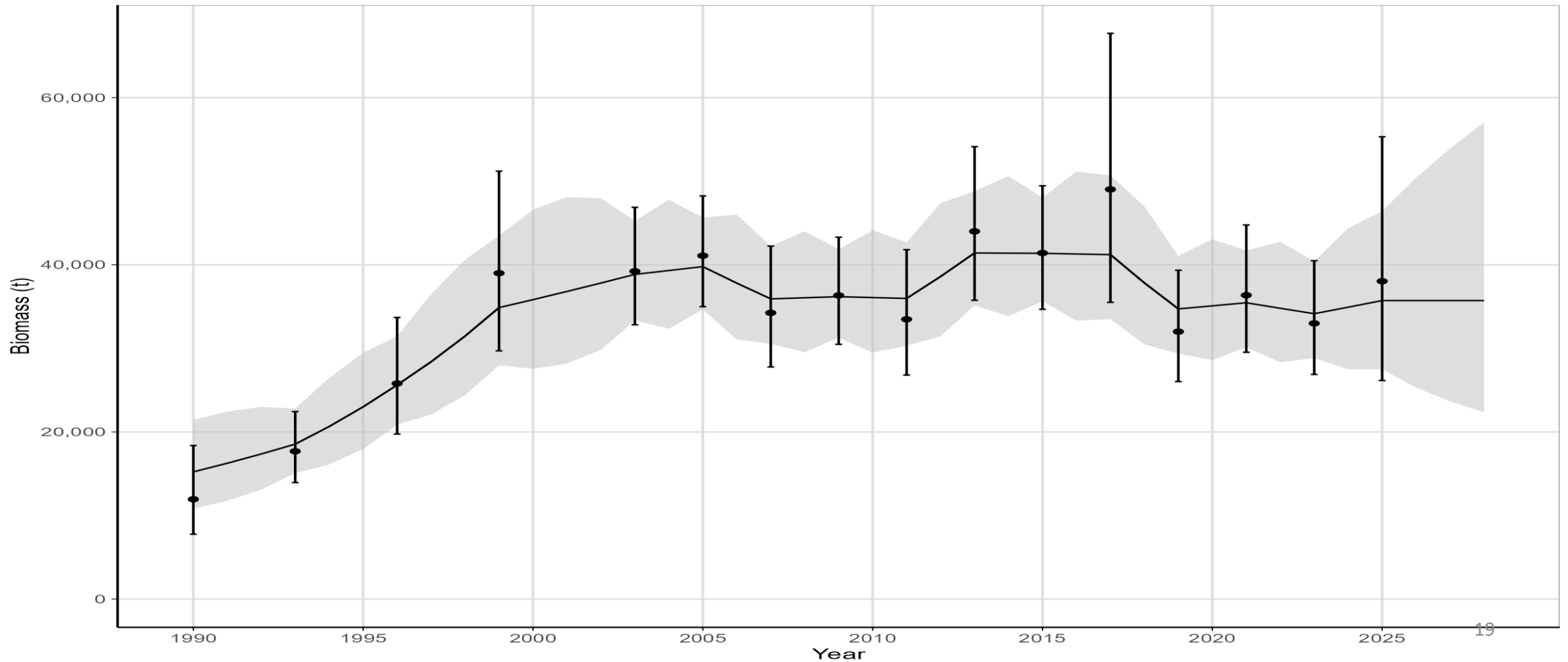
Big Skate Area REM



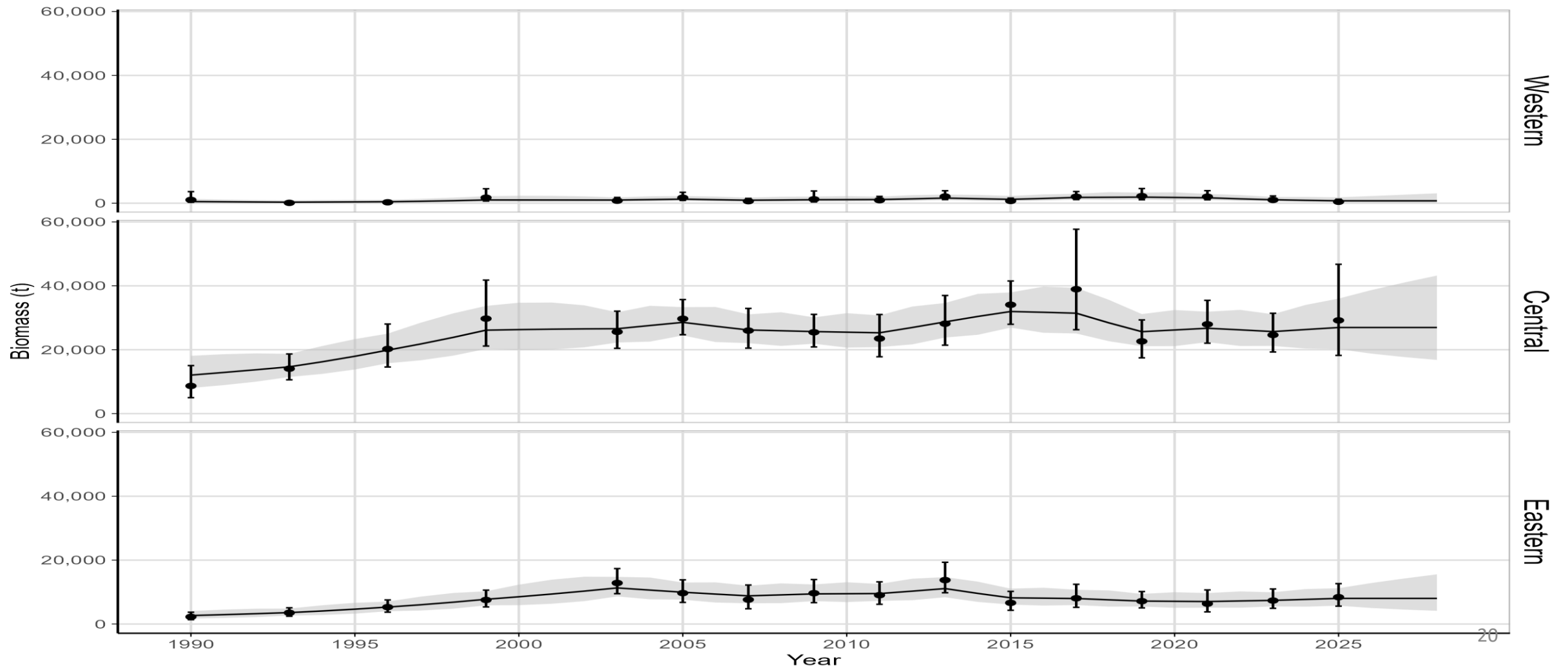
Big Skate Area REM



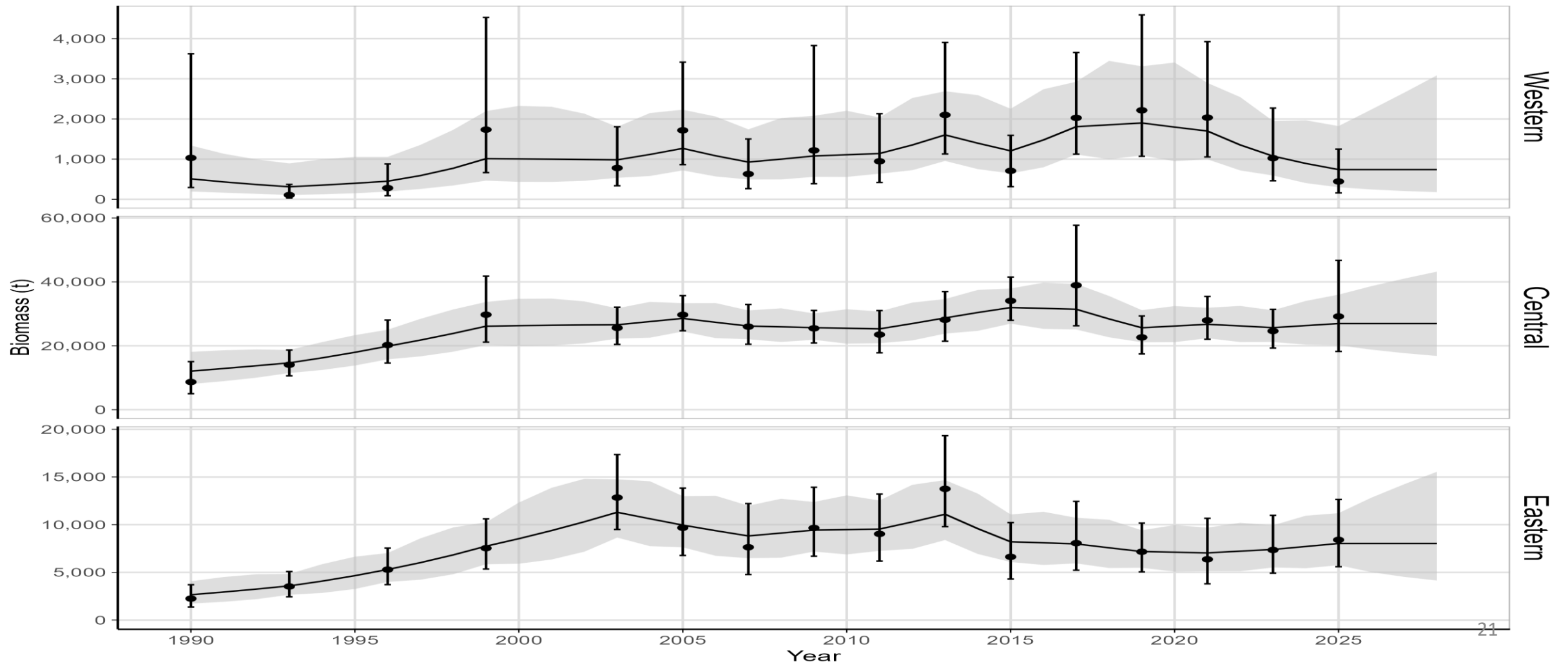
Gulf-wide Longnose Skate RE model



Longnose Skate Area REM



Longnose Skate Area REM



Risk Table Summary

<i>Assessment-related considerations</i>	<i>Population dynamics considerations</i>	<i>Environmental/ecosystem considerations</i>	<i>Fishery Performance</i>
Level 1: No Concern	Level 1: No Concern	Level 1: No Concern	Level 1: No Concern

Big Skate Harvest Recommendations

