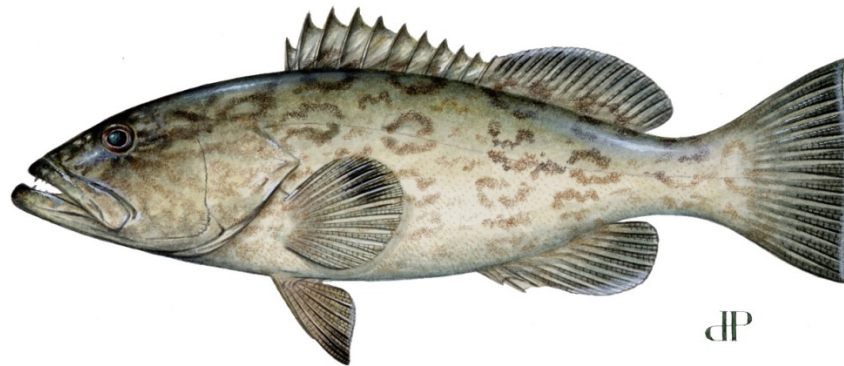


Gulf of Mexico Grouper-Tilefish Individual Fishing Quota Report (2020 update)



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Message from the Assistant Regional Administrator

The Grouper-Tilefish (GT) Individual Fishing Quota (IFQ) annual report is a living document that builds upon previously summarized information and provides a current overview of the GT-IFQ program. The GT-IFQ program includes 13 species in five share categories. This report is not a full comprehensive review of the program, as comprehensive reviews are completed every 5 to 7 years.¹ The first 5-year (2010-2015) review was completed in 2018 and can be found on the Catch Share website,² under Additional Information. A joint five-year assessment of the Red Snapper IFQ (RS-IFQ) and GT-IFQ programs will be completed in 2021 and will cover 2012-2018 years for both programs.

Outreach efforts for the IFQ programs differed in 2020 due to the pandemic and the transition of the online system to a new platform. To ensure stakeholders understood the online changes, IFQ customer support held weekly webinars to review the updates and improvements to the system. IFQ customer support also worked with volunteers to test the new system before launch to ensure the system met expectations. Because in-person dealer outreach was not possible, IFQ customer support instead held virtual dealer outreach meetings. Fourteen IFQ dealers in the Florida region participated in virtual outreach after the system launched, utilizing IFQ customer support to assist with learning the new system. Future virtual meetings will be held for participants in other regions throughout 2021, and in person outreach will resume once the pandemic has ended and travel can take place.

The 2020 quota for all share categories remained unchanged from 2019 quotas, with 69% of the programs' quota landed. By share category, between 29% and 47% of GT-IFQ with allocation accounts landed GT-IFQ species, with 43 - 51% of those accounts also holding shares. Average ex-vessel prices decreased slightly from 2019, with the largest decrease seen in deep-water grouper with a decrease in ex-vessel price by \$0.35/lb. All ex-vessel prices remain considerably greater than pre-IFQ average prices reported in all share categories.

In 2020, 39% of shareholder accounts also held a Gulf of Mexico commercial reef fish permit and by share category, held between 18% and 27% of all shares. The average 2020 share prices decreased since 2019 in most share categories by between \$0.61/lb and \$1.14/lb. Both deep-water grouper and red grouper share prices increased by \$4.71/lb and red \$0.41/lb, respectively. All 2020 allocation prices decreased by small amounts since 2019. Share and allocation price reporting has improved slightly, but remains an area of concern.

The National Marine Fisheries Service (NMFS) is committed to the continual improvement of GT-IFQ program. Since the program began, stakeholder feedback and suggestions for the program have been used to improve the system NMFS thanks everyone for their input and encourages them to continue to share their concerns and ideas.

Sincerely,



John C. McGovern, Ph.D.

Assistant Regional Administrator for Sustainable Fisheries

¹ The Guidance For Conducting Review of Catch Share Programs can be found here:
<https://www.fisheries.noaa.gov/national/laws-and-policies/catch-shares>.

² <https://secatchshares.fisheries.noaa.gov/>

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ABBREVIATIONS

Abbreviation	Description
ALS	Accumulated landings system
BFT	Bluefin Tuna Individual Bycatch Quota program
DWG	Deep-water grouper share category
FOIA	Freedom of information act
GDP	Gross domestic product
GSAD	Gulf and South Atlantic Dealer permit
GG	Gag grouper share category
GGM	Gag grouper multi-use
GT-IFQ	Grouper-Tilefish Individual Fishing Quota
Gulf Council	Gulf of Mexico Fishery Management Council
Gulf	Gulf of Mexico
gw	Gutted weight
HBC	Headboat Collaborative pilot program
HMS	Highly migratory species
IFQ	Individual Fishing Quota
JEA	Joint enforcement agreement
lb	Pounds
LL	Longline gear
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
mp	Million pounds
NMFS	National Marine Fisheries Service
OLE	Office of Law Enforcement
RA	Regional Administrator
Reef Fish FMP	Reef Fish Fishery Management Plan
Reef fish permit	Gulf of Mexico commercial reef fish permit
RFOP	Reef fish observer program
RG	Red grouper share category
RGM	Red grouper multi-use
RS-IFQ	Red snapper Individual Fishing Quota
SEFSC	Southeast Fisheries Science Center, NMFS
SERO	Southeast Regional Office, NMFS
SWG	Other shallow-water grouper share category
TF	Tilefish share category
TL	Total length
USCG	United States Coast Guard
VL	Vertical line gear
VMS	Vessel Monitoring system

Program Overview and Regulations

Program Overview

The Grouper-Tilefish individual fishing quota (GT-IFQ) program is a multi-species program, where participants use an online account for all transactions (shares and allocation transfers, landings, and cost recovery fees). The GT-IFQ program has five share categories: gag (GG), red grouper (RG), other shallow-water groupers (SWG), deep-water groupers (DWG), and tilefishes (TF; Table 1). Both GG and RG are single species share categories, while the three remaining categories (SWG, DWG, and TF) are multiple-species categories, designed to capture species complexes that are commonly caught together. For the first five years of the program (2010-2015), anyone who possessed a valid Gulf of Mexico (Gulf) federal dealer permit or Gulf commercial reef fish permit (reef fish permit) was eligible to participate in the program. Beginning, January 1, 2015, all U.S. citizens and permanent resident aliens were eligible to obtain a GT-IFQ shareholder account to purchase shares and allocation. Shares are a percentage of the commercial quota, while allocation refers to the poundage that can be used to possess, land, or transfer during a given calendar year. Allocation is annual and expires on December 31. Only accounts with allocation and a valid reef fish permit can legally harvest GT-IFQ species. Appendices 1 through 3 contain a history of the management for GT-IFQ species and implementation of the GT-IFQ program.

Table 1: Species by share category

IFQ Category	Species ¹
Gag (GG)	Gag ²
Red Grouper (RG)	Red grouper ²
Deep-water Grouper (DWG)	Snowy grouper
	Speckled hind ²
	Warsaw grouper ²
	Yellowedge grouper
Other Shallow-water Grouper (SWG)	Black grouper
	Scamp ²
	Yellowfin grouper
	Yellowmouth grouper
Tilefishes (TF)	Blueline tilefish (grey)
	Golden tilefish
	Goldface tilefish

¹ The following species were removed in 2012: rock hind (SWG), red hind (SWG), misty grouper (DWG), anchor tilefish (TF), and blackline tilefish (TF).

² Includes a multi-use flexibility measure.

There are three main account types in the GT-IFQ system: shareholder, vessel, and dealer accounts. Each account is composed of a unique set of entities (single or combination of individuals and/or business) and no two accounts are composed of the same set of entities. Shareholder accounts may hold shares and allocation or just allocation. A list of all shareholder accounts and the amount of shares held by each account is available through the National Marine Fisheries Service (NMFS) Southeast Regional

Office's (SERO) Frequent Freedom of Information Act Requests website.³ This page can be sorted by any of the column headings. An "X" in the Initial column indicate accounts that are in initial status (never been accessed).

Vessel accounts belong to shareholder accounts based on the reef fish permit for that vessel. Vessel accounts only hold allocation for landings. There may be multiple vessel accounts associated with one shareholder account. Sufficient allocation, at least equal to the pounds to be landed, must be in the vessel account or its associated shareholder account at the time of submission of the landing notification. At the time of landing, allocation that is at least equal to the pounds to be landed must be present in the vessel account. Upon completion of a landing transaction, the system deducts the allocation from the vessel account.

Dealer accounts are associated with federal dealer permit holders. Prior to August 7, 2014, the federal dealer permit was the Gulf reef fish dealer permit; afterwards, the federal permit became the Gulf and South Atlantic Dealer (GSAD) permit. Dealers are limited to completing landing transactions, collecting the cost recovery fee from the fishermen, and paying that fee to NMFS. All GT-IFQ dealers are required to have a Gulf IFQ dealer endorsement, which may be printed through their IFQ account. A printed copy of the IFQ dealer endorsement must accompany vehicles used to transport IFQ species on land. Endorsements are valid when a dealer's permit and account is active and they do not have any outstanding cost recovery fees. The GT-IFQ program and the Red Snapper Individual Fishing Quota (RS-IFQ) program are contained within the same system and are jointly referred to as the Gulf reef fish IFQ programs. Therefore, there is one dealer endorsement for both programs.

The GT-IFQ program records allocation, landings and quota in pounds (lb) of gutted weight (gw); therefore, throughout this report, allocation, landings, and quotas are in lb gw. Each GT-IFQ share category has distinct shares and associated allocations. At the beginning of each year, NMFS distributes allocation to shareholder accounts based on the annual quota and the share percentage associated with that account. Allocation can be used to account for GT-IFQ species landings or can be transferred to another shareholder. Adjustments (increases or decreases) in the commercial quotas occur due to new information (e.g., stock assessment, calibration, reallocation between fishing sectors). Quota increases are distributed proportionately among shareholder accounts based on the percentage of shares held in each account at the time of the adjustment.

The GT-IFQ program has several built-in flexibility measures to accommodate the multi-species nature of the commercial reef fish fishery and to reduce bycatch. Two share categories, GG and RG, have a multi-use provision that allows a portion of the red grouper quota to be harvested under the gag allocation, or vice versa. Each year, the system assigns a portion of each shareholder's GG or RG as a multi-use allocation category, red grouper multi-use (RGM) or gag grouper multi-use (GGM). All allocation in the primary category of a shareholder's account must be used before the species can be landed or transferred under the multi-use categories. The system automatically determines the allocation

³ <https://www.fisheries.noaa.gov/southeast/frequent-freedom-information-act-requests-southeast-region> or <https://secatchshares.fisheries.noaa.gov/foiaInformation>

category used for all landings and prohibits multi-use allocation transfers until all primary allocation is exhausted. Three grouper species (scamp, warsaw grouper, and speckled hind) are found in both the shallow and deep-water complexes. Flexibility measures in the GT-IFQ program allow these species to be landed under both share categories. Scamp are designated as a SWG species, but may be landed using DWG allocation once all SWG allocation in an account has been harvested. Warsaw grouper and speckled hind are designated as DWG species and may be landed using SWG allocation after all DWG allocation in an account has been harvested. More information about these flexibility measures are described in the Landings by Species section of this report.

The GT-IFQ program also has a built-in 10% overage measure to allow a once-per-year landing overage per share category for any GT-IFQ account that holds shares in that share category. For shareholder accounts with shares, the associated vessel can land once during the year 10% more than their remaining allocation on the vessel per share category. The system automatically deducts this overage from the shareholder's allocation in the following fishing year. Because overages need to be deducted in the following year, GT-IFQ accounts with shares are prohibited from selling shares that would reduce the account's shares to less than the amount needed to repay the overage in the following year. GT-IFQ accounts without shares cannot land an excess of their remaining allocation in that share category.

Program Objectives

The GT-IFQ program, as defined in Amendment 29 to the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP), was implemented to reduce overcapacity of the grouper-tilefish fishing fleet, increase harvesting efficiency, and eliminate the race to fish. By rationalizing effort and reducing overcapacity, the GT-IFQ program was expected to prevent or mitigate derby-fishing conditions and improve profitability of commercial grouper-tilefish fishermen.

