Gulf of Alaska Groundfish Summaries to be included in November 2026 Introduction to the SAFE

September 2026

4. Shallow-water flatfish

Status and catch specifications (t) of shallow-water flatfish and projections for 2027 and 2028. The shallow-water flatfish (SWF) complex comprises Alaska plaice, butter sole, English sole, sand sole, starry flounder, yellowfin sole, northern rock sole, and southern rock sole. The OFLs and ABCs for 2027 and 2028 are those recommended by the Plan Team. Catch data are current through September 8, 2026.

Year	Biomass	OFL	ABC	TAC	Catch
2025	454,847	69,277	56,559	46,054	2,209
2026	455,146	69,610	56,910	46,258	1,570
2027	448,887	69,206	56,519		
2028	446,886	68,867	56,236		

Changes from the previous assessment

The shallow-water flatfish stock complex is assessed on a four-year schedule. The last full assessment was conducted in 2021. This year, the authors presented a harvest projection. Northern and southern rock sole are Tier 3a species and assessed separately from the other shallow water flatfish, which are Tier 5. This year's harvest projection includes results from the projection model for northern and southern rock sole, and results from the random effects model from the last operational assessment for the Tier 5 species. A full stock assessment document with assessment and projection model results is expected to be presented in November 2027.

Spawning biomass and stock trends

Survey biomass trends vary by species. Estimates for Alaska plaice, butter sole, starry flounder, and southern rock sole have been highly variable with no apparent trend. English sole survey biomass is increasing, sand sole exhibits cyclic trends, and northern rock sole and yellowfin sole survey biomass is decreasing. The shallow-water flatfish complex 2027 biomass estimate is a slight increase from the 2026 biomass estimate. Overall, biomass for shallow water flatfish is stable.

Tier determination/Plan Team discussion and resulting ABCs and OFLs

Northern and southern rock sole are Tier 3a, while the other species in the complex are Tier 5. The OFL and ABC estimated for SWF species other than the rock soles were added to the management advice from the 2026 projection model for northern and southern rock sole to provide a SWF complex OFL and ABC. The Team agreed with the author recommendations for OFLs and ABCS and for a full assessment in 2027, given the last was in 2021.

Status determination

Information was insufficient to determine stock status relative to overfished criteria for the complex. Forthe rock soles, the projection model indicates that they are not overfished nor are they approaching an overfished condition. Catch for this complex remains below the TAC and below levels where overfishing would be a concern.

Area apportionment
The recommended area apportionments, based on the random effects model applied to bottom trawl survey biomass estimates are:

Year	Western	Central	WYAK	SEO	Total
2027	23,738	28,259	2,826	1,696	56,519
2028	23,619	28,118	2,812	1,687	56,236

5. Deep-water flatfish

Status and catch specifications (t) of deepwater flatfish (Dover sole and others) and projections for 2027 and 2028. Biomass for each year is for Dover sole only and corresponds to the model estimate associated with the ABC for that year. The OFL and ABC for 2027 and 2028 are those recommended by the Plan Team. Catch data are current through September 8, 2026.

Year	age-3+ Biomass	OFL	ABC	TAC	Catch
2025	84,026	8,263	6,958	6,958	89
2026	82,048	8,118	6,836	6,836	117
2027	80,097	7,959	6,702		
2028	78,128	7,784	6,555		

Changes from the previous assessment
The deepwater flatfish complex is comprised of Dover sole, Greenland turbot, Kamchatka flounder, and deepsea sole. Deep-water flatfish are on a 4-year assessment schedule. The last full assessment for the Gulf of Alaska deepwater flatfish complex was conducted in 2023. This year, the authors presented a harvest projection for Deep-water flatfish which includes results from the projection model for Dover sole and Tier 6 estimates based on the average catch for Greenland turbot, Kamchatka flounder, and deepsea sole.

