



Longfin Squid (*Doryteuthis pealeii*) Fishery Information Document

April 2024

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for longfin squid (“longfin” hereafter, formerly known as “*Loligo*”), with an emphasis on 2023. Data sources for Fishery Information Documents include unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/msb>.

Key Facts

- Landings have been typically variable and well below the annual quota in recent years. Considerable variability in abundance, availability, and landings is expected for any squid fishery.
- A management track assessment for Longfin was conducted in 2023. Based on 2022 data the stock was not overfished. The two-year average of the combined spring and fall NEFSC surveys showed continued variability, ending relatively high in 2022. Overfishing reference points are not available. A research track assessment has begun with review scheduled for early 2026.
- 2023 longfin landings were slightly below 2022. Missing revenue information did not allow a total revenue calculation at this time. Price per pound was calculated based on records with revenue information, so is incomplete and should be considered preliminary.
- 2023 had a similar Trimester 2 closure as 2022 (2023 was closed August 2 to August 31 – closing 3 days earlier than 2022).
- 2024 landings to date have been low, similar to 2023.
- Similar to previous analyses, 2021-2022 data indicated about 1/3 of catch on observed longfin trips is discarded. Butterfish, scup, sea robin, *Illex*, longfin, little skate, and spotted hake represented 67% of the discards based on raw observer data.

Basic Biology

Longfin is a neritic (from the shore to the edge of the continental shelf), semi-pelagic schooling cephalopod species primarily distributed between Georges Bank and Cape Hatteras, NC. The squid, and the fishery, generally occur offshore in the winter and inshore during the summer, with mixing and migrations from one to the other in spring and fall. Spawning/ recruitment is believed to occur year-round with cohorts persisting about six months, but there is considerable uncertainty about life history. Longfin attach egg masses to the bottom substrate and fixed

objects. Fishing and spawning occur concurrently relatively inshore during late spring through fall in the northern Mid-Atlantic and southern New England. The locations of winter spawning sites are not well understood. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>.

Status of the Stock

Based on the 2023 management track assessment, longfin was not overfished in 2022 but there are no overfishing reference points available (see https://apps-nefsc.fisheries.noaa.gov/saw/sasi/sasi_report_options.php). See Figure 1 for trends in biomass and catch from the last assessment through 2022. If considered separately, the cohorts represented by the spring and fall surveys would have been well-above their potential individual proxy biomass thresholds in 2022. The NEFSC also provided updated indices through 2023 for their bottom trawl survey as well as the VIMS inshore NEAMAP - Mid Atlantic trawl survey (Figures 2-3 on next page).

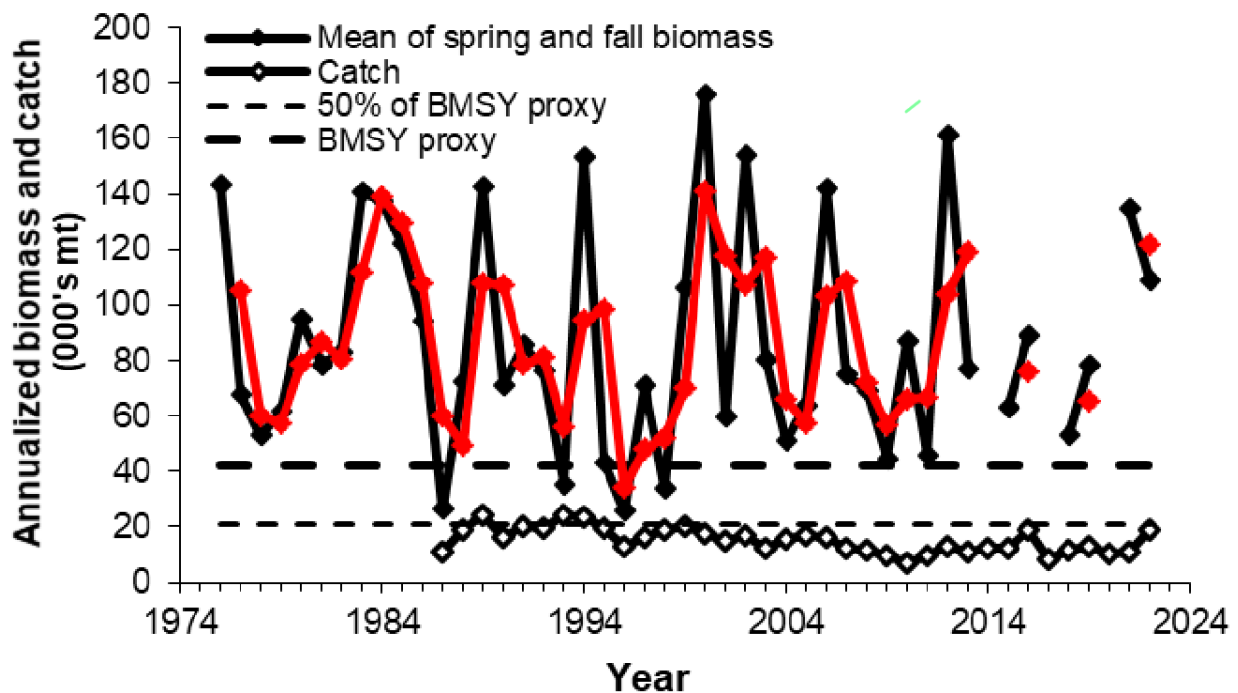


Figure 1. Longfin annualized biomass estimates (averages of the NEFSC spring and fall survey biomasses, in MT), in relation to the biomass target (42,205 MT) and biomass threshold (50% of target), and annual catches. The red line represents the two-year moving average of the annualized biomass estimates. Biomass estimates are q-adjusted swept area estimates.