Anticipated benefits of the program include: increased market stability; elimination of quota closures; increased flexibility for fishing operations; cost-effective and enforceable management; improved safety at sea; and balancing of social, economic, and biological benefits. Additionally, the program was intended to provide direct and indirect biological benefits to grouper-tilefish and other marine resources by reducing bycatch and associated bycatch mortality. These social, economic, and biological benefits collectively are intended to assist NMFS and the Gulf of Mexico Fishery Management Council (Gulf Council) in preventing overfishing and/or rebuilding GT-IFQ stocks through the stewardship aspects of the program.

Program Regulations

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires fishery managers to ensure that no individual, business, or other entity acquires an excessive share of the quota. The GT-IFQ program is monitored to prevent any entity from obtaining shares in excess of the established share cap for each share category (Table 2). The share cap for each category was based on the maximum GT-IFQ shares issued to a person, business, or other entity at the time of initial apportionment. An overall allocation cap is set annually and equals the sum of the maximum allocations

associated with the five share category caps; an account is restricted from holding more than the allocation cap at any point in time. In 2020, the final allocation cap for the GT-IFQ program after all quota adjustments was 411,818 lb. As of January 1, 2015, any GT-IFQ account may transfer (increase or decrease holdings) GT-IFQ shares and allocation, regardless of reef fish permit status. There are no program fees associated with share or allocation transfers.

Table 2: Share caps

Category	Share Cap %
DWG	14.704321
GG	2.349938
RG	4.331882
SWG	7.266147
TF	12.212356

All vessels with a reef fish permit are required to hail-out prior to leaving port. While at sea, vessels are monitored using the satellite-based Vessel Monitoring Systems (VMS). Each vessel is required to have an operational NMFS type-approved VMS transmitter. The transmitter automatically determines the vessel's position and transmits that position to NMFS through a NMFS-approved communication service provider. When returning to port, vessels landing GT-IFQ species must provide a landing notification indicating the time and location of landing, the intended dealer, and the estimated pounds landed by species. As of January 1, 2019, all reef fish permitted vessels are also required to hail-in 3 to 24 hours prior to landings, indicate that IFQ species are not on-board, and land only at approved landing locations. Landing may occur at any time, but IFQ species may only be offloaded between 6 a.m. and 6 p.m. local time. A landing transaction report is completed by the GT-IFQ dealer and validated by the allocation holder through entry of the vessel account PIN. The landing transaction includes the date, time, and location of transaction; accurate weight and actual ex-vessel price of fish landed and sold; and the identity of the shareholder account, vessel, and dealer. Landing transactions must be completed on the day of offload, except when being trailered for transport to dealer, where it must be completed before transport. All landing transactions must occur within 96 hours from the time of landing reported in the notification. All landings data are processed on a real-time basis. Current IFQ landings can be accessed at the SERO Catch Share Website: <https://secatchshares.fisheries.noaa.gov/home>, through the Additional Information view and listed under the document Commercial Quotas/Catch Allowances (all years).

NMFS monitors the economic performance of the program by collecting share, allocation, and ex-vessel prices. Both the transferor and transferee submit total share value, while just the transferor submits the allocation price per pound. Ex-vessel prices are the prices paid by a dealer per pound of fish before any deductions are made for transferred (leased) allocation and goods and/or services (bait, ice, fuel, repairs, machinery replacement, etc.). Section 304(d)(2)(A)(i) of the Magnuson-Stevens Act requires a fee to recover the actual costs required to directly administer, manage, and enforce the GT-IFQ program. This fee may not exceed 3% of the actual ex-vessel value. The current cost recovery fee is set at 3%. The Regional Administrator may review and adjust this fee annually. The IFQ allocation holder specified in the landing transaction is responsible for the payment of the cost recovery fees, while the dealer who

receives the fish is responsible for collecting the cost recovery fee and submitting the fee to NMFS on a quarterly basis.

Complete regulations governing the GT-IFQ program can be found at 50 CFR § 622.22 (www.ecfr.gov) and the program can be accessed through the SERO Website:

<https://secatchshares.fisheries.noaa.gov/home>. Important information regarding the GT-IFQ program is available for download on the website under Additional Information.

Program Performance

Program Participants

Shareholders

For this report, shareholder refers to an account that holds shares, and does not refer to individuals within the accounts. Shareholder account is a type of role within the system. Shareholder accounts may or may not hold shares. Shareholders accounts without shares may still participate in the program by obtaining allocation from another IFQ shareholder account. Allocation holders are any shareholder account that holds allocation, and these shareholder accounts may or may not also hold shares. The number of shareholders changes each year as accounts acquire or divest shares through transfers. For this report, we calculate the number of shareholders at the end of each year. A shareholder may divest their account of shares (i.e., transfer all shares) for a variety of reasons: to exit the IFQ program, to transfer to a new IFQ account after a permit change,⁴ or to manage related IFQ accounts from one account.⁵ Accounts that are not associated with a reef fish permit are termed public participant accounts. Public participant accounts may be related to other shareholder accounts that may hold reef fish permits. Related accounts may be created as a means of separating the assets (e.g., shares from vessel) or for ease of managing the shares and allocation across multiple related accounts (e.g., when each vessel in a fleet is owned by corporation). Discussions with industry representatives indicate this separation of assets may be a growing business practice. Therefore, caution should be used when interpreting trends related to public participant accounts.

In the first 5 years of the program (2010-2014), the total number of GT-IFQ shareholders (i.e., held shares in at least one share category) decreased each year (Table 3). In 2015, there was an increase in shareholders (+ 17). This increase is most likely due to the opening of the GT-IFQ program to public participation (i.e., allows any U.S. citizen or permanent resident alien to obtain open an account and obtain shares and allocation) and discussions of modifications to the IFQ program in 2015. The number of shareholders continued to increase each year through 2017. The large decrease in total shareholder

⁴ IFQ accounts are established based on the name(s) of the Gulf commercial reef fish permit holder. If the name(s) of the permit holder change (e.g., adding/removing a spouse), a new IFQ account must be established to link to the permit.

⁵ Some IFQ participants are associated with more than one IFQ account (e.g., John Smith vs. John and Jane Smith, incorporating each vessel under a different company name), and therefore may shift all their shareholding to one account for ease of management.

accounts from 2017 to 2018 (51 accounts) was likely a result of Amendment 36A to the Reef Fish FMP (Amendment 36A). In the 2018 final rule for Amendment 36A, shares from accounts that had not been activated were reverted to NMFS. Gulf Council discussion about potential changes to the IFQ programs continues in Amendment 36B to the Reef Fish FMP in the following years.

Since the start of the program, the majority of shareholders held shares in three or more categories (Table 3). Over time, the proportion of accounts holding shares in one or two share categories has increased and is now 2-3 times greater than at the start of the program. Concurrently, the number of shareholders holding all five categories (GG, RG, DWG, SWG, and TF) has decreased over time from 35% of all shareholders to 27%.

Table 3: Shareholders by number of categories held

Share Categories	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	18	22	34	33	37	55	68	81	82	84	81
2	34	39	42	48	51	58	59	62	52	59	59
3	258	239	225	214	206	208	213	207	182	183	179
4	172	176	156	153	145	142	142	142	134	130	126
5	261	223	208	196	189	182	171	175	166	159	161
Total	743	699	665	644	628	645	653	667	616	615	606

By share category, shareholders decreased through 2016, with a slight increase in 2017 for many categories (Table 4). In 2018, all categories saw a large decrease in shareholders. This decrease continued for all categories, except TF, through 2020. The difference in trend of shareholders for the program compared to the share categories can be seen in the increase in shareholders holding only shares in only one share category in 2015-2017 (Table 3).

Table 4: Shareholders by share volume and the total share percent held by those accounts

DWG	Small	Med.	Large	Total	GG	Small	Med.	Large	Total
	N (Share %)	N (Share %)	N (Share %)			N (Share %)	N (Share %)	N (Share %)	
Initial	299 (2%)	169 (58%)	12 (40%)	480	Initial	415 (6%)	330 (88%)	3 (6%)	748
2010	300 (2%)	148 (54%)	13 (44%)	461	2010	424 (5%)	290 (85%)	5 (10%)	719
2011	275 (2%)	143 (53%)	13 (45%)	431	2011	391 (4%)	263 (81%)	7 (15%)	661
2012	253 (2%)	134 (49%)	14 (49%)	401	2012	355 (4%)	249 (80%)	8 (16%)	612
2013	238 (2%)	131 (49%)	13 (49%)	382	2013	342 (4%)	244 (78%)	9 (18%)	595
2014	224 (2%)	129 (45%)	15 (53%)	368	2014	333 (4%)	233 (78%)	9 (18%)	575
2015	220 (2%)	131 (48%)	15 (50%)	366	2015	328 (4%)	238 (80%)	8 (16%)	574
2016	215 (2%)	127 (44%)	17 (54%)	359	2016	328 (4%)	232 (75%)	11 (21%)	571
2017	221 (2%)	123 (43%)	17 (55%)	361	2017	331 (4%)	227 (73%)	12 (23%)	570
2018	208 (2%)	118 (41%)	18 (57%)	344	2018	288 (4%)	223 (73%)	12 (23%)	523
2019	206 (2%)	115 (41%)	15 (57%)	336	2019	289 (4%)	218 (73%)	12 (23%)	519
2020	203 (2%)	116 (41%)	15 (58%)	334	2020	285 (4%)	212 (71%)	13 (25%)	510
RG	Small	Med.	Large	Total	SWG	Small	Med.	Large	Total
	N (Share %)	N (Share %)	N (Share %)			N (Share %)	N (Share %)	N (Share %)	
Initial	435 (5%)	248 (77%)	9 (18%)	692	Initial	467 (6%)	275 (68%)	10 (26%)	752
2010	421 (4%)	237 (80%)	7 (16%)	665	2010	460 (5%)	250 (65%)	11 (30%)	721
2011	377 (3%)	227 (81%)	6 (16%)	610	2011	421 (5%)	242 (65%)	11 (30%)	674
2012	349 (3%)	212 (77%)	8 (20%)	569	2012	384 (4%)	234 (65%)	11 (31%)	629
2013	339 (3%)	200 (72%)	11 (25%)	550	2013	364 (4%)	227 (65%)	13 (31%)	604
2014	327 (3%)	192 (71%)	11 (26%)	530	2014	351 (4%)	218 (64%)	13 (32%)	582
2015	332 (3%)	186 (67%)	12 (30%)	530	2015	346 (4%)	223 (67%)	12 (29%)	581
2016	332 (3%)	185 (65%)	13 (32%)	530	2016	345 (4%)	221 (68%)	11 (28%)	577
2017	345 (3%)	190 (65%)	13 (32%)	548	2017	347 (4%)	219 (70%)	10 (26%)	576
2018	303 (3%)	190 (66%)	12 (31%)	505	2018	295 (4%)	216 (70%)	10 (26%)	521
2019	305 (3%)	179 (66%)	12 (31%)	496	2019	295 (4%)	212 (69%)	10 (27%)	517
2020	302 (3%)	172 (61%)	14 (36%)	488	2020	291 (4%)	211 (69%)	10 (27%)	512
TF	Small	Med.	Large	Total	Total Shareholders		Note: N indicates the number of shareholders and percent is the total share percentage held by all of those accounts. Small accounts hold < 0.05%; medium accounts hold 0.05% - 1.49999%; large accounts hold ≥ 1.5% shares. All values were based on the last day of the year, except Initial, which was the program's start date (1/1/2010).		
	N (Share %)	N (Share %)	N (Share %)						
Initial	171 (2%)	100 (36%)	16 (62%)	287	Initial	766			
2010	185 (2%)	85 (30%)	17 (68%)	287	2010	743			
2011	164 (1%)	79 (28%)	17 (71%)	260	2011	699			
2012	155 (1%)	76 (27%)	15 (72%)	246	2012	665			
2013	144 (1%)	72 (25%)	16 (74%)	232	2013	644			
2014	143 (1%)	69 (26%)	15 (73%)	227	2014	628			
2015	143 (1%)	63 (24%)	16 (75%)	222	2015	645			
2016	138 (1%)	54 (19%)	19 (80%)	211	2016	653			
2017	142 (1%)	54 (20%)	18 (79%)	214	2017	667			
2018	134 (1%)	52 (18%)	19 (81%)	205	2018	616			
2019	132 (1%)	48 (17%)	18 (82%)	198	2019	615			
2020	133 (1%)	50 (17%)	18 (82%)	201	2020	606			

Shareholders are categorized by share volume within a share category: small shareholders hold < 0.05% shares, medium shareholders hold between 0.05-1.4999% shares, while large shareholders hold ≥ 1.5% shares. Since the program began, by share category, the medium shareholders held the majority of shares, while small shareholders accounted for the greatest number of accounts. Decreases in the number of shareholders primarily occurred among small or medium shareholders, with only slight increases in large shareholders. Despite these changes, proportionally there was very little change among small, medium, and large shareholders. For example, the proportion of DWG large shareholders increased from 3% at the start of the program to 5% in recent years, while the medium DWG

shareholders also increased by 2% and small DWG shareholders decreased by 4% during this same period. Since the start of the programs, the greatest number of shareholders hold a small amount of shares, while the smallest number hold largest percentage of shares.