- Tier 5
- OFL = 3,721 t
- ABC = maxABC = 2,791 t
- BRD – W = 567 t
- BRD – C = 1,796 t
- BRD – E = 428 t

Big skate (<i>Beringraja binoculata</i>)					
Quantity		As estimated or specified last year for:		As estimated or recommended this year for:	
		2024	2025	2027	2028
<i>M</i> (natural mortality rate)		0.1	0.1	0.1	0.1
Tier		5	5	5	5
Biomass (t)	W	9,934	9,934	7,556	7,556
	C	23,325	23,325	23,945	23,945
	E	4,544	4,544	5,711	5,711
	GOA Wide	37,802	37,802	37,212	37,212
<i>F</i> _{OFL}		0.1	0.1	0.1	0.1
<i>maxF</i> _{ABC}		0.075	0.075	0.075	0.075
<i>F</i> _{ABC}		0.075	0.075	0.075	0.075
OFL (t)	GOA Wide	3,780	3,780	3,721	3,721
<i>maxABC</i> (t)	GOA Wide	2,835	2,835	2,791	2,791
ABC (t)	GOA Wide	2,835	2,835	2,791	2,791
BRD (t)	W	745	745	567	567
	C	1,749	1,749	1,796	1,796
	E	341	341	428	428
		As determined last full assessment for:		As determined this year for:	
Status		2022	2023	2025	2026
Overfishing?		No	n/a	No	n/a

Longnose Skate Harvest Recommendations

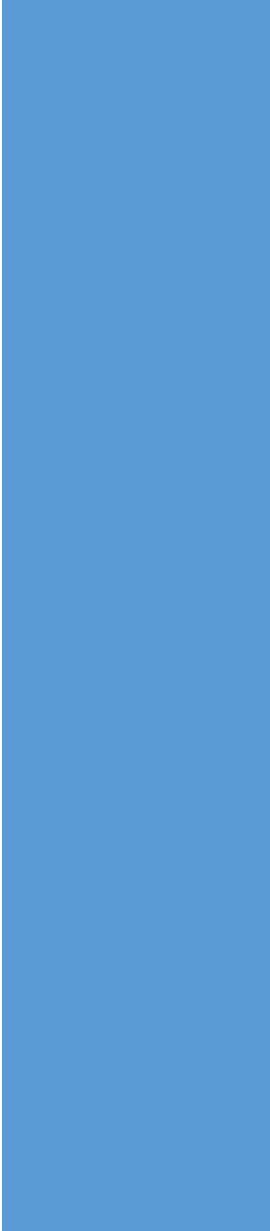
- Tier 5
- OFL = 3,572 t
- ABC = maxABC = 2,678 t
- BRD – W = 55 t
- BRD – C = 2,021 t
- BRD – E = 602 t