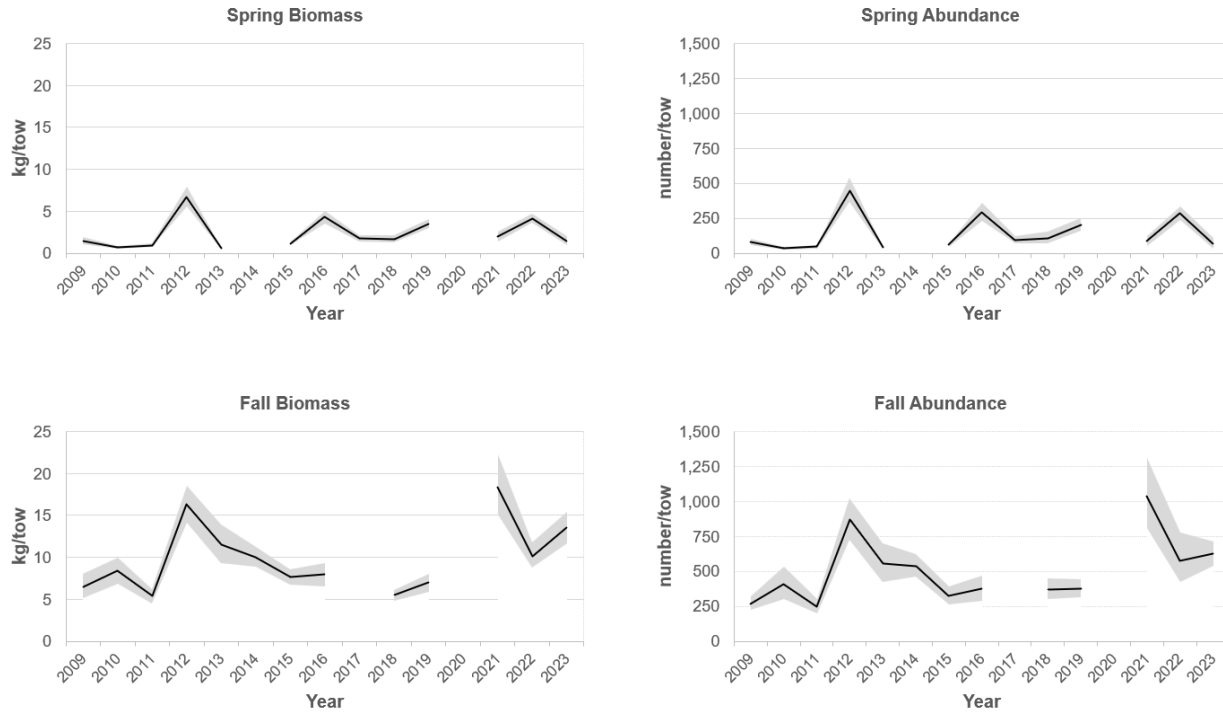


Figure 2. *Doryteuthis pealeii* indices of relative biomass (stratified mean kg per tow; left column) and abundance (stratified mean number per tow; right column) indices derived using daytime tows (solar zenith angles of 43°-80°) from **NEFSC spring (top row) and fall (bottom row)** bottom trawl surveys conducted during 2009-2023. Shaded areas represent the 95% confidence intervals. The spring 2014 and fall 2017 survey indices were not computed because the primary regions of *D. pealeii* habitat were not sampled due to vessel mechanical problems. The spring and fall 2020 surveys were not completed due to the COVID-19 pandemic.

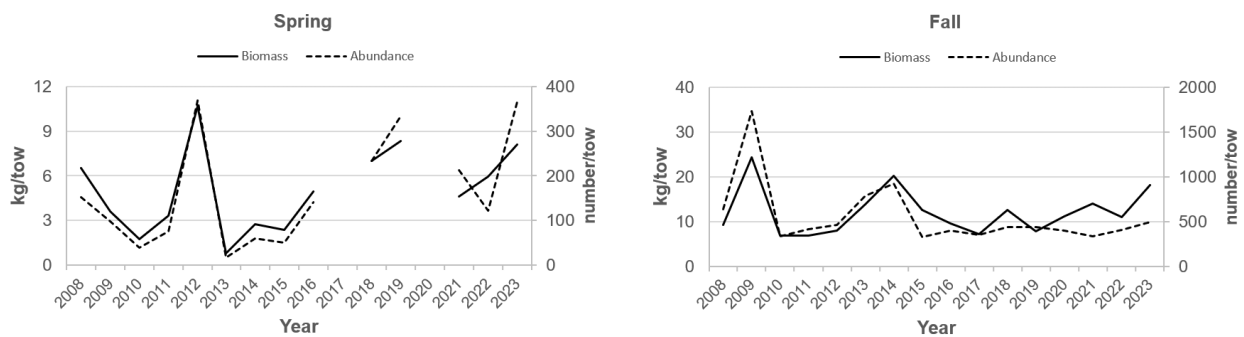


Figure 3. *Doryteuthis pealeii* indices of relative biomass (stratified mean kg per tow) and abundance (stratified mean number per tow) indices from **NEAMAP spring (left) and fall (right)** bottom trawl surveys conducted during 2008-2023. The spring 2017 survey indices were not computed because of a delay in the survey due to a fire on the vessel. The spring 2020 surveys did not occur due to the COVID-19 pandemic.