Accounts that are not associated with a reef fish permit are termed public participant accounts, and may include accounts that are related to other shareholder accounts or dealer accounts, accounts that previously held shares, and/or accounts held by any U.S. citizen or permanent resident alien. In the first five years, public participant shareholders could occur if the reef fish permit associated with the account was transferred or terminated. Even in the first year of the program, a small percentage (4%) of shareholders no longer held a reef fish permit (Table 5). The number of public participant shareholders more than doubled by the second year of the program for all share categories. The number of public participant shareholders continued to increase through 2017, in part due to public participation in the both Gulf IFQ program. In 2018, the number of shareholders without a permit decreased due to Amendment 36A, which reverted shares from inactivated accounts back to NMFS. The amount of shares reverted to NMFS were nominal, all below 0.5% by share category. The amount of shares held by public participant shareholders was initially small (1% or less), and increased over time. The largest increase in share holdings in public participant shareholders occurred in 2015. Since 2015, public participant shareholders have been holding between 11-32% of the shares in each share category. This information should be interpreted with a degree of caution as many related accounts hold the shares in a separate account from the account linked to the permit and vessel.

Table 5: Shareholders by permit status and the total share percentage held by those accounts

DWG	Permit	No Permit	GG	Permit	No Permit	RG	Permit	No Permit
	N (share %)	N (share %)		N (share %)	N (share %)		N (share %)	N (share %)
2010	449 (99%)	12 (1%)	2010	690 (99%)	29 (<1%)	2010	641 (99%)	24 (<1%)
2011	392 (96%)	39 (4%)	2011	578 (98%)	83 (2%)	2011	537 (98%)	73 (2%)
2012	359 (97%)	42 (3%)	2012	513 (97%)	99 (3%)	2012	479 (98%)	90 (2%)
2013	323 (95%)	59 (5%)	2013	475 (94%)	120 (6%)	2013	440 (96%)	110 (4%)
2014	296 (93%)	72 (7%)	2014	433 (94%)	142 (6%)	2014	402 (95%)	128 (5%)
2015	275 (87%)	91 (13%)	2015	404 (87%)	170 (13%)	2015	369 (80%)	161 (20%)
2016	262 (85%)	97 (15%)	2016	390 (85%)	181 (15%)	2016	360 (79%)	170 (21%)
2017	252 (85%)	109 (15%)	2017	379 (83%)	191 (15%)	2017	362 (80%)	186 (20%)
2018	239 (69%)	105 (31%)	2018	359 (80%)	164 (19%)	2018	339 (79%)	166 (21%)
2019	224 (69%)	112 (31%)	2019	343 (76%)	176 (24%)	2019	321 (72%)	175 (28%)
2020	213 (82%)	121 (18%)	2020	328 (73%)	182 (27%)	2020	305 (71%)	183 (29%)
SWG	Permit	No Permit	TF	Permit	No Permit	Total	Permit	No Permit
	N (share %)	N (share %)		N (share %)	N (share %)			
2010	692 (99%)	29 (<1%)	2010	282 (99%)	5 (<1%)	2010	714	29
2011	591 (97%)	83 (3%)	2011	238 (98%)	22 (2%)	2011	612	87
2012	527 (96%)	102 (4%)	2012	224 (98%)	22 (2%)	2012	556	109
2013	479 (94%)	125 (6%)	2013	200 (96%)	32 (4%)	2013	507	137
2014	433 (92%)	149 (8%)	2014	187 (95%)	40 (5%)	2014	465	163
2015	404 (85%)	177 (15%)	2015	167 (89%)	55 (11%)	2015	441	204
2016	390 (85%)	187 (15%)	2016	155 (87%)	56 (13%)	2016	430	223
2017	380 (85%)	196 (15%)	2017	154 (89%)	60 (11%)	2017	424	243
2018	352 (83%)	169 (17%)	2018	151 (79%)	54 (21%)	2018	398	218
2019	342 (82%)	175 (18%)	2019	140 (70%)	58 (30%)	2019	385	230
2020	330 (80%)	182 (19%)	2020	137 (82%)	64 (18%)	2020	368	238

Note: N indicates the number of shareholders and share percent is the total share percentage held by all of those accounts. Shares from 2018 to 2020 do not equal 100% as the reverted shares are held in an administrative account until the Gulf Council determines distribution.

Allocation Holders

In the GT-IFQ program, an account holder may obtain allocation from shares (distributed at the beginning of the year or from any in-season quota increase) or from the transfer of allocation from another account holder. The number of accounts that hold allocation does not necessarily equal the number of accounts that land allocation, as not all accounts that hold allocation also hold a reef fish permit and some accounts may only transfer allocation. Accounts that hold allocation are termed allocation holders. The number of allocation holders is typically greater than the number of shareholders.

The number of total allocation holders fluctuated over time (Table 6). In recent years, the number of allocation holders in the entire program was increasing over time, until 2019 when a decrease was seen, which could have been a response to discussions by the Gulf Council for Amendment 36B (Table 6). Within each share category, the number of allocation holders have not exceeded the original allocation holders in recent years.

Table 6: Allocation holders by share status

DWG	N	With shares	Via Transfer	GG	N	With shares	Via Transfer
2010	512	472 (92%)	40 (8%)	2010	789	740 (94%)	49 (6%)
2011	521	445 (85%)	76 (15%)	2011	767	694 (90%)	73 (10%)
2012	498	416 (84%)	81 (16%)	2012	743	645 (87%)	98 (13%)
2013	465	384 (83%)	81 (17%)	2013	716	595 (83%)	121 (17%)
2014	457	365 (80%)	92 (20%)	2014	726	580 (80%)	146 (20%)
2015	464	351 (76%)	113 (24%)	2015	753	560 (74%)	193(26%)
2016	462	349 (76%)	113 (24%)	2016	752	560 (74%)	192 (26%)
2017	455	342 (75%)	113 (25%)	2017	767	556 (72%)	211 (28%)
2018	477	345 (72%)	132 (28%)	2018	756	556 (74%)	200 (26%)
2019	449	328 (73%)	121 (27%)	2019	715	513 (72%)	202 (28%)
2020	463	318 (69%)	145 (31%)	2020	736	509 (69%)	227 (31%)
RG	N	With shares	Via Transfer	SWG	N	With shares	Via Transfer
2010	744	690 (93%)	54 (7%)	2010	762	725 (95%)	37 (5%)
2011	739	675 (91%)	64 (9%)	2011	760	687 (90%)	73 (10%)
2012	715	605 (85%)	110 (15%)	2012	737	644 (87%)	93 (13%)
2013	683	563 (82%)	120 (18%)	2013	720	602 (84%)	118 (16%)
2014	689	544 (79%)	145 (21%)	2014	722	578 (80%)	144 (20%)
2015	716	522 (73%)	194 (27%)	2015	742	555 (75%)	187 (25%)
2016	723	543 (75%)	180 (25%)	2016	738	555 (75%)	183 (25%)
2017	750	525 (70%)	225 (30%)	2017	749	551 (74%)	198 (26%)
2018	755	543 (72%)	212 (28%)	2018	745	548 (74%)	197 (26%)
2019	687	494 (72%)	192 (28%)	2019	694	501 (72%)	193 (28%)
2020	694	486 (70%)	208 (30%)	2020	711	497 (70%)	214 (30%)
TF	N	With shares	Via Transfer	ALL	N	With shares	Via Transfer
2010	299	271 (91%)	28 (9%)	2010	816	765 (94%)	51 (6%)
2011	309	263 (85%)	46 (15%)	2011	833	756 (91%)	77 (9%)
2012	292	243 (83%)	49 (17%)	2012	812	701 (86%)	111 (14%)
2013	282	230 (82%)	52 (18%)	2013	786	659 (84%)	127 (16%)
2014	279	217 (78%)	62 (22%)	2014	795	639 (80%)	156 (20%)
2015	287	212 (74%)	75 (26%)	2015	835	620 (74%)	215 (26%)
2016	273	207 (76%)	66 (24%)	2016	842	655 (78%)	187 (22%)
2017	264	196 (74%)	68 (26%)	2017	872	644 (74%)	228 (26%)
2018	286	199 (70%)	87 (30%)	2018	878	656 (75%)	222 (25%)
2019	279	192 (69%)	87 (31%)	2019	819	603 (74%)	216 (26%)
2020	289	185 (64%)	104 (36%)	2020	833	600 (72%)	233 (28%)

Note: N indicates the number of allocation holders and percentage refers to the proportion of those accounts that also hold shares.

Allocation holders can be categorized as those holding or not holding shares (Table 6). Allocation holders that do not hold shares must have obtained allocation through an allocation transfer from another account. Allocation holders with shares may also increase or decrease the amount of allocation within the account through an allocation transfer from or to another account. At the start of the program, 94% of allocation holders held shares. This percentage has been gradually declining over time, and is currently stabilized around 75% of allocation holders have shares and 25% do not. By share category, the overall trend is similar with a decrease in the percentage of allocation holders with shares. The decreases in allocation holders with shares may have resulted from a variety of factors. Factors that may influence the percentage of allocation holders with and without shares include: quota changes,

shareholders that manage shares in related accounts,² the ability for shareholders to obtain shares (e.g., availability or price), changes in harvesting behavior, and/or influences from the RS-IFQ program. Quota increases may allow allocation to be indirectly distributed among more participants through transfers, thereby increasing the percentage of allocation only holders. As the quota increases, those with shares receive a larger amount of allocation than under a smaller quota (e.g., 5% of 100 lb = 5 lb, while 5% of 200 lb is 10 lb). If the allocation received by the fisherman is more than needed to land GT-IFQ species, they may transfer allocation to another account that does not have shares, rather than land the allocation themselves. The amount of related accounts may create more allocation only account holders, as participants aggregate shares into one account. Reduced availability or increased prices of shares may increase the percentage of allocation only holders, as shares become harder to obtain. Finally, participants mainly fishing in one IFQ program may obtain allocation in the other program to reduce discards of incidental catch, as these species commonly co-occur. In fact, the percentage of GT-IFQ vessels that also land red snapper has increased since the start of the program, and has been consistently around 90% in recent years (Table 7).

Table 7: GT-IFQ vessels landing RS-IFQ

Year	% vessels
2010	78%
2011	75%
2012	77%
2013	81%
2014	83%
2015	85%
2016	87%
2017	87%
2018	91%
2019	90%
2020	91%

Dealers

The number of dealers receiving GT-IFQ species has increased since the start of the program (Table 8). Dealers can be categorized by the percentage of annual GT-IFQ species received by the dealer: small dealers received less than 1% of GT-IFQ landings, medium dealers between 1-3% of annual GT-IFQ landings, and large dealers greater than 3% of annual GT-IFQ landings. Currently, it is not possible to link ownership of a shareholder account to ownership of a dealer account, as accounts may be held under different names (e.g., business vs. individual name(s) vs. different business name). Personal communication with industry representatives indicated that there were fishermen who also owned dealer permits, but these were not limited to just small-sized dealers. Small dealers represent the majority of dealers, even though they purchase only a small proportion of the overall catch.