Longnose skate (<i>Raja rhina</i>)					
Quantity		As estimated or specified last year for:		As estimated or recommended this year for:	
		2024	2025	2027	2028
<i>M</i> (natural mortality rate)		0.1	0.1	0.1	0.1
Tier		5	5	5	5
Biomass (t)	W	1,384	1,384	740	740
	C	25,249	25,249	26,953	26,953
	E	7,172	7,172	8,029	8,029
	GOA Wide	33,804	33,804	35,721	35,721
<i>F_{OFL}</i>		0.1	0.1	0.1	0.1
<i>maxF_{ABC}</i>		0.075	0.075	0.075	0.075
<i>F_{ABC}</i>		0.075	0.075	0.075	0.075
OFL (t)	GOA Wide	3,380	3,380	3,572	3,572
<i>maxABC</i> (t)	GOA Wide	2,536	2,536	2,678	2,678
ABC (t)	GOA Wide	2,536	2,536	2,678	2,678
BRD (t)	W	104	104	55	55
	C	1,894	1,894	2,021	2,021
	E	538	538	602	602
		As determined last full assessment for:		As determined this year for:	
Status		2022	2023	2025	2026
Overfishing?		No	n/a	No	n/a

Other Skate Harvest Recommendations

- Tier 5
- OFL = 1,111 t
- ABC = maxABC = 833 t

Other skates (<i>Bathyraja</i>)				
	As estimated or specified last year for:		As estimated or recommended this year for:	
Quantity	2024	2025	2027	2028
<i>M</i> (natural mortality rate)	0.1	0.1	0.1	0.1
Tier	5	5	5	5
Biomass (t)	8,673	8,673	11,106	11,106
<i>F</i> _{OFL}	0.1	0.1	0.1	0.1
<i>maxF</i> _{ABC}	0.075	0.075	0.075	0.075
<i>F</i> _{ABC}	0.075	0.075	0.075	0.075
OFL (t)	867	867	1,111	1,111
<i>maxABC</i> (t)	650	650	833	833
ABC (t)	650	650	833	833
	As determined last full assessment for:		As determined this year for:	
Status	2022	2023	2025	2026
Overfishing?	No	n/a	No	n/a



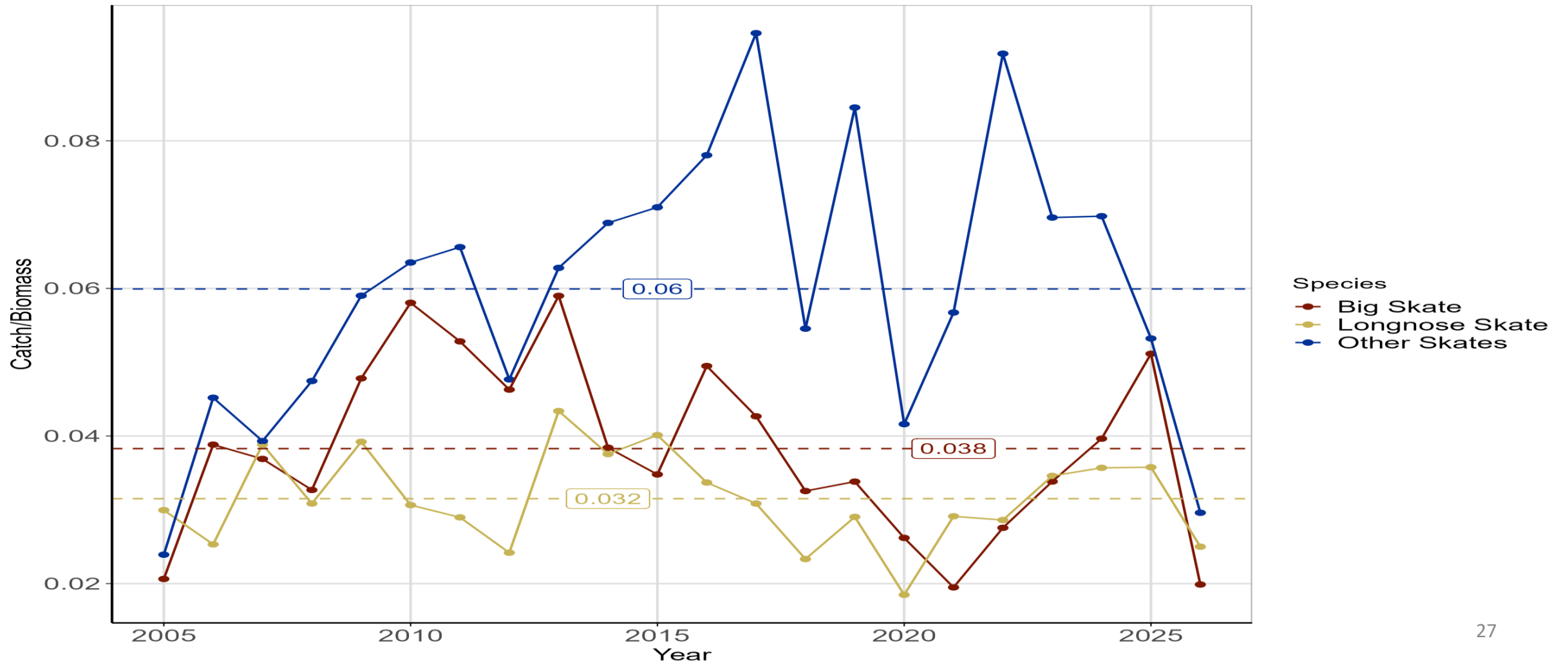
QUESTIONS?