Management System and Fishery Performance

Management

The Council established management of longfin in 1978 and the management unit includes all federal East Coast waters.

Access is limited with several moratorium permit categories. The quota is divided into three, 4-month trimesters (T) - 43% (T1 Jan-Apr), 17% (T2 May-Aug), and 40% (T3 Sept-Dec). Unused quota can roll over into later trimesters within a year depending on the amount of longfin landed. Underages from T1 that are greater than 25% are reallocated to trimesters 2 and 3 (split equally between both trimesters) of the same year. However, the T2 quota may only be increased 50% above its base and the remaining portion of the underage is reallocated to T3. Any underages for T1 that are less than 25% of the T1 quota are applied only to T3 of the same year. Any overages for T1 and T2 are subtracted from T3 of the same year as needed.

The 2023 longfin ABC was 23,400 MT, with a commercial quota of 22,932 MT (reduced to account for discards). The 2024 commercial quota is pending but will probably be 22,894 MT based on updated discard information from the last management track assessment. Weekly monitoring, closure triggers, and trip limits are used to avoid substantial trimester or annual overages (measures are modified occasionally based on performance).

Recreational catch of longfin is believed to be negligible relative to commercial catch. There are no recreational regulations except for party/charter vessel permits and VTR reporting. MRIP does not collect information on invertebrates, but social media indicates recreational fishing for longfin occurs (in private and for-hire recreational fishing).

Commercial Fishery

Figure 4 describes longfin landings 1963-2023. Figure 5 illustrates relative landings among the Trimesters over time. Figures 6-7 include domestic landings, ex-vessel revenues (2023 dollars¹), and prices (2023 dollars) since 1996. Staff is investigating data issues with 2023 revenue data, which may also affect 2023 price data. Figure 8 illustrates preliminary landings throughout the year for 2023 and 2022. Figure 9 illustrates preliminary landings for Trimester 1 for 2024 and 2023.

Table 1 describes 2023 longfin landings by state and Table 2 describes 2023 longfin landings by NMFS Statistical Areas. Almost all landings that have gear identified are bottom trawl.

¹ Unless noted otherwise, revenues/prices are provided as inflation-adjusted “2023 dollars” via the Gross Domestic Product Implicit Price Deflator.

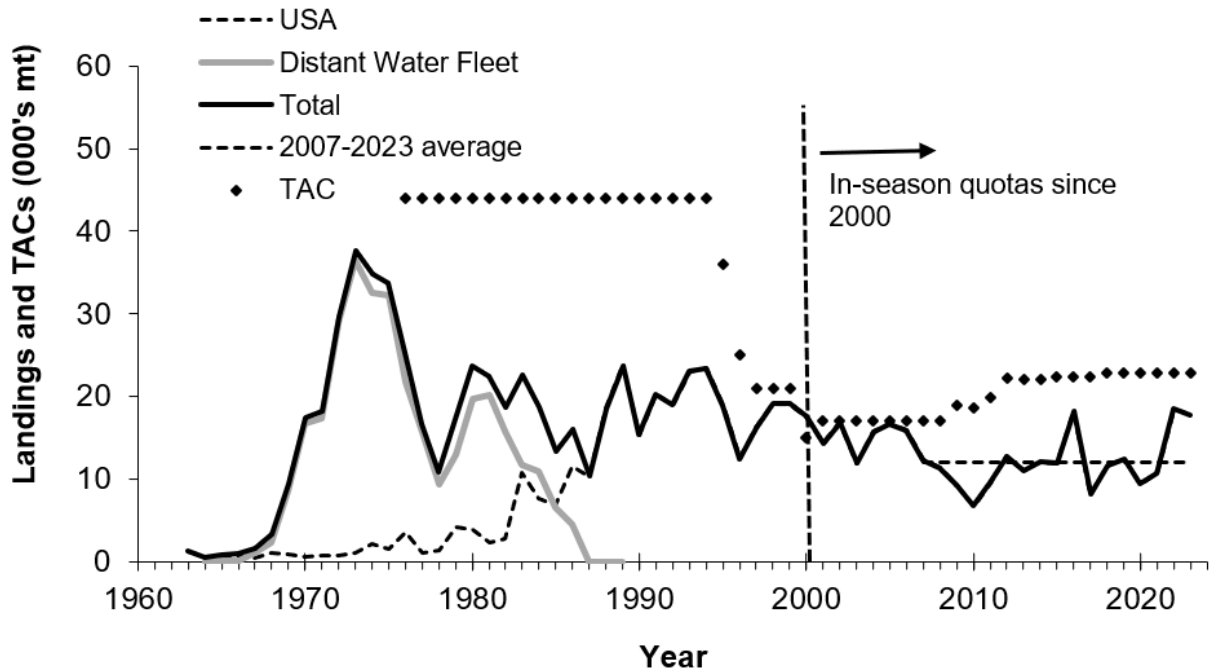


Figure 4. Landings (000s mt) of *Doryteuthis pealeii*, by the USA directed fishery (1987-2023) and Distant Water Fleets (1963-1986), in NAFO Subareas 5+6 during 1963-2023 and annual TACs during 1974-2023.