The number of medium-sized and large-sized dealers has remained consistent in recent years, while the number of small dealers has increased. The increase in small-sized dealers likely result from fishermen

who have obtained a GSAD dealer permit to eliminate the middleman and therefore reduce costs and increase profits.

Table 8: Dealer accounts with landings by volume

Year	Total	Small <1% of landings	Medium 1-3% of landings	Large >3% of landings
2010	85	63 (74%)	15 (18%)	7 (8%)
2011	94	75 (80%)	12 (13%)	7 (7%)
2012	97	73 (75%)	16 (16%)	8 (8%)
2013	96	75 (78%)	11 (11%)	10 (10%)
2014	112	94 (84%)	7 (6%)	11 (10%)
2015	114	97 (85%)	7 (6%)	10 (9%)
2016	107	89 (83%)	8 (8%)	10 (9%)
2017	113	95 (84%)	8 (7%)	10 (9%)
2018	114	94 (82%)	10 (9%)	10 (9%)
2019	117	99 (85%)	8 (7%)	10 (9%)
2020	110	93 (85%)	6 (5%)	11 (10%)

Note: Dealer size determined by percentage of annual IFQ landings received by each dealer and may include multiple facilities. The percentage refers to the proportion of dealers in each landings category.

Vessels

The number of vessels harvesting GT-IFQ species decreased from pre-IFQ values and since has fluctuated between 414 to 455 vessels (Table 9). More vessels consistently harvested species within the GG, RG, and SWG share categories than the DWG or TF share categories. For all share categories, the number of vessels continues to remain below the average number of vessels harvesting GT-IFQ species prior to the program.

Since the start of the program, ~88% of the vessels primarily landed their catch at Florida facilities. Changes in the number of vessels landing in each state may be influenced by factors outside of the GT-IFQ program, and these changes may include, but are not limited to, changes in markets or fishing behavior, availability of facilities, and/or catastrophic events (i.e., hurricanes, red tide events, oil spills). As with accounts holding shares, vessels frequently land fish from more than one share category. In recent years, roughly 60% of the vessels landed species in at least three of the share categories, while no more than 15% land fish in only one share category. Between 10 and 15% of the vessels land fish in all five share categories. Multi-share category landings are expected, as many of the species in the reef fish fishery co-occur and are harvested together.

Table 9: Vessels that harvested GT-IFQ species by region

DWG	N	FL	Other Gulf	GG	N	FL	Other Gulf	RG	N	FL	Other Gulf
Pre-IFQ	238	NA	NA	Pre-IFQ	493	NA	NA	Pre-IFQ	546	NA	NA
2010	187	142	59	2010	415	379	44	2010	393	383	11
2011	192	148	54	2011	363	336	29	2011	383	375	9
2012	206	165	52	2012	384	354	37	2012	398	386	13
2013	185	144	52	2013	367	334	40	2013	363	356	9
2014	186	143	47	2014	375	348	29	2014	384	371	13
2015	165	125	47	2015	374	347	32	2015	376	369	9
2016	170	130	47	2016	382	346	41	2016	380	361	21
2017	164	123	46	2017	374	347	30	2017	376	368	8
2018	166	122	47	2018	368	341	31	2018	376	371	7
2019	145	109	44	2019	354	323	36	2019	359	349	10
2020	147	114	36	2020	346	326	25	2020	354	348	10
SWG	N	FL	Other Gulf	TF	N	FL	Other Gulf	ALL	N	FL	Other Gulf
Pre-IFQ	489	NA	NA	Pre-IFQ	166	NA	NA	Pre-IFQ	630	NA	NA
2010	322	284	54	2010	79	66	22	2010	452	401	64
2011	307	270	43	2011	75	59	23	2011	440	388	59
2012	343	304	52	2012	97	81	21	2012	449	398	61
2013	324	282	52	2013	78	61	23	2013	414	364	57
2014	353	310	46	2014	91	75	18	2014	434	386	51
2015	341	299	53	2015	86	66	24	2015	446	397	57
2016	346	295	59	2016	85	66	22	2016	441	387	60
2017	330	287	48	2017	79	60	21	2017	453	403	55
2018	326	279	55	2018	87	65	24	2018	455	402	61
2019	309	260	54	2019	96	78	22	2019	428	374	61
2020	315	268	51	2020	90	72	21	2020	425	377	55

¹ The total number of vessels (N) is less than the sum of vessels across regions because some vessels land in multiple regions. Region is determined by the facility listed in the landing transaction. Pre-IFQ years (2007-2009) are an annual average from the Coastal logbook records.

Account Activity

Account activity (active or inactive) can be determined through analyzing allocation and landing transactions. An account is defined as active if that account has landed allocation or transferred allocation (in or out the account) during the year. Accounts may be inactive due to several reasons: non-activated accounts (never accessed), shares resulting in negligible pounds for harvest or sale (e.g., 1-5 lb), inability to harvest (e.g., vessel in dry dock), or personal events (e.g., death, medical issues). Account status is determined each year. Active accounts can be further categorized by activity type: those only transferring allocation (no landing), or those landing and/or transferring allocation. Some reasons why an account holder may only transfer allocation may be due to the limitation in harvest ability (e.g., no permit, vessel inoperative), related accounts (e.g., transfer allocation to related account), and/or insufficient allocation to harvest (e.g., shares resulted in only a few pounds of allocation).

By share category, the percentage of inactive accounts initially decreased within each share category. Since 2011, the percentage has not change more than ~10% with 19 and 34% of accounts remaining

inactive (Table 10). By share category, the percentage of accounts landing allocation is relatively low, with maximum percentages just around 50% and minimum percentages near 22%. These percentages have remained similar across time within each share category, with variances between 5% and 10%. The RG share category has the greatest percentage of accounts landing allocation, while the lowest occurs in TF.

Table 10: Allocation accounts by activity

DWG	N	Inactive	Landing	GG	N	Inactive	Landing	RG	N	Inactive	Landing
2010	512	169 (33%)	161 (31%)	2010	789	244 (31%)	362 (46%)	2010	744	222 (30%)	348 (47%)
2011	521	140 (27%)	169 (32%)	2011	767	221 (29%)	323 (42%)	2011	739	184 (25%)	344 (47%)
2012	498	104 (21%)	185 (37%)	2012	743	184 (25%)	344 (46%)	2012	715	167 (23%)	357 (50%)
2013	465	115 (25%)	168 (36%)	2013	716	206 (29%)	336 (47%)	2013	683	171 (25%)	332 (49%)
2014	457	103 (23%)	168 (37%)	2014	726	187 (26%)	340 (47%)	2014	689	153 (22%)	349 (51%)
2015	464	109 (23%)	152 (33%)	2015	753	206 (27%)	337 (45%)	2015	716	166 (23%)	342 (48%)
2016	462	107 (23%)	149 (32%)	2016	752	200 (27%)	338 (45%)	2016	723	183 (25%)	347 (48%)
2017	455	131 (29%)	148 (33%)	2017	767	234 (31%)	339 (44%)	2017	750	207 (28%)	344 (46%)
2018	477	139 (29%)	152 (32%)	2018	756	239 (32%)	333 (44%)	2018	755	218 (29%)	340 (45%)
2019	449	108 (24%)	135 (30%)	2019	715	198 (28%)	320 (45%)	2019	687	181 (26%)	326 (47%)
2020	463	119 (26%)	137 (30%)	2020	736	198 (27%)	320 (43%)	2020	694	176 (25%)	325 (47%)
SWG	N	Inactive	Landing	TF	N	Inactive	Landing	Note: N indicates the number of allocation holders and the percentage refers to the proportion of those accounts that either had landings or were considered inactive.			
2010	762	277 (36%)	282 (37%)	2010	299	101 (34%)	66 (22%)				
2011	760	261 (34%)	272 (36%)	2011	309	77 (25%)	68 (22%)				
2012	737	220 (30%)	303 (41%)	2012	292	59 (20%)	87 (30%)				
2013	720	233 (32%)	297 (41%)	2013	282	70 (25%)	76 (27%)				
2014	722	208 (29%)	324 (45%)	2014	279	54 (19%)	83 (30%)				
2015	742	223 (30%)	311 (42%)	2015	287	64 (22%)	79 (28%)				
2016	738	212 (29%)	312 (42%)	2016	273	61 (22%)	80 (29%)				
2017	749	243 (32%)	304 (41%)	2017	264	76 (29%)	72 (27%)				
2018	745	252 (34%)	297 (40%)	2018	286	82 (29%)	80 (28%)				
2019	694	213 (31%)	285 (41%)	2019	279	70 (25%)	91 (33%)				
2020	711	215 (30%)	296 (42%)	2020	289	66 (23%)	83 (29%)				

Accounts landing GT-IFQ species can be categorized as those with and without shares (Table 11). In each share category, landings were primarily associated with accounts that held shares (96-99%) at the start of the program. The percentage of landings from accounts with shares has decreased over time. In 2020, between 43-51% of the accounts landing GT-IFQ species also held shares. While this appears to show a growing disconnect between accounts with shares and those that land those shares, these data must be interpreted with caution. As mentioned previously, many accounts are related to other accounts and conversations with industry representatives have indicated that some fishermen purposely separate their shares from the account landing the allocation.

Table 11: Landings by share status

DWG	w/ shares		w/o shares		GG	w/ shares		w/o shares	
2010	602,749 lb	96%	22,013 lb	4%	2010	473,362 lb	96%	20,576 lb	4%
2011	701,273 lb	90%	78,246 lb	10%	2011	286,560 lb	90%	33,577 lb	10%
2012	806,041 lb	84%	157,794 lb	16%	2012	436,556 lb	83%	88,510 lb	17%
2013	562,498 lb	62%	350,425 lb	38%	2013	470,701 lb	81%	108,963 lb	19%
2014	576,636 lb	55%	471,506 lb	45%	2014	450,465 lb	65%	239,048 lb	35%
2015	458,548 lb	50%	452,791 lb	50%	2015	356,593 lb	64%	198,348 lb	36%
2016	392,801 lb	45%	474,239 lb	55%	2016	495,483 lb	64%	281,707 lb	36%
2017	390,545 lb	48%	431,354 lb	52%	2017	276,519 lb	62%	166,637 lb	38%
2018	383,801 lb	47%	433,651 lb	53%	2018	264,948 lb	59%	186,966 lb	41%
2019	398,633 lb	42%	553,096 lb	58%	2019	291,178 lb	62%	178,697 lb	38%
2020	409,416 lb	51%	394,344 lb	49%	2020	238,560 lb	51%	230,002 lb	49%
RG	w/ shares		w/o shares		SWG	w/ shares		w/o shares	
2010	2,800,064 lb	96%	113,794 lb	4%	2010	155,091 lb	98%	3,143 lb	2%
2011	4,397,093 lb	92%	385,101 lb	8%	2011	170,156 lb	91%	16,079 lb	9%
2012	4,513,535 lb	87%	703,670 lb	13%	2012	256,643 lb	85%	43,724 lb	15%
2013	3,688,461 lb	80%	906,211 lb	20%	2013	242,464 lb	79%	65,382 lb	21%
2014	3,609,728 lb	66%	1,888,265 lb	34%	2014	193,570 lb	74%	69,681 lb	26%
2015	2,943,654 lb	62%	1,841,338 lb	38%	2015	193,160 lb	68%	89,178 lb	32%
2016	2,619,630 lb	57%	2,011,758 lb	43%	2016	221,279 lb	62%	136,884 lb	38%
2017	1,760,921 lb	52%	1,616,289 lb	48%	2017	144,564 lb	60%	94,482 lb	40%
2018	1,151,522 lb	48%	1,252,778 lb	52%	2018	126,056 lb	56%	98,105 lb	44%
2019	1,081,477 lb	52%	1,017,709 lb	48%	2019	105,958 lb	57%	79,056 lb	43%
2020	1,081,245 lb	46%	1,294,229 lb	54%	2020	82,924 lb	51%	81,148 lb	49%
TF	w/ shares		w/o shares						
2010	246,987 lb	99%	2,721 lb	1%					
2011	330,997 lb	86%	55,137 lb	14%					
2012	350,670 lb	78%	100,451 lb	22%					
2013	219,869 lb	50%	220,222 lb	50%					
2014	214,600 lb	41%	302,668 lb	59%					
2015	214,554 lb	40%	322,958 lb	60%					
2016	181,045 lb	42%	247,958 lb	58%					
2017	196,264 lb	40%	288,631 lb	60%					
2018	173,916 lb	45%	212,222 lb	55%					
2019	147,814 lb	35%	275,112 lb	65%					
2020	150,061 lb	43%	198,783 lb	57%					

Accounts that only transfer allocation may or may not have shares or reef fish permits (Table 12). Across time and share categories, the majority of the accounts that only transfer allocation held both shares and reef fish permits. The number of accounts only transferring allocation that do not hold shares, while low, has grown over time. Those accounts only transferring allocation without both shares and permits began in 2015, with public participation and have remained low, with between 10-20 accounts per share category. The total amount of pounds transferred from these accounts was between 49,222 lb (SWG) to 398,159 lb (RG). Public participant accounts without shares may function as brokers by simply obtaining and transferring out allocation.