Spawning biomass and stock trends
The model estimate of 2026 spawning stock biomass for Dover sole is well above $B_{40\%}$ and is expected to remain stable through 2027. Stock trends for Greenland turbot, Kamchatka flounder, and deepsea sole are unknown.

Tier determination/Plan Team discussion and resulting ABCs and OFLs
For ABC/OFL calculations, a Tier 3a approach was used for Dover sole and Tier 6 approaches were used for Greenland turbot, Kamchatka flounder, and deepsea sole. OFLs and ABCs for the individual species in the deepwater flatfish complex are determined and then summed for calculating complex-level OFLs and ABCs. The Team agreed with the author's recommended ABC and OFL.

Status determination
The Gulf of Alaska Dover sole stock is not being subjected to overfishing and is neither overfished nor approaching an overfished condition. Information is insufficient to determine stock status relative to overfished criteria for Greenland turbot, Kamchatka flounder, and deepsea sole. Since Dover sole comprises nearly all of the deepwater flatfish complex they are considered the main component for determining the status of this stock complex. Catch levels for this complex remain well below the TAC and below levels where overfishing would be a concern.

Area apportionment
The REMA random effects model was used to determine Biologically-informed Recommended Distributions (BRDs) for Dover sole. BRDs for Greenland turbot, Kamchatka flounder, and deepsea sole are based on the relative proportion of survey biomass of these species found in each area, averaged over the years 2001–2023, the last year a full assessment was done. The BRDS for the deepwater flatfish complex are the sums of the species-specific portions of the BRDs. The BRDs for 2027 and 2028 are as follows:

Year	Western	Central	WYAK	SEO	Total
2027	228	2,519	1,760	2,195	6,702
2028	224	2,464	1,721	2,146	6,555

6. Rex sole

Status and catch specifications (t) of rex sole and projections for 2027 and 2028. Biomass for each year corresponds to the projection given in the SAFE report issued in the preceding year. The OFL and ABC for 2027 and 2028 are those recommended by the Plan Team. Catch data are current through September 8, 2026.

Year	age-3+ Biomass	OFL	ABC	TAC	Catch
2025	129,835	26,002	21,387	21,387	604
2026	129,082	25,743	21,173	21,173	1,154
2027	98,331	19,523	16,077		
2028		18,683	15,381		

Changes from the previous assessment
The rex sole stock is assessed on a four-year schedule. No assessment was conducted in 2025. This year a full operational model was conducted. All new data available through 2026 were added to the model. In addition, the following model changes were made:

(1) Fishery age composition data are calculated using methods from the sampler repository
(2) The logspace standard error corresponding to survey biomass data in the Eastern GOA was updated to correct a smaller error where CV was used in place of logspace standard error in the 2021 assessment
(3) The 1984 and 1987 survey biomass data for the Eastern GOA were inadvertently included in the 2021 assessment and have been removed
(4) An ageing error matrix specific to GOA rex sole was added to the model

Spawning biomass and stock trends
Projected female spawning biomass and total biomass are estimated to be lower than previously thought in the last accepted model (2021) but remain well above B40%. Both female spawning and total biomass are projected to decline slightly through 2028.

Tier determination/Plan Team discussion and resulting ABCs and OFLs
Rex sole are determined to be in Tier 3a. The Team concurred with the author's recommended model (25.1) and to use the maximum permissible ABC and corresponding OFL. This ABC is a 22% decrease from the 2026 ABC.

Status determination
This stock is not being subjected to overfishing and is neither overfished nor approaching an overfished condition.

Area apportionment
The recommended rex sole BRDs are based on the proportion of trawl survey biomass projected for each area using the REMA model.

Year	Western	Central	WYAK	SEO	Total
2027	2,786	10,053	1,532	1,706	16,077
2028	2,669	9,631	1,457	1,624	15,381

7. Arrowtooth flounder

Status and catch specifications (t) of arrowtooth flounder and projections for 2027 and 2028. Biomass for each year corresponds to the projection given in the SAFE report issued in the preceding year. The OFL and ABC for 2027 and 2028 are those recommended by the Plan Team. Catch data are current through September 8, 2026.