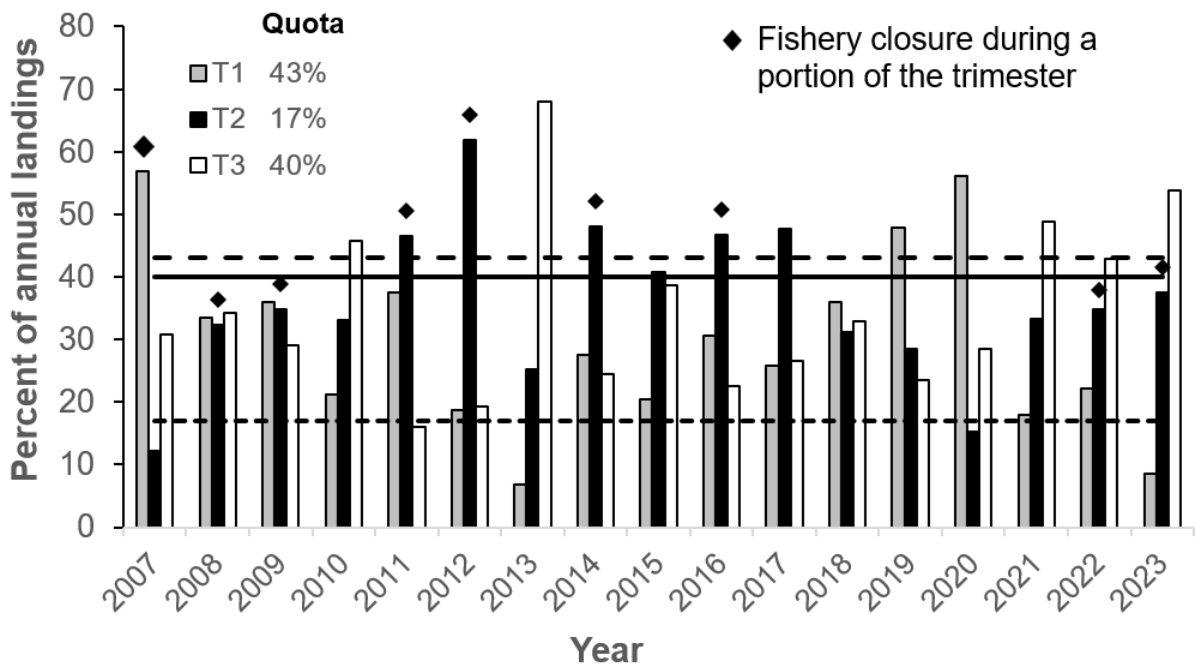


Figure 5. Percentages of *Doryteuthis pealeii* landings, by trimester, during 2007-2023. Diamonds indicate a fishery closure during a portion of the trimester. Regulatory quota allocations for T1- T3 (43%, 17% and 40%, respectively) are shown in relation to the actual landings by trimester.

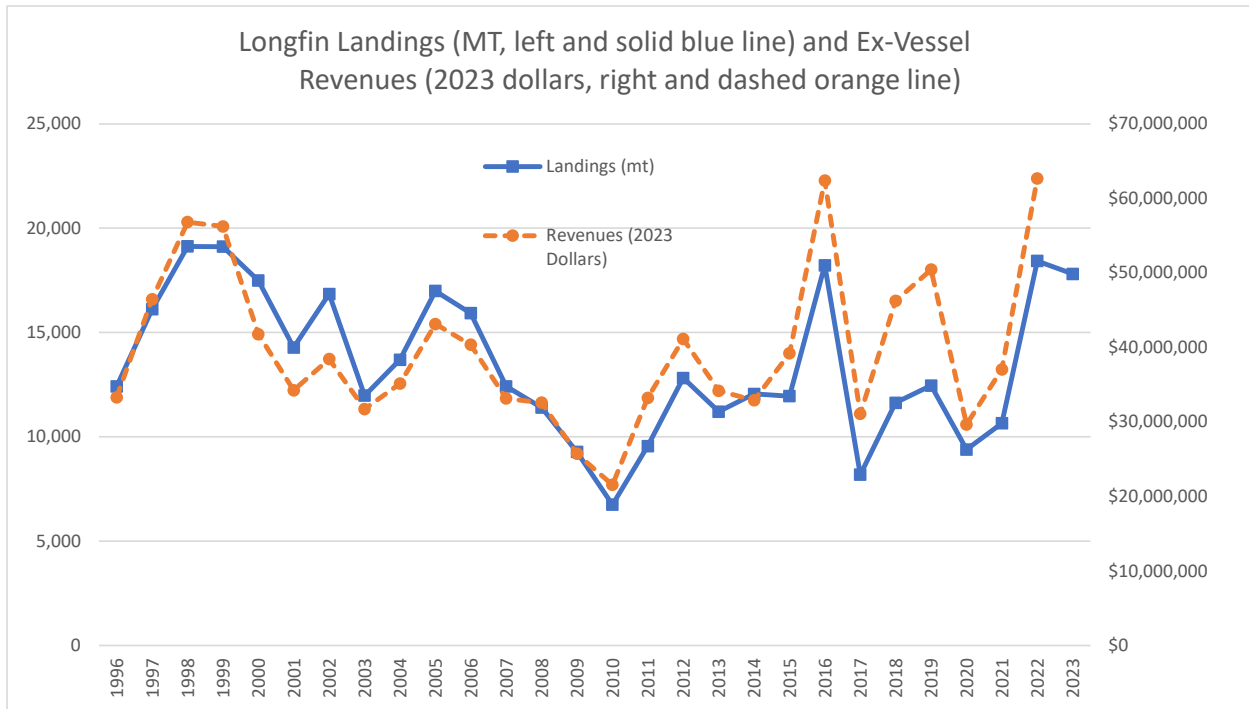


Figure 6. U.S. Longfin Landings 1996-2023 and Longfin Ex-Vessel Values 1996-2022. Source: NMFS unpublished dealer data.