Table 12: Number and volume of accounts only transferring allocation

DWG	N	Shares		No Shares		GG	N	Shares		No Shares	
		Permit	No permit	Permit	No permit			Permit	No permit	Permit	No permit
2010	182 (36%)	148	7	27	NA	2010	183 (23%)	156	14	13	NA
2011	212 (41%)	142	30	40	NA	2011	223 (29%)	164	35	24	NA
2012	209 (42%)	147	30	32	NA	2012	215 (29%)	156	37	22	NA
2013	182 (39%)	126	24	32	NA	2013	174 (24%)	123	33	18	NA
2014	186 (41%)	128	29	29	NA	2014	199 (27%)	137	38	24	NA
2015	203 (44%)	114	35	43	11	2015	210 (28%)	110	47	41	12
2016	206 (45%)	110	46	43	7	2016	214 (28%)	111	61	31	11
2017	176 (39%)	83	48	35	10	2017	194 (25%)	81	63	39	11
2018	186 (39%)	81	56	36	13	2018	184 (24%)	79	62	31	12
2019	206 (46%)	98	62	32	14	2019	197 (28%)	84	66	30	17
2020	207 (45%)	83	59	48	17	2020	218 (30%)	84	75	39	20
RG	N	Shares		No Shares		SWG	N	Shares		No Shares	
		Permit	No permit	Permit	No permit			Permit	No permit	Permit	No permit
2010	174 (23%)	144	12	18	NA	2010	203 (27%)	172	14	17	NA
2011	211 (29%)	156	37	18	NA	2011	227 (30%)	162	36	29	NA
2012	191 (27%)	136	34	21	NA	2012	214 (29%)	155	37	22	NA
2013	180 (26%)	122	31	27	NA	2013	190 (26%)	121	34	35	NA
2014	187 (27%)	127	39	20	NA	2014	190 (26%)	126	39	25	NA
2015	208 (29%)	110	46	36	16	2015	208 (28%)	106	44	46	12
2016	193 (27%)	98	60	24	11	2016	214 (29%)	109	60	35	10
2017	199 (27%)	77	61	46	15	2017	202 (27%)	86	59	46	11
2018	197 (26%)	75	68	39	15	2018	195 (26%)	76	60	46	13
2019	180 (26%)	73	70	25	12	2019	196 (28%)	90	63	29	14
2020	193 (28%)	74	77	25	17	2020	200 (28%)	80	65	35	20
TF	N	Shares		No Shares		Note: N indicates the number of accounts only transferring allocation. The percentage under N indicates the percentage of these accounts out of all accounts with allocation.					
		Permit	No permit	Permit	No permit						
2010	132 (44%)	105	3	24	NA						
2011	164 (53%)	111	20	33	NA						
2012	146 (50%)	105	18	23	NA						
2013	136 (48%)	97	11	28	NA						
2014	142 (51%)	98	18	26	NA						
2015	144 (50%)	82	25	30	7						
2016	132 (48%)	74	32	22	4						
2017	116 (44%)	55	30	23	8						
2018	124 (43%)	62	27	28	7						
2019	118 (42%)	56	36	14	12						
2020	140 (48%)	57	36	37	10						

Program Evaluation

Transactions and Landings

Share Transfers

A share is the percentage of the commercial quota assigned to a shareholder account that results in allocation (pounds) equivalent to the share percentage of the quota. Shares were distributed at the start of the program to participants based on landings history. Share holdings within an account can only be increased or decreased through share transfers. During the first five years of the program, a recipient account was required to have a reef fish permit to receive shares. Thereafter, the only restrictions on a share transfer was if it exceeded the share cap. Share transfers are a two-step process with the transferor initiating the transfer, and completion of the transfer not occurring until the transferee accepts the transfer. There may be a delay between initiation of the transfer and final acceptance of the transfer.

The number and volume of share transfers that occur annually are variable, with an overall decreasing trend in both number and volume of shares within and across share categories (Table 13). Despite the decreased number and volume of share transfers, the average volume of shares transferred per transaction increased slightly over time for most share categories.

In 2015, the number and volume of share transfers was considerably greater than other years. This was primarily attributed to the opening of the GT-IFQ program to public participation. In the following years, the number and volume of share transfers decreased again. Excluding 2010 and 2015, the total volume of shares transferred, by share category each year, were between 3-23%, while the average volume of shares per transaction was less than 1%.

Table 13: Number and volume of share transfers

DWG	N	Total Shares	Average Shares	GG	N	Total Shares	Average Shares
2010	161	25.8	0.16	2010	256	24.0	0.09
2011	96	7.0	0.07	2011	138	18.8	0.14
2012	78	9.3	0.12	2012	129	14.8	0.12
2013	53	7.3	0.14	2013	88	5.5	0.06
2014	62	12.6	0.20	2014	106	19.2	0.18
2015	85	32.7	0.38	2015	153	24.7	0.16
2016	56	9.6	0.17	2016	84	7.9	0.09
2017	31	3.0	0.10	2017	67	7.1	0.11
2018	34	11.6	0.34	2018	63	4.8	0.08
2019	34	23.5	0.69	2019	70	15.1	0.22
2020	28	7.2	0.26	2020	59	11.8	0.20
RG	N	Total Shares	Average Shares	SWG	N	Total Shares	Average Shares
2010	267	24.3	0.09	2010	195	25.6	0.13
2011	168	13.5	0.08	2011	104	8.4	0.08
2012	202	17.2	0.08	2012	97	6.9	0.07
2013	145	13.7	0.09	2013	82	12.2	0.15
2014	144	14.2	0.10	2014	63	10.6	0.17
2015	214	32.9	0.15	2015	97	21.6	0.22
2016	118	13.1	0.11	2016	56	7.3	0.13
2017	117	5.0	0.04	2017	45	3.5	0.08
2018	84	12.3	0.15	2018	55	12.3	0.22
2019	67	8.8	0.13	2019	54	14.0	0.26
2020	66	9.5	0.14	2020	51	7.2	0.14
TF	N	Total Shares	Average Shares	ALL	N	Total Shares	Average Shares
2010	91	31.6	0.35	2010	970	131.30	0.14
2011	59	9.0	0.15	2011	565	56.62	0.10
2012	44	11.8	0.27	2012	550	59.97	0.11
2013	29	5.5	0.19	2013	397	44.34	0.11
2014	34	16.3	0.48	2014	409	72.94	0.18
2015	57	38.2	0.67	2015	606	150.17	0.25
2016	34	21.1	0.62	2016	348	59.04	0.17
2017	24	3.2	0.13	2017	284	21.70	0.08
2018	20	6.8	0.34	2018	256	47.84	0.19
2019	14	13.8	0.98	2019	239	75.14	0.31
2020	23	6.6	0.29	2020	227	42.29	0.19

Note: N indicates the number of share transfers. Total shares is the sum of all shares transferred, and the average shares indicates weighted average amount of shares transferred per transaction.

Allocation Transfers

Annual GT-IFQ allocation is the actual poundage each IFQ account can use to possess, land, and/or transfer during a given calendar year. Individual units of allocation cannot be tracked in the system (e.g., the same pounds may be transferred multiple times). Only allocation transfers between shareholder accounts were analyzed in this report, and not transfers within accounts (e.g., shareholder account to own vessel account or vice versa).

The number of allocation transfers and total pounds transferred for the program have increased over time (Table 14). In all share categories, the percentage of allocation transferred has exceeded the quota in at least one year if not multiple years. Allocation transfers are over 150% of the quota for share categories DWG, RG, and TF, and sometimes exceed 200%. The average volume of share transfers for categories with quotas over 1 million pounds (mp; RG and DWG) were between 2,000 to 6,000 lb per transfer. Median share transfers in these categories were considerably lower, ranging between 500 lb to 2,500 lb. Share categories with lower quotas had an average volume share transfers that were lower (< 2,000 lb) and lower median volumes (100 lb - 800 lb).

Table 14: Number and volume of allocation transfers

DWG	N	mp	Avg. lb	Median lb	% quota	GG	N	mp	Avg. lb	Median lb	% quota
2010	490	1.027	2,097	737	101%	2010	945	0.743	787	300	53%
2011	632	1.447	2,290	544	142%	2011	1,250	0.332	266	109	77%
2012	764	1.525	1,996	600	135%	2012	1,745	0.504	289	147	89%
2013	608	1.762	2,899	525	158%	2013	1,718	0.622	362	200	88%
2014	846	2.371	2,802	700	214%	2014	2,232	1.236	554	216	148%
2015	898	3.241	3,609	1,000	294%	2015	1,847	1.255	680	232	134%
2016	947	2.439	2,575	548	238%	2016	2,183	1.391	637	229	148%
2017	780	2.153	2,761	725	210%	2017	1,485	0.849	572	200	90%
2018	820	2.297	2,802	1,000	224%	2018	1,274	0.705	553	200	75%
2019	1,038	2.829	2,726	806	276%	2019	1,734	1.219	703	200	130%
2020	803	2.077	2,587	1,000	203%	2020	1,932	1.302	674	200	139%
RG	N	mp	Avg. lb	Median lb	% quota	SW G	N	mp	Avg. lb	Median lb	% quota
2010	1,065	3.217	3,021	926	56%	2010	616	0.315	511	186	77%
2011	1,550	4.260	2,749	1,000	81%	2011	568	0.273	480	200	67%
2012	1,906	4.737	2,485	1,000	88%	2012	900	0.366	406	200	72%
2013	1,752	5.579	3,185	1,000	101%	2013	911	0.493	541	212	95%
2014	2,317	7.188	3,102	1,000	128%	2014	1,000	0.507	507	200	97%
2015	2,480	8.655	3,490	1,072	151%	2015	1,084	0.577	532	200	110%
2016	2,978	15.069	5,060	1,000	194%	2016	1,595	0.662	415	200	126%
2017	1,758	8.906	5,066	1,000	114%	2017	1,147	0.504	440	200	96%
2018	1,373	8.391	6,112	1,000	108%	2018	999	0.463	464	200	88%
2019	2,373	6.067	2,557	2,373	202%	2019	1,165	0.549	471	184	105%
2020	2,565	5.368	2,093	2,565	179%	2020	1,210	0.480	396	106	91%
TF	N	mp	Avg. lb	Median lb	% quota	ALL	N	mp	% quota		
2010	268	0.490	1,827	445	111%	2010	3,384	5.792	64%		
2011	328	0.766	2,334	518	174%	2011	4,328	7.078	94%		
2012	385	0.686	1,782	406	118%	2012	5,700	7.817	96%		
2013	291	0.933	3,207	600	160%	2013	5,280	9.389	111%		
2014	430	1.256	2,920	700	216%	2014	6,825	12.557	145%		
2015	504	1.412	2,801	888	243%	2015	6,813	15.139	171%		
2016	515	1.134	2,202	500	195%	2016	8,218	20.695	191%		
2017	472	1.073	2,274	544	184%	2017	5,642	13.485	124%		
2018	422	0.865	2,049	500	149%	2018	4,888	12.722	117%		
2019	668	1.219	1,825	500	209%	2019	6,978	11.882	196%		
2020	554	0.856	1,546	500	147%	2020	7,064	10.084	166%		

Note: N indicates the number of allocation transfers.