Year	age-1+ Biomass	OFL	ABC	TAC	Catch
2025	1,316,560	142,832	119,547	100,454	13,380
2026	1,316,560	143,347	119,985	100,769	16,997
2027	1,437,490	157,261	134,083		
2028	1,447,782	157,060	133,901		

Changes from the previous assessment
The last full operational stock assessment for Gulf of Alaska arrowtooth flounder was conducted in 2021. Following a multi-stage bridging exercise (2024–2025) and subsequent recommendations from the SSC and GOA Plan Team, the assessment framework was transitioned from ADMB to TMB within the Rceattle platform. In September, 2025, a stepwise comparison was provided that added extensive data improvements resulting in the base Model 25.0, which provided similar trends over time as the base model used in 2021. Model 25.0 was updated this year with current data and is a single-species TMB based Rceattle model with data improvements that fixes sex-specific M (females = 0.2 and males = 0.35) and treats annual recruitment as random effects.

Spawning biomass and stock trends
Total biomass for ages 1+ experienced a long-term decline beginning in the late 2000s and fell to a historic low in 2018 before starting a gradual recovery, with projections estimating an increase from 2027 to 2028. Female spawning biomass mirrored this downward trajectory with a slight lag, peaking in 2008 and hitting a historic low in 2021, but it has since been rebuilding and is projected to rise slightly 2027-2028.

Tier determination/Plan Team discussion and resulting ABCs and OFLs
Arrowtooth flounder assessment is determined to be in Tier 3a. The Team concurred with the author's risk assessment and recommendation to use model 25.0 with updated data, the maximum permissible ABC and corresponding OFL from the full assessment.

Status determination
This stock is not being subject to overfishing and is neither overfished nor approaching an overfished condition.

Area apportionment
BRDs for Arrowtooth flounder are based on the proportion of trawl survey biomass projected for each area using the REMA model. The following table shows the PT recommendations for BRDs for 2027 and 2028.

Year	Western	Central	WYAK	SEO	Total
2027	25,572	80,318	9,692	18,501	134,083
2028	25,537	80,209	9,679	18,476	133,901

8. Flathead sole

Status and catch specifications (t) of flathead sole and projections for 2027 and 2028. Biomass for each year corresponds to the projection given in the SAFE report issued in the preceding year. The OFL and ABC for 2027 and 2028 are those recommended by the Plan Team. Catch data are current through September 8, 2026.

Year	age-3+ Biomass	OFL	ABC	TAC	Catch
2025	293,674	50,587	41,476	36,534	932
2026	291,288	51,176	41,980	36,873	921
2027	288,245	51,152	41,975		
2028		50,740	41,639		

Changes from the previous assessment
The flathead sole stock is assessed on a four-year schedule. The last full assessment was conducted in 2022. This year a harvest projection was presented. The projection model was run using updated catches.

Spawning biomass and stock trends
Projected female spawning biomass is projected to increase through 2026. Projected total biomass (3+) is stable with a slight decrease projected through 2026.

Tier determination/Plan Team discussion and resulting ABCs and OFLs
Flathead sole are determined to be in Tier 3a. The Team concurred with the author's recommendation to use the maximum permissible ABC and corresponding OFL from the updated harvest projection.

Status determination
This stock is not being subjected to overfishing and is neither overfished nor approaching an overfished condition.

Area apportionment
The flathead sole BRDs are based on the proportion of trawl survey biomass projected for each area using the REMA model.

Year	Western	Central	WYAK	SEO	Total
2027	13,208	21,421	4,807	2,539	41,975
2028	13,103	21,250	4,768	2,518	41,639

12. Dusky rockfish

Status and catch specifications (t) of dusky rockfish and projections for 2027 and 2028. Biomass for each year corresponds to the projections given in the SAFE report issued in the preceding year. The OFL and ABC for 2027 and 2028 are those recommended by the Plan Team. Catch data are current through September 8, 2026.