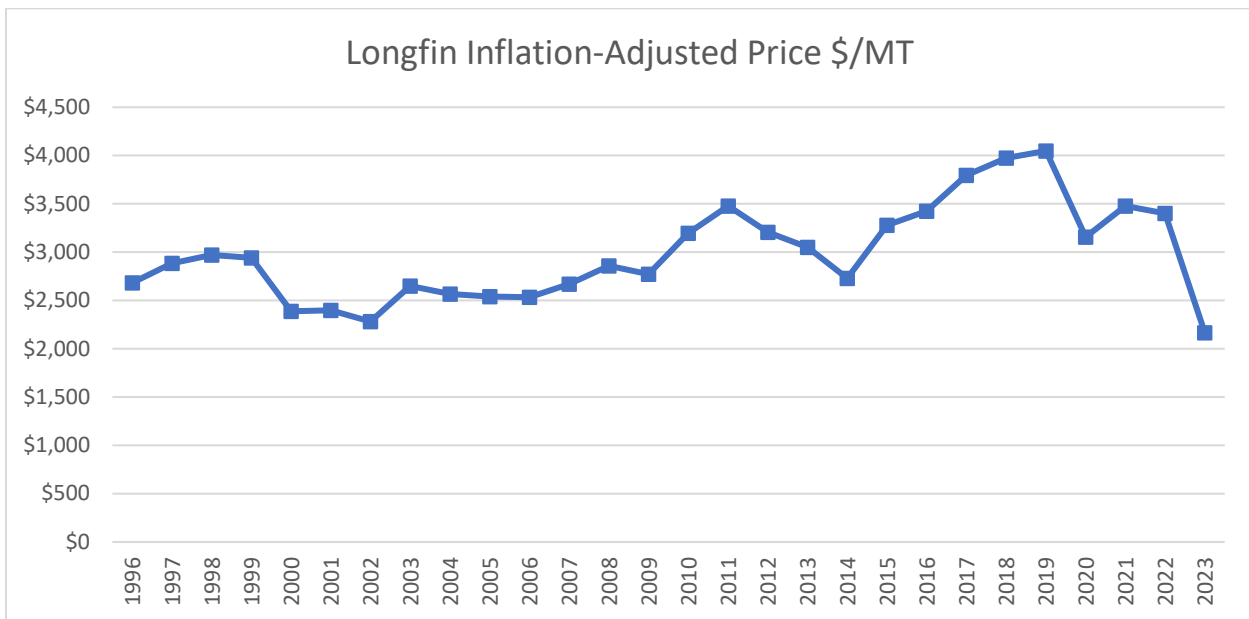


Figure 7. Annual Ex-Vessel Longfin Prices 1996-2023 Adjusted to 2023 Dollars Source: NMFS unpublished dealer data. Note: 2023 data is preliminary as some revenue information was missing from the relevant databases.