Quota and Landings

Adjustments in quota can occur due to the stock status change (e.g., new assessment) or management measures (e.g., reallocation between sectors). Quota increases can occur at any point during the fishing season. Amendment 36A to the Reef Fish FMP (2018) provided NMFS the flexibility to address an anticipated decrease in commercial quota after the start of the fishing year. When such an anticipated decrease is expected, NMFS will withhold from distribution quota equal to the expected decrease. If the quota decrease is not completed before June 1, the withheld quota will be distributed to the IFQ shareholders based on shares at the time of distribution.

The start of the GT-IFQ program began with quotas similar to pre-IFQ values, except for GG, which increased in 2010 (Table 15). DWG quotas have remained at pre-IFQ values (1.02 mp) for the first 3 years, with a quota increase in early 2012 to 1.127 mp due to Generic Annual Catch Limit (ACL) amendment. The quota subsequently decreased over the next four years and has since remained at 1.024 mp. While the GG quota increased the first year of the GT-IFQ program, a 1.31 mp decrease based on a stock assessment followed in 2011. A temporary rule increased the quota in 2011 to 0.430 mp. Additional quota increases occurred for the next four years to 0.939 mp in 2015. The quota has remained at this level through 2020. RG quota initially decreased to 4.320 mp in 2011, followed by a subsequent late year increase to 5.23 mp. The quota fluctuated over the next several years between 5.37 mp and 5.72 mp. In late 2016, based on a stock assessment, the quota increased to 7.78 mp. The quota remained at this level through the end of 2018. Updated projections reduced the RG quota to 3 mp in 2019 and it has remained at that level. SWG quota remained at the initial value of 0.410 mp through 2012, where it was increased based on the Generic ACL amendment to 0.509 mo. The quota increased again over the next two years to 0.525 mp in 2015 and has remained at this level through 2020. TF remained at the starting value of 0.440 mp until the 2012 increase through the Generic ACL amendment. The quota rose to 0.582 mp and has remained there through 2020.

Table 15: IFQ commercial quota by year

DWG	Jan 1	Quota Increase	Increase Date	Dec 31	GG	Jan 1	Quota Increase	Increase Date	Dec 31
2009*	1,020,000			1,020,000	2009*	1,320,000 ¹			1,320,000
2010	1,020,000			1,020,000	2010	1,410,000			1,410,000
2011	1,020,000			1,020,000	2011	100,000	330,000	6/1	430,000
2012	1,020,000	107,000	1/30	1,127,000	2012	430,000	137,000	3/12	567,000
2013	1,118,000			1,118,000	2013	708,000			708,000
2014	1,110,000			1,110,000	2014	835,000			835,000
2015	1,101,000			1,101,000	2015	939,000			939,000
2016	1,024,000			1,024,000	2016	939,000			939,000
2017	1,024,000			1,024,000	2017	939,000			939,000
2018	1,024,000			1,024,000	2018	939,000			939,000
2019	1,024,000			1,024,000	2019	939,000			939,000
2020	1,024,000			1,024,000	2020	939,000			939,000
RG	Jan 1	Quota Increase	Increase Date	Dec 31	SWG	Jan 1	Quota Increase	Increase Date	Dec 31
2009*	5,750,000 ¹			5,750,000	2009*	410,000 ¹			410,000
2010	5,750,000			5,750,000	2010	410,000			410,000
2011	4,320,000	910,000	11/2	5,230,000	2011	410,000			410,000
2012	5,370,000			5,370,000	2012	410,000	99,000	1/30	509,000
2013	5,530,000			5,530,000	2013	518,000			518,000
2014	5,630,000			5,630,000	2014	523,000			523,000
2015	5,720,000			5,720,000	2015	525,000			525,000
2016	5,720,000	2,060,000	10/12	7,780,000	2016	525,000			525,000
2017	7,780,000			7,780,000	2017	525,000			525,000
2018	7,780,000			7,780,000	2018	525,000			525,000
2019	3,000,000			3,000,000	2019	525,000			525,000
2020	3,000,000			3,000,000	2020	525,000			525,000
TF	Jan 1	Quota Increase	Increase Date	Dec 31	<p>* Indicates the quota in the year prior to the GT-IFQ Program.</p> <p>¹ The total shallow-water grouper quota was an aggregate of the other shallow-water species, red grouper, and gag which was 7.48 mp in 2009. In this table, the gag and red grouper individual quotas are listed, while the remainder of the aggregate quota is listed as the SWG quota.</p>				
2009*	440,000			440,000					
2010	440,000			440,000					
2011	440,000			440,000					
2012	440,000	142,000	1/30	582,000					
2013	582,000			582,000					
2014	582,000			582,000					
2015	582,000			582,000					
2016	582,000			582,000					
2017	582,000			582,000					
2018	582,000			582,000					
2019	582,000			582,000					
2020	582,000			582,000					

The percentage of the quota landed annually for the entire program varied between 39% and 92% (Table 16). The percentage of quota was low the first year of the program due to the impact of the Deepwater Horizon (DWH) oil spill that closed off large areas to fishing ([Appendix 2](#)). The remaining discussion excludes 2010 landings. The percentage of the quota landed can be influenced by environmental disasters such as hurricanes, although effects may be variable across regions, and other natural events (e.g., red tide). The percentage of the program landings are largely driven by the share categories with larger quotas (i.e., DWG and RG). The RG share category always has the largest quota, and fishermen have landed 31-98% of the quota throughout the years. The years with the lowest utilization of the quota corresponded with the years with considerably greater quotas (7.78 mp). From 2011 to 2016, 4.5-

5 mp of quota were landed, regardless of the quota. Landings decreased in 2017 to 3.3 mp – 2.1 mp annually. Decreased landings were likely related to decreases in stock size and not an effect of the IFQ program. For DWG, fishermen landed between 76% - 94% of the quota. The largest quota was landed in 2014 (1.04 mp), while remaining years were between 0.780 mp and 0.964 mp. Fishermen landed between 47% and 93% of the GG quota annually. During years where the quota remained consistent at 0.939 mp, generally only ~50% of the quota was landed. Landings have been around 0.450 mp since 2017. For TF, fishermen landed between 66% - 92% of the quota annually. In recent years, there has been a decrease in overall landings to between 0.348 mp and 0.423 mp. Since the program began, fishermen have landed low percentages of the SWG quota (31% - 68%). Recent years (2019-2020), have seen the smallest percentages and pounds of SWG landed.

By share category, monthly landings average between 2% to 20%, indicating a year round fishery for all categories ([Appendix 4](#)). Peak monthly landings for GG and RG typically occur in early spring from February through May. Both DWG and SWG landings peaked in late spring and summer between May and August. TF landings were generally greater in October. All share categories saw increased landings in December, as participants seek to use allocation before it expires for the year. In 2020, landings were decreased in April and May as a result of the pandemic.

Table 16: Annual landings

DWG	Landings	% Quota	GG	Landings	% Quota
2010	624,762	61%	2010	493,938	35%
2011	779,519	76%	2011	320,137	74%
2012	963,835	86%	2012	525,066	93%
2013	912,923	82%	2013	579,664	82%
2014	1,048,142	94%	2014	689,513	83%
2015	911,339	83%	2015	554,941	59%
2016	867,040	85%	2016	777,190	83%
2017	821,899	80%	2017	443,156	47%
2018	817,452	80%	2018	451,914	48%
2019	951,729	93%	2019	469,875	50%
2020	803,760	78%	2020	468,562	50%
RG	Landings	% Quota	SWG	Landings	% Quota
2010	2,913,858	51%	2010	158,234	39%
2011	4,782,194	91%	2011	186,235	45%
2012	5,217,205	97%	2012	300,367	59%
2013	4,594,672	83%	2013	307,846	59%
2014	5,497,993	98%	2014	263,251	50%
2015	4,784,992	84%	2015	282,338	54%
2016	4,631,388	60%	2016	358,163	68%
2017	3,377,210	43%	2017	239,046	46%
2018	2,404,300	31%	2018	224,161	43%
2019	2,099,186	70%	2019	185,014	35%
2020	2,375,474	79%	2020	165,072	31%
TF	Landings	% Quota	All	Landings	% Quota
2010	249,708	57%	2010	4,440,500	49%
2011	386,134	88%	2011	6,454,219	86%
2012	451,121	78%	2012	7,457,594	91%
2013	440,091	76%	2013	6,835,196	81%
2014	517,268	89%	2014	8,016,167	92%
2015	537,512	92%	2015	7,071,122	80%
2016	429,003	74%	2016	7,062,784	65%
2017	484,895	83%	2017	5,366,206	49%
2018	386,138	66%	2018	4,283,965	39%
2019	422,926	73%	2019	4,128,730	68%
2020	348,844	60%	2020	4,161,712	69%

Landings by Species

Three of the share categories (DWG, SWG, and TF) contain multiple species. One species within each of these categories comprises the majority of the landings for that share category (Table 17; Figure 1). Landings may be strongly influenced by social and economic factors such as share price, allocation price, allocation availability, market desirability, and ex-vessel price for these species within the IFQ program. All of the species in a category use the same shares and allocation, although landings and ex-vessel prices may differ among these species. Differences in ex-vessel price among species within the same share category may influence the fishing behavior as fishermen target species that receive a higher ex-vessel price. While this may occur in non-catch share fisheries, this behavior may be magnified due

to the allocation costs and availability. If a fisherman has limited allocation available, they may change effort to harvest the fish with a higher ex-vessel value to maximize their economic benefits.

DWG species

The DWG share category contains four species: snowy grouper, speckled hind, warsaw grouper, and yellowedge grouper. Yellowedge grouper accounted for 70-81% of the DWG landings, followed by snowy grouper (9-17%)(Table 17; Figure 1). Both warsaw grouper and speckled hind landings were typically less than 10% each year. Warsaw grouper landings have been decreasing for the last seven years.

SWG species

The SWG share category contains four species: black grouper, scamp, yellowfin grouper, and yellowmouth grouper. Scamp accounted for 70-85% of the SWG landings, followed by black grouper (11-26%). Both yellowfin grouper and yellowmouth grouper are each less than 1% of the landings (Table 17; Figure 1). The landings of species within SWG have changed with the start of the GT-IFQ program, with an increased proportion of scamp landings and decreased proportion of black grouper and yellowfin grouper landings. Yellowfin grouper landings pre-IFQ consisted of 2% of the SWG landings, but decreased to less than 1% during the GT-IFQ years. Black grouper landings pre-IFQ consisted of 36% of the SWG landings, but decreased at the start of the GT-IFQ program to 12%. The black grouper landings then increased to 26% in 2014 and 23% in 2015, but decreased to proportions seen previously between 15% and 20% in more recent years.

TF species

The TF share category contains three species: golden tilefish, blueline tilefish, and goldface tilefish. During the program, golden tilefish accounted for 70-90% of the TF landings, followed by blueline tilefish (9-30%) and goldface tilefish (<1% to 7%)(Table 17; Figure 1). The landings of species within TF have changed with the start of the GT-IFQ program. Prior to the GT-IFQ program, golden tilefish comprised 74% of the TF landings, but increased to 84% in the first year of the GT-IFQ program. Thereafter, golden tilefish landings continued to comprise an increasing proportion of the TF landings until 2019 when landings returned to their pre-IFQ levels. In contrast, blueline tilefish composed 26% of the TF landings before the GT-IFQ program began, but then dropped to 9% at the start of the program. Blueline tilefish did not comprise more than 18% of the TF landings once the program began, but like golden tilefish, blueline tilefish also returned to pre-IFQ levels in 2019 and has remained there since. Goldface tilefish in the first year of the GT-IFQ program comprised 7% of the TF landings, but in the following years decreased considerably and continues to account for less than 1% of the TF landings.