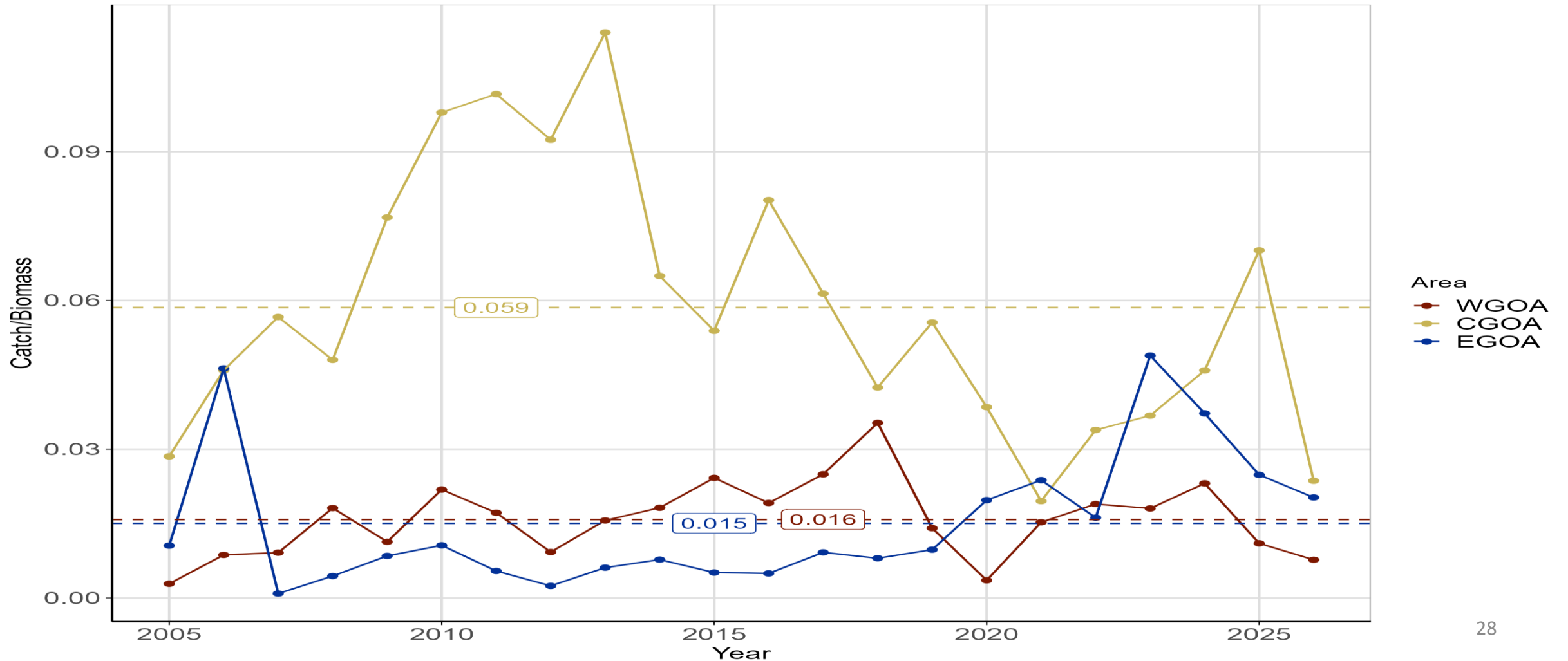
Contact:

LEE.CRONIN-FINE@NOAA.GOV

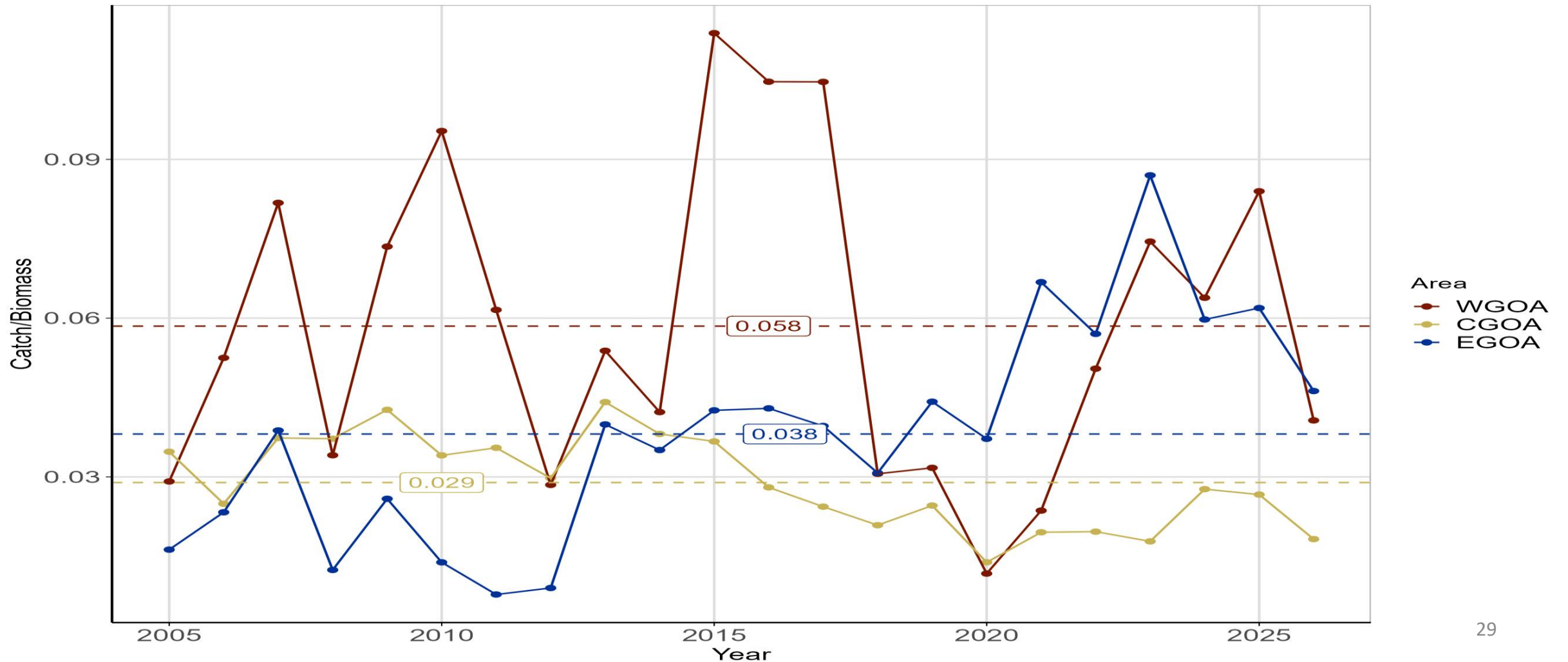
Gulf-wide Exploitation Rate (Catch/Biomass)



Big Skate Area Exploitation Rate (Catch/Biomass)



Longnose Skate Area Exploitation Rate (Catch/Biomass)



Projected Catch

Big Skate	Current Catch	Projected Catch	OFL	ABC	TAC
GOA-wide	740	1,119	3,780	2,835	2,835
Western	58	119		745	745
Central	566	834		1,749	1,749
Eastern	116	167		341	341

Longnose Skate	Current Catch	Projected Catch	OFL	ABC	TAC
GOA-wide	893	1,208	3,380	2,536	2,536
Western	30	66		104	104
Central	492	670		1,894	1,894
Eastern	371	472		538	538

Other Skates	Current Catch	Projected Catch	OFL	ABC	TAC
GOA-wide	329	675	887	665	665