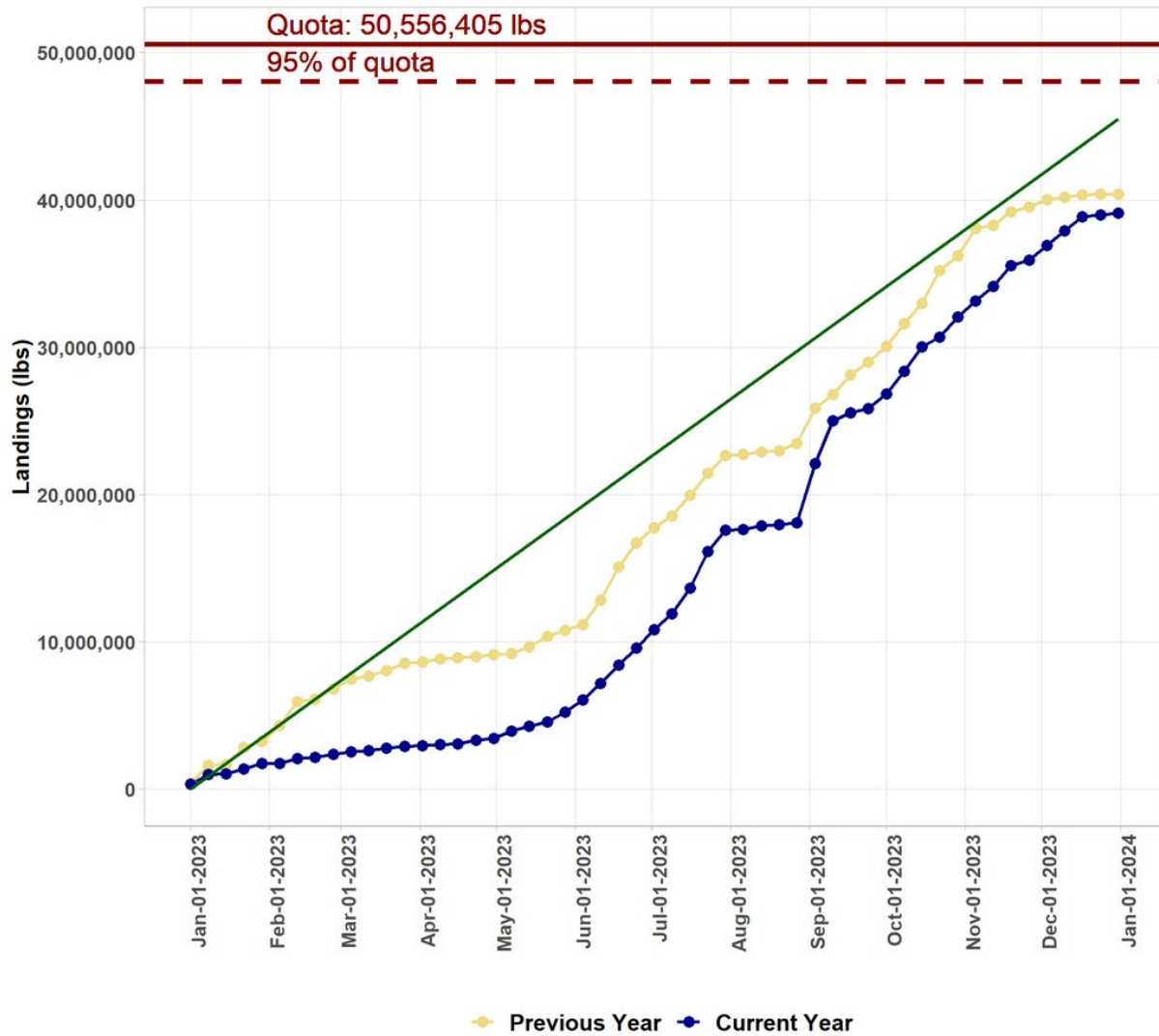


Figure 8. U.S. Preliminary Weekly Longfin landings; 2023 in blue, 2022 in yellow-orange. Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>.

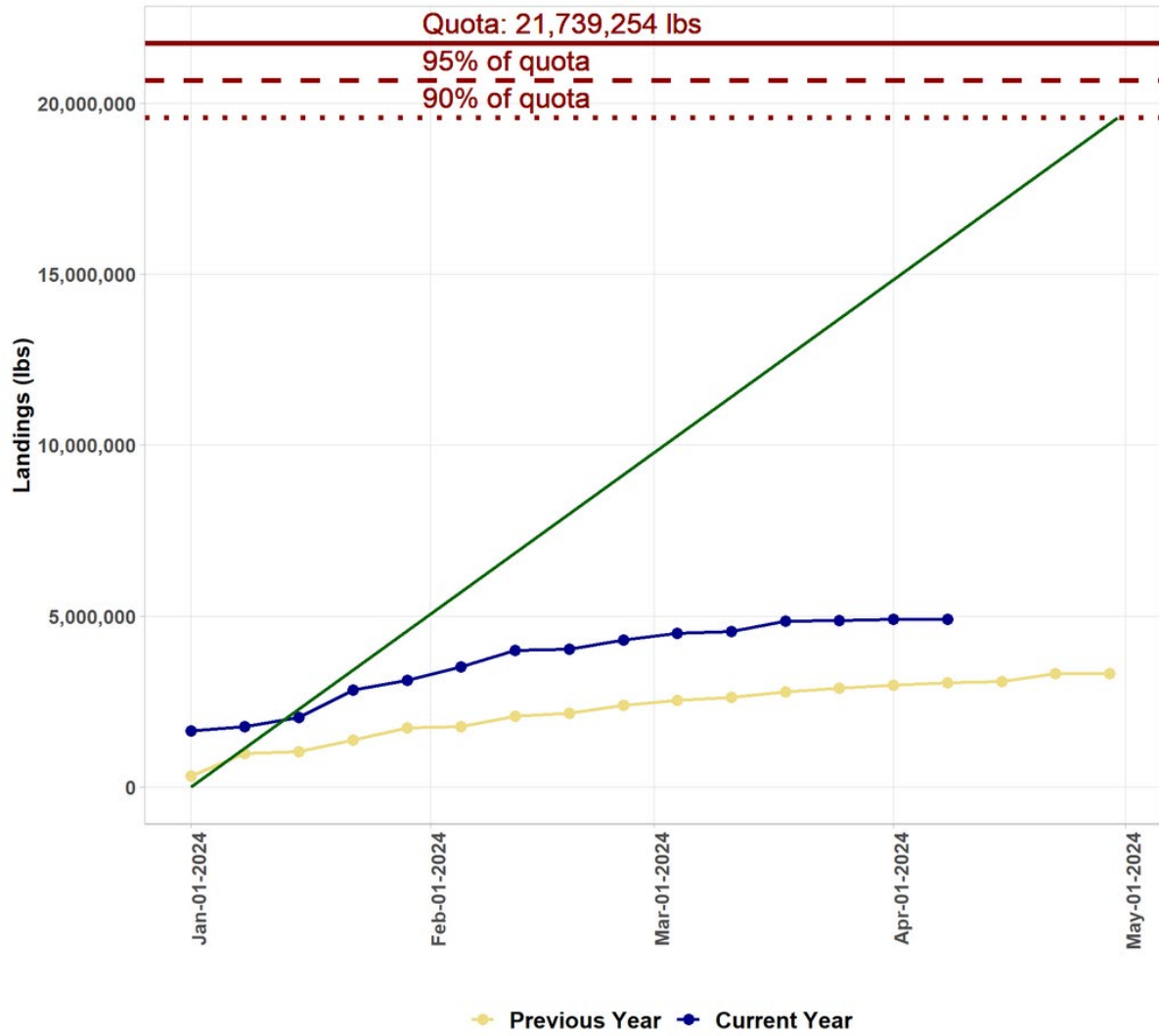


Figure 9. U.S. Preliminary Weekly Trimester 1 Longfin landings; 2024 Trimester 1 in blue, 2023 Trimester 1 in yellow-orange. Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>.