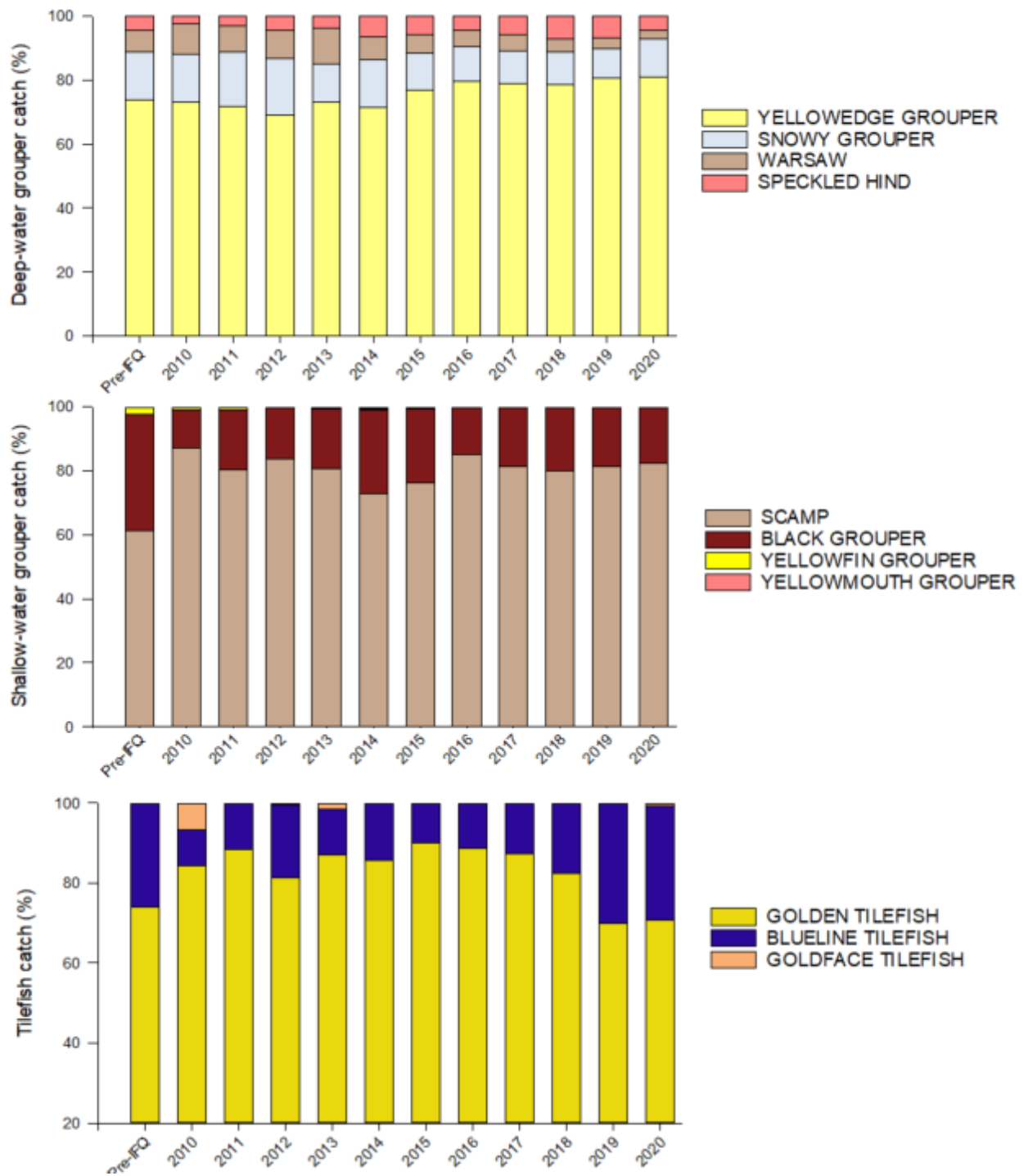


Figure 1. Species landings within share categories

Table 17: Landings by species and year

Share Cat.	Species	Pre-IFQ ¹	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DWG	Snowy grouper	161,175	90,180	132,971	168,759	108,689	159,857	108,980	94,830	87,587	89,416	91,430	99,072
	Speckled hind	47,913	15,359	24,925	43,344	34,922	72,241	55,550	41,151	51,061	60,618	67,082	36,187
	Warsaw grouper	74,476	56,496	61,661	86,212	103,074	75,426	55,502	44,635	44,362	35,976	33,590	22,707
	Yellowedge grouper	792,055	443,887	558,908	667,785	673,349	773,621	735,218	709,349	677,926	677,310	804,558	665,412
GG	Gag	952,555	496,826	318,663	523,138	575,335	586,377	542,774	910,996	492,095	492,934	532,015	475,714
RG	Red grouper	3,910,083	2,910,970	4,783,668	5,219,133	4,599,001	5,601,905	4,797,159	4,497,582	3,328,271	2,363,280	2,037,046	2,368,322
SWG	Black grouper	156,778	20,905	34,970	47,537	56,750	60,555	54,831	48,788	37,032	34,806	25,634	25,345
	Scamp	266,193	153,533	149,286	249,320	242,170	167,840	182,108	284,987	162,435	142,787	113,908	118,784
	Yellowfin grouper	10,122	1,394	945	739	856	568	442	709	152	440	377	66
	Yellowmouth grouper	466	85	548	506	959	1,285	1,046	754	390	260	164	259
TF	Blueline tilefish	123,072	22,555	44,841	82,025	49,454	74,221	53,681	47,898	61,808	66,936	127,162	99,688
	Golden tilefish	352,080	209,641	341,260	366,763	383,132	442,992	483,779	380,125	423,054	318,133	295,691	246,168
	Goldface tilefish ²	NA	16,559	33	2,333	7,505	55	35	212	33	1,069	73	2,988

¹ Pre-IFQ data were averaged over three years: 2007-2009.

² Goldface tilefish were grouped with unclassified tilefish prior to the start of the GT-IFQ program.

³ Pounds are by species and not the share category the species of landing.

Multi-use for gag and red grouper species

Table 18: Multi-use allocation

Year	GGM	RGM
2010	8%	4%
2011	8%	NA
2012	8%	NA
2013	70%	NA
2014	47%	NA
2015	33%	4.8%
2016	33%	4.8%
2017	43.6%	3.5%
2018	43.6%	3.5%
2019	43.6%	3.5%
2020	43.6%	3.5%

A portion of the gag or red grouper allocation may be reserved each year for multi-use allocation, which may be used to land either gag or red grouper. The multi-use provision is to ensure that there may be allocation to use if either gag or red grouper are landed as incidental catch. The percentage of multi-use may change each year and may even be zero (Table 18). Since 2013, the red grouper multi-use (RGM) and gag multi-use (GGM) allocation was based on formulas (see below) using the commercial quota and the annual catch limits for gag and red grouper. If either stock is under a rebuilding plan, the percentage of the other species multi-use allocation will equal zero. Multi-use allocation cannot be used until all the species-specific allocation has been landed or transferred, including allocation in shareholder and all associated vessel(s) accounts. For example, gag may not be landed under GGM or RGM until there is no GG allocation remaining in the shareholder and associated vessel(s) accounts. Similarly, multi-use allocation may only be transferred after landing or transferring all the corresponding species-specific allocation in the shareholder and associated vessel(s) accounts.

$$RGM \text{ allocation} = 100 * \frac{(Gag \text{ ACL} - Gag \text{ Commercial Quota})}{Red \text{ Grouper Commercial Quota}}$$

$$GGM \text{ allocation} = 100 * \frac{(Red \text{ Grouper ACL} - Red \text{ Grouper Commercial Quota})}{Gag \text{ Commercial Quota}}$$

There was no RGM allocation from 2011-2014 because gag was under a rebuilding plan. Since 2017, multi-use has been set at 43.6% GGM and 3.5% RGM, as the buffers between the ACL and quota for both species have remained constant. The majority of the GGM multi-use allocation was used for harvest gag (Table 19). Generally, the majority of RGM was used to also harvest gag, with the exception of 2010, 2015, and 2020.

Table 19: Percentage of multi-use landings

Year	RGM		GGM	
	Red Grouper	Gag	Red Grouper	Gag
2010	73% (13,833 lb)	27% (5,091 lb)	28% (2,203 lb)	72% (5,654 lb)
2011	NA	NA	14% (1,474 lb)	86% (8,700 lb)
2012	NA	NA	6% (1,928 lb)	94% (32,230 lb)
2013	NA	NA	1% (4,329 lb)	99% (376,528 lb)
2014	NA	NA	35% (103,151 lb)	65% (188,950 lb)
2015	82% (98,466 lb)	18% (20,998 lb)	26% (33,165 lb)	74% (92,661 lb)
2016	8% (11,441 lb)	92% (135,471 lb)	1% (1,665 lb)	99% (220,088 lb)
2017	11% (6,145 lb)	89% (51,137 lb)	2% (2,198 lb)	98% (116,163 lb)
2018	4% (1,656 lb)	96% (41,364 lb)	0.3% (344 lb)	99.7% (114,984 lb)
2019	38% (43,610 lb)	62% (71,349 lb)	19% (9,209 lb)	81% (39,266 lb)
2020	74% (85,218lb)	27% (30,677 lb)	46% (23,525 lb)	54% (27,701 lb)

Remaining Allocation and Overage Measure

At the end of each year on December 31, any remaining allocation in an account expires. The number and percentage of accounts by share category is high (>50%) and have not appreciably decreased over time (Table 20). By share category, just under half of these accounts were inactive. The majority of remaining pounds were held by these inactive accounts.

Table 20: Number of accounts with remaining allocation and volume by activity status

DWG	Acct	lb	Inact. lb	Inact. Acct	GG	Acct	lb	Inact. lb	Inact. Acct
2010	390 (76%)	395,615	64,601	169	2010	706 (89%)	916,034	114,277	257
2011	283 (54%)	240,703	15,731	140	2011	531 (69%)	109,780	17,991	259
2012	235 (47%)	163,126	11,177	103	2012	425 (57%)	41,981	11,808	221
2013	253 (54%)	205,088	14,192	115	2013	467 (65%)	128,169	21,471	217
2014	195 (43%)	62,405	5,406	103	2014	418 (58%)	145,486	17,536	196
2015	238 (51%)	189,347	8,411	109	2015	519 (69%)	384,151	51,875	232
2016	228 (49%)	156,744	11,209	107	2016	463 (62%)	162,234	37,993	220
2017	250 (55%)	202,191	24,698	131	2017	556 (72%)	495,728	72,492	250
2018	264 (55%)	206,622	44,402	139	2018	573 (76%)	487,166	100,678	262
2019	202 (45%)	71,973	9,766	108	2019	503 (70%)	467,614	80,922	224
2020	256 (55%)	219,994	27,248	119	2020	503 (68%)	468,807	61,945	221
RG	Acct	lb	Inact. lb	Inact. Acct	SWG	Acct	lb	Inact. lb	Inact. Acct
2010	666 (90%)	2,835,405	343,665	235	2010	630 (83%)	251,503	33,961	277
2011	501 (68%)	448,926	64,216	184	2011	513 (68%)	223,743	22,514	261
2012	356 (50%)	152,249	38,159	167	2012	441 (60%)	208,450	22,711	220
2013	441 (65%)	935,526	62,605	171	2013	493 (68%)	210,129	20,999	233
2014	317 (46%)	132,651	46,907	153	2014	461 (64%)	259,689	20,948	208
2015	478 (67%)	935,240	58,501	190	2015	499 (67%)	242,619	26,732	223
2016	582 (80%)	3,148,565	194,289	191	2016	476 (64%)	166,837	25,570	212
2017	571 (76%)	4,403,288	463,690	221	2017	538 (72%)	285,942	50,372	243
2018	607 (80%)	5,376,103	681,565	242	2018	536 (72%)	300,925	59,759	252
2019	478 (70%)	898,038	187,090	203	2019	485 (70%)	337,610	52,680	213
2020	443 (64%)	621,566	126,335	199	2020	483 (68%)	358,547	58,045	215
TF	Acct	lb	Inact. lb	Inact. Acct	ALL	Acct	lb	Inact. lb	Inact. Acct
2010	219 (73%)	190,857	59,798	101	2010	750 (92%)	4,589,414	453,584	245
2011	142 (46%)	53,920	5,343	77	2011	667 (80%)	1,077,088	96,463	260
2012	130 (45%)	130,903	5,951	59	2012	596 (73%)	696,709	75,785	254
2013	148 (52%)	141,968	11,614	70	2013	608 (77%)	1,620,880	110,513	244
2014	113 (41%)	64,855	2,380	54	2014	561 (71%)	665,086	85,800	232
2015	122 (43%)	44,613	4,410	64	2015	635 (76%)	1,795,970	109,014	251
2016	121 (44%)	153,031	14,684	61	2016	692 (82%)	3,787,411	238,076	251
2017	133 (50%)	97,149	10,317	76	2017	695 (80%)	5,484,298	529,912	276
2018	157 (55%)	195,955	43,906	82	2018	723 (82%)	6,566,771	861,310	298
2019	128 (46%)	158,757	5,989	70	2019	628 (77%)	1,933,992	300,076	252
2020	159 (55%)	232,923	18,187	66	2020	632 (76%)	1,901,837	259,540	259