Year	age-4+ Biomass	OFL	ABC	TAC	Catch
2025	85,912	7,705	6,338	6,338	2,284
2026	83,297	7,319	6,021	6,021	3,169
2027	79,386	6,920	5,693		
2028		6,577	5,411		

Changes from the previous assessment

The Dusky rockfish stock is assessed on a two-year schedule. A full stock assessment was conducted in 2024. This year a harvest projection was presented. The projection model was run using updated catches.

Spawning biomass and stock status trends

The 2027 spawning biomass estimate above the $B_{40\%}$ estimate and is projected to decrease in 2028.

Tier determination/Plan Team discussion and resulting ABCs and OFLs

The dusky rockfish stock is estimated to be in Tier 3a. The Team agreed with the author's recommendation to use the maximum permissible ABC and corresponding OFL from the updated harvest projection.

Status determination

The stock is not being subjected to overfishing, is not currently overfished, nor is it approaching an overfished condition.

Area apportionment

The following table shows the recommended BRDs for 2027 and 2028.

Year	Western	Central	Eastern	Total
2027	188	5,225	280	5,693
2028	178	4,967	266	5,411

Amendment 41 prohibited trawling in the Eastern area east of 140° W longitude. The ratio of biomass still obtainable in the W. Yakutat area (between 147° W and 140° W) is 0.69. This results in the following apportionment to the W. Yakutat area:

Year	WYAK	SEO	Total
2027	193	87	280
2028	184	82	266

18. Skates

Status and catch specifications (t) of skates. Biomass for each year corresponds to the projection given in the SAFE report of the last full assessment. The OFL and ABC for 2027 and 2028 are those recommended by the Plan Team. Catch data are current through September 8, 2026.

			Tier 5			
Species	Year	Biomass	OFL	ABC	TAC	Catch
Big Skate	2025		3,780	2,835	2,835	1,913
	2026		3,780	2,835	2,835	855
	2027		3,721	2,791		
	2028		3,721	2,791		
Longnose Skate	2025		3,380	2,536	2,536	1,295
	2026		3,380	2,536	2,536	948
	2027		3,752	2,678		
	2028		3,752	2,678		
Other Skates	2025		887	665	665	591
	2026		887	665	655	369
	2027		1,111	833		
	2028		1,111	833		

Changes from the previous assessment
This year was an operational update assessment. The last full assessment was conducted in 2021.

Spawning biomass and stock trends
GOA-wide predicted biomass for all skate species remains stable from 2023. Estimated biomass for Other skates increased by 28%. Projected biomass for Big skate in the WGOA decreased by 24%, but the population appears relatively stable. Biomass estimates for Longnose skate increased from 2023 except for a 47% decrease in the WGOA.

Tier determination/Plan Team discussion and resulting ABCs and OFLs
The skate complex is a Tier 5 assessment with three groups: Big skate, Longnose skate, and 'Other skates'. The Team agreed with the authors' recommendations for ABC and OFL values.

Status determination
Big skates, Longnose skates, and "Other skates" are not being subjected to overfishing. Information is insufficient to determine stock status relative to overfished criteria as estimates of spawning biomass are unavailable.

Area apportionment
All GOA skates have Gulf-wide OFLs and ABCs. For Big and Longnose skate, ABCs are apportioned into BRDs by management area. These BRDs are based on the random effects (RE) model; a separate RE model was run for each managed group, and for each regulatory area.

Year	Species	Western	Central	Eastern	Total
2027	Big skate	567	1,796	428	2,791
2028		567	1,796	428	2,791
2027	Longnose	55	2,021	602	2,678
2028		55	2,021	602	2,678
2027	Other skates				833
2028					833