Table 1. Commercial Longfin landings (live wt) by state in 2023. Source: NMFS unpublished dealer data.

State	Metric Tons
RI	11,727
NJ	2,579
NY	1,807
MA	1,253
CT	426
Other	20
Total	17,811

Table 2. Commercial longfin landings by statistical area in 2023. Source: CAMS

AREA	Metric Tons
537	6,712
613	3,733
616	2,733
622	1,208
626	534
611	532
539	496
538	470
632	398
612	219
525	129
526	124
615	113
533	88
621	70
562	65
514	52
623	47
Other/CI	113
Total	17,837

Non-Target Catches and Discards

Environmental Assessments for longfin specifications developed by staff include tables of incidental catches with a directed fishery definition of at least 40% of retained catch being longfin squid. Since the Standardized Bycatch Reporting Methodology focuses on discards of managed stocks rather than discards in managed fisheries, staff analyses of discards vary fishery by fishery depending on data availability and historical practices. Staff updated previous analyses with 2021-2022 data – 2020 data was severely impacted by Covid-19. 2021-2022 coverage improved but still only averaged 153 observed longfin squid trips versus the 394 observed annually 2017-2019.

Using discard ratio data from these observed hauls and 2021-2022 average longfin landings (14,624 MT), Table 3 below approximates annual catch/discards in the directed longfin squid fishery from 2021-2022, for species with extrapolated annual catch of at least 10,000 pounds. The method used for the estimates in the table is a custom staff analysis, and is best considered as a relative indicator of species that may be affected by the fishery rather than precise amounts. On the trips identified in this analysis, the 2021-2022 overall discard rate (raw observer data) was 34% (similar to previous analyses).

The observer program creates individual records for some species of interest, mostly larger pelagics and/or less common sharks/rays, as well as tagged fish. Non-expanded counts of these individual fish records from the same trips are provided in Table 4 below.

The longfin squid fishery is also subject to a butterfish discard cap, which has not affected the longfin squid fishery in recent years – weekly monitoring reports are available at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>.

Table 3. Longfin Target/Non-Target Catches

NE Fisheries Science Center Common Name	Pounds Observed Caught	Pounds Observed Discarded	Of all discards observed, percent that comes from given species	Percent of given species that was discarded	Pounds of given species caught per mt longfin Kept	Pounds of given species discarded per mt longfin Kept	Rough Annual Catch (pounds) based on 2-year (2021-2022) average of longfin landings (14,624 mt)	Rough Annual Discards (pounds) based on 3-year (2021-2022) average of longfin landings (14,624 mt)
SQUID, ATL LONG-FIN	3,611,912	112,343	6%	3%	2,275	71	33,275,343	1,034,980
BUTTERFISH	608,147	579,258	29%	95%	383	365	5,602,659	5,336,512
SCUP	196,035	164,263	8%	84%	123	103	1,806,008	1,513,303
SQUID, SHORT-FIN	193,786	128,182	6%	66%	122	81	1,785,284	1,180,897
SEA ROBIN, NORTHERN	154,652	154,652	8%	100%	97	97	1,424,757	1,424,757
HAKE, SILVER (WHITING)	105,192	62,946	3%	60%	66	40	969,096	579,902
SKATE, LITTLE	102,443	100,907	5%	99%	65	64	943,777	929,625
HAKE, SPOTTED	94,096	93,250	5%	99%	59	59	866,877	859,077
DOGFISH, SMOOTH	64,557	56,898	3%	88%	41	36	594,741	524,183
SKATE, WINTER (BIG)	62,081	57,322	3%	92%	39	36	571,928	528,091
DOGFISH, SPINY	61,795	61,735	3%	100%	39	39	569,296	568,743
FLOUNDER, SUMMER	54,327	25,611	1%	47%	34	16	500,495	235,949
SEA BASS, BLACK	46,526	36,259	2%	78%	29	23	428,630	334,039
HAKE, RED (LING)	45,971	43,986	2%	96%	29	28	423,517	405,228
SCALLOP, SEA	30,049	26,851	1%	89%	19	17	276,833	247,366
BASS, STRIPED	29,741	28,621	1%	96%	19	18	273,993	263,679
SQUID, NK	26,228	23,625	1%	90%	17	15	241,630	217,648
BLUEFISH	20,094	1,887	0%	9%	13	1	185,121	17,387
SKATE, NK	18,225	16,270	1%	89%	11	10	167,902	149,885
SEA ROBIN, STRIPED	14,567	14,413	1%	99%	9	9	134,198	132,778
SEAWEED, NK	14,098	14,098	1%	100%	9	9	129,878	129,878
MACKEREL, ATLANTIC	13,300	9,409	0%	71%	8	6	122,526	86,684
DORY, BUCKLER (JOHN)	13,251	5,900	0%	45%	8	4	122,081	54,353
FLOUNDER, FOURSPOT	12,893	12,893	1%	100%	8	8	118,779	118,779
MONKFISH (GOOSEFISH)	12,789	6,931	0%	54%	8	4	117,824	63,849
SKATE, CLEARNOSE	10,396	10,331	1%	99%	7	7	95,777	95,172
SKATE, LITTLE/WINTER, NK	9,247	9,226	0%	100%	6	6	85,192	84,999
FLOUNDER, WINTER	8,905	8,751	0%	98%	6	6	82,036	80,623
SKATE, BARNDOR	8,546	8,546	0%	100%	5	5	78,731	78,731
MENHADEN, ATLANTIC	7,400	7,120	0%	96%	5	4	68,176	65,594
CHUB MACKEREL	6,710	6,677	0%	100%	4	4	61,814	61,515

Table 3. Longfin Target/Non-Target Catches (continued)

NE Fisheries Science Center Common Name	Pounds Observed Caught	Pounds Observed Discarded	Of all discards observed, percent that comes from given species	Percent of given species that was discarded	Pounds of given species caught per mt longfin Kept	Pounds of given species discarded per mt longfin Kept	Rough Annual Catch (pounds) based on 2-year (2021-2022) average of longfin landings (14,624 mt)	Rough Annual Discards (pounds) based on 3-year (2021-2022) average of longfin landings (14,624 mt)
HAKE, MIX SIL/OFF	5,656	4,667	0%	83%	4	3	52,105	42,999
STARFISH, SEASTAR, NK	5,241	5,241	0%	100%	3	3	48,285	48,285
LONG-FIN EGGS	4,957	4,957	0%	100%	3	3	45,664	45,664
DOGFISH, CHAIN	4,503	4,503	0%	100%	3	3	41,482	41,482
BOARFISH, DEEPBODY	4,338	4,338	0%	100%	3	3	39,962	39,962
SEA ROBIN, NK	4,310	4,310	0%	100%	3	3	39,702	39,702
CRAB, JONAH	4,150	4,118	0%	99%	3	3	38,233	37,941
CRAB, LADY	3,928	3,928	0%	100%	2	2	36,186	36,186
WEAKFISH	3,907	3,510	0%	90%	2	2	35,998	32,334
CRAB, HORSESHOE	3,654	3,617	0%	99%	2	2	33,659	33,323
CRAB, ROCK	3,115	3,115	0%	100%	2	2	28,701	28,701
HAKE, NK	3,112	2,543	0%	82%	2	2	28,666	23,431
FISH, NK	2,813	2,630	0%	94%	2	2	25,915	24,231
BEARFISH	2,568	2,568	0%	100%	2	2	23,661	23,661
SKATE, ROSETTE	2,368	2,368	0%	100%	1	1	21,817	21,817
KINGFISH, NORTHERN	2,235	1,308	0%	59%	1	1	20,587	12,047
RAY, BULLNOSE	2,157	2,157	0%	100%	1	1	19,868	19,868
CRAB, SPIDER, NK	2,053	2,053	0%	100%	1	1	18,912	18,912
SHAD, AMERICAN	1,797	1,786	0%	99%	1	1	16,559	16,455
TAUTOG (BLACKFISH)	1,758	1,619	0%	92%	1	1	16,199	14,915
LOBSTER, AMERICAN	1,744	1,301	0%	75%	1	1	16,068	11,986
HAKE, MIX RED/WHITE/SPOTD/SOUTH	1,711	1,573	0%	92%	1	1	15,760	14,489
TILEFISH, GOLDEN	1,354	432	0%	32%	1	0	12,474	3,984
SCAD, ROUGH	1,320	1,320	0%	100%	1	1	12,161	12,161
PUFFER, NORTHERN	1,280	1,264	0%	99%	1	1	11,791	11,647
ALEWIFE	1,271	1,271	0%	100%	1	1	11,709	11,709
EEL, CONGER	1,254	607	0%	48%	1	0	11,553	5,596
DOGFISH, NK	1,233	1,233	0%	100%	1	1	11,359	11,359
SEA ROBIN, ARMORED	1,223	1,223	0%	100%	1	1	11,267	11,267
TILEFISH, BLUELINE	1,093	407	0%	37%	1	0	10,071	3,751

Table 4. Counts (not expanded) in Individual Animal Records on all observed “longfin” trips, 2021-2022

COMNAME	count
SHARK, SANDBAR (BROWN)	132
BONITO, ATLANTIC	130
STINGRAY, ROUGHTAIL	118
SHARK, ATL ANGEL	94
RAY, TORPEDO	66
MOLA, OCEAN SUNFISH	62
SWORDFISH	41
SHARK, CARCHARHINID,N	37
TUNA, NK	34
SHARK, TIGER	29
SHARK, NK	28
SHARK, HAMMERHEAD, SC	23
STURGEON, ATLANTIC	19
SHARK, THRESHER	15
STINGRAY, NK	13
SHARK, BASKING	12
TUNA, LITTLE (FALSE A	12
AMBERJACK, NK	11
SHARK, BLUE (BLUE DOG	10
SHARK, WHITE	9
RAY, BUTTERFLY, SPINY	8
STINGRAY, BLUNTNOSE	8
BARRACUDA, NK	6
MOLA, NK	6
TUNA, YELLOWFIN	5
COBIA	4
GROUPEL, NK	4
SHARK, SPINNER	4
MACKEREL, FRIGATE	3
SHARK, GREENLAND	3
SHARK, PORBEAGLE (MAC	3
SHARK, SILKY	3
SHARK, BLACK TIP	2
SHARK, PELAGIC	2
SHARK, SAND TIGER	2
TUNA, BIG EYE	2
TUNA, BLUEFIN	2
DOLPHINFISH (MAHI MAH	1
RAY, BUTTERFLY, NK	1
RAY, NK	1
SHARK, CARCHARHINID,	1
SHARK, HAMMERHEAD, NK	1
SHARK, HAMMERHEAD,NK	1
STURGEON, NK	1
TUNA, SKIPJACK	1

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