An overage flexibility measure allows accounts that hold shares to land in excess of their allocation once per category per year. This overage measure allows one of the shareholder's vessels to land 10% more allocation for that category than was on the vessel at that point in time. Such overages are anticipated to occur because it is difficult to accurately estimate the weight of fish at sea. Overages typically occur late in the year, as there must be no allocation in the shareholder or any associated vessel accounts for the overage measure to take effect, but may occur at any point in time. All overages are deducted from the shareholder's allocation in the following year. The shareholder is prevented from transferring shares equal to the overage.

The total amount of landings from overages is small, less than 0.05% each year (Table 20). By share category, only a small number of accounts (< 30) utilized the overage provision. Average overages per

share category are low (between 2 and 1,139 lb), while median values were typically smaller (between 2 and 105 lb).

Table 21: Number of accounts with overages and associated volume

DWG	Acct	lb (gw)	Average lb	Median lb	GG	Acct	lb (gw)	Average lb	Median lb
2010	2	31	16	16	2010	5	372	74	49
2011	8	260	33	22	2011	20	206	10	3
2012	2	88	44	44	2012	24	263	11	5
2013	4	30	8	5	2013	9	79	9	4
2014	5	491	98	4	2014	3	14	5	4
2015	4	325	81	57	2015	4	25	6	6
2016	2	46	23	23	2016	7	277	40	15
2017	4	74	19	21	2017	4	27	7	4
2018	4	93	23	23	2018	7	33	5	1
2019	4	206	52	11	2019	4	16	4	4
2020	5	223	45	25	2020	2	162	81	81
RG	Acct	lb (gw)	Average lb	Median lb	SWG	Acct	lb (gw)	Average lb	Median lb
2010	14	52	52	26	2010	0	0	0	0
2011	13	1,139	1,139	31	2011	8	253	32	16
2012	9	236	236	6	2012	7	69	10	6
2013	4	85	85	8	2013	6	113	19	2
2014	6	833	833	79	2014	4	43	11	3
2015	6	688	688	41	2015	2	8	4	4
2016	1	82	82	82	2016	3	25	8	10
2017	3	318	106	48	2017	5	31	6	8
2018	3	149	50	9	2018	1	2	2	2
2019	7	675	96	12	2019	1	12	12	12
2020	7	854	122	46	2020	1	12	12	12
TF	Acct	lb (gw)	Average lb	Median lb	ALL	Acct	lb (gw)	Average lb	Median lb
2010	0	0	0	0	2010	9	455	51	26
2011	3	22	7	7	2011	48	1,880	39	10
2012	0	0	0	0	2012	33	656	20	10
2013	3	17	6	4	2013	23	324	14	4
2014	3	127	42	32	2014	19	1,508	79	30
2015	2	209	105	105	2015	16	1,255	78	35
2016	0	0	0	0	2016	12	430	36	12
2017	0	0	0	0	2017	14	450	32	14
2018	2	53	27	27	2018	14	330	24	8
2019	1	13	13	13	2019	13	922	71	11
2020	3	57	19	5	2020	15	1,308	87	46

Effort and Discards

Effort

Effort for all trips landing GT-IFQ species was determined using the Southeast Fisheries Science Center's (SEFSC) coastal logbook records for 2007-2020⁶. The number of trips, average trip length, average landings of GT-IFQ species per trip, and average total landings per trip were analyzed by gear (Table 22). Note: values were not adjusted for misidentified species (e.g., gag as black grouper). Vertical line (VL) gear included all types of vertical gear (e.g., hand lines, bandit reels, hook and line, etc.), as well as miscellaneous gear (e.g., spearfishing). The longline gear category (LL) does not include

⁶ SEFSC Coastal Logbooks accessed 5/7/2021

any other gear. Differences in effort may be influenced by gear and region. Due to the multi-species nature of the reef fish fishery, effort data on a share category may also be influenced by the targeted species for each trip. This information was not utilized, as the analysis was by share category and not by species.

The number of trips taken to harvest GT-IFQ species were consistently greater on trips using VL gear than LL gear (Tables 22 and 23). The average number of trips with VL gear were less than pre-IFQ years, yet remained consistent between 3,500 and 4,500 trips/year. In 2020, the number of trips decreased due to the pandemic to just under 3,000 trips. The average length of trips with VL gear remained consistent both pre-IFQ and post-IFQ, around 4 days. The average pounds of GT-IFQ species decreased in 2016 for trips with VL gear from between 550-700 lb/trip to 300-470 lb/trip, although average total landings per trip remained similar at 1,600-2,000 lb/trip. The decrease in average pounds of GT-IFQ species per trip coincide with decreased in RG per trip.

On average, 650-820 trips are taken each year using LL gear. This is decreased from pre-IFQ years where 1,000 trips were taken per year. Trips length has remained consistent pre- and post-IFQ near 10-12 days. The average pounds of GT-IFQ species landed per trip has been generally greater post-IFQ (3,600 – 7,000 lb/trip) than pre-IFQ (3,600 lb/trip) as have total landings per trip (pre-IFQ = 4,000 lb/trip vs post-IFQ 4,500 – 7,600 lb/trip). The majority of the catch by weight on LL gear trips is composed of GT-IFQ species.

Differences in pre-IFQ to post-IFQ may be influenced by factors both directly and indirectly related to the GT-IFQ program, such as elimination of trip limits and short fishing seasons, increases in quota, changes in fishermen targeting behavior, and regulations on other reef fish species.

Table 22: Vertical line effort (number of trips) harvesting GT-IFQ species

DWG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip	GG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip
Pre-IFQ	477	6.0	286	3,118	Pre-IFQ	3,348	4.4	202	1,358
2010	563	5.8	196	3,995	2010	2,711	4.7	139	1,575
2011	624	6.1	211	4,091	2011	2,143	4.6	109	2,002
2012	839	6.5	231	3,824	2012	2,664	4.4	146	1,955
2013	697	6.1	174	3,964	2013	2,460	4.7	153	1,878
2014	711	5.7	163	4,253	2014	2,699	4.6	131	1,834
2015	565	5.9	157	4,201	2015	2,287	4.3	122	1,727
2016	549	6.1	126	4,408	2016	2,625	4.3	193	1,601
2017	425	6.1	139	4,626	2017	2,234	4.2	137	1,540
2018	364	6.2	131	4,489	2018	2,017	4.0	154	1,578
2019	372	5.7	156	3,925	2019	2,062	3.7	163	1,678
2020	245	5.2	125	4,285	2020	1,795	3.6	152	1,770
RG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip	SWG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip
Pre-IFQ	4,222	4.3	466	1,166	Pre-IFQ	2,648	5.0	94	2,152
2010	3,183	4.7	488	1,342	2010	1,773	5.6	65	2,400
2011	3,201	4.3	520	1,648	2011	1,974	5.2	53	2,562
2012	3,407	4.4	633	1,749	2012	2,380	5.5	76	2,580
2013	3,186	4.4	465	1,492	2013	1,943	5.7	78	2,615
2014	3,483	4.3	560	1,457	2014	2,000	5.4	62	2,513
2015	3,387	4.1	547	1,330	2015	1,807	5.1	62	2,585
2016	3,234	4.1	385	1,243	2016	2,043	5.3	79	2,600
2017	2,898	4.1	350	1,214	2017	1,651	5.2	55	2,655
2018	2,635	3.8	248	1,196	2018	1,605	4.9	51	2,476
2019	2,614	3.4	220	1,207	2019	1,537	4.6	45	2,602
2020	2,306	3.4	286	1,277	2020	1,312	4.4	44	2,709
TF	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip	ALL	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip
Pre-IFQ	201	5.8	79	3,049	Pre-IFQ	5,484	4.2	556	1,480
2010	159	6.3	72	3,357	2010	3,898	4.6	556	1,667
2011	206	5.8	52	3,735	2011	3,935	4.4	545	1,953
2012	251	6.5	175	3,684	2012	4,216	4.5	703	2,004
2013	207	5.9	89	2,908	2013	3,903	4.4	551	1,872
2014	243	5	145	2,797	2014	4,352	4.2	593	1,839
2015	211	4.9	139	2,635	2015	4,306	4.0	548	1,742
2016	149	5.3	167	2,776	2016	4,246	4.1	473	1,706
2017	154	5.3	65	2,608	2017	3,883	4.0	382	1,655
2018	132	5.1	113	2,814	2018	3,484	3.8	318	1,638
2019	191	5.2	218	2,057	2019	3,456	3.5	313	1,656
2020	137	4.3	106	1,954	2020	2,917	3.5	354	1,760

¹ Data from the SEFSC Coastal Logbook records are as of 5/7/2021 and therefore may not contain the complete 2021 data. Pre-IFQ data are the average from 2007-2009. The total number of trips maybe be less than the sum across gear, because some vessels may use multiple gear types.

² Vertical line includes spearfishing, buoy, and other gear types.

Table 23: Longline effort (number of trips) harvesting GT-IFQ species

DWG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip	GG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip
Pre-IFQ	443	10.0	2,151	4,592	Pre-IFQ	664	10.4	410	4,042
2010	243	10.9	2,307	7,190	2010	348	10.8	293	4,969
2011	296	11.6	2,513	7,725	2011	364	10.5	212	6,742
2012	341	12.3	2,175	6,920	2012	408	9.7	301	7,274
2013	336	12.0	1,792	6,772	2013	481	10.3	365	6,847
2014	348	12.5	1,871	5,846	2014	526	11.1	365	7,635
2015	385	12.3	2,138	5,534	2015	563	11.8	421	6,771
2016	437	12.2	2,365	5,371	2016	650	11.5	589	6,567
2017	406	10.6	2,018	4,625	2017	584	12.3	282	5,440
2018	364	10.9	2,307	7,190	2018	517	12.1	310	4,981
2019	369	11.6	2,513	7,725	2019	463	11.9	360	4,875
2020	345	12.3	2,175	6,920	2020	463	10.4	340	4,754
RG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip	SWG	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip
Pre-IFQ	778	10.0	2,502	3,772	Pre-IFQ	680	10.3	280	4,055
2010	342	10.8	3,673	4,848	2010	303	10.7	250	4,954
2011	556	10.2	5,253	6,346	2011	447	10.4	184	6,591
2012	508	9.4	5,483	6,837	2012	459	9.9	263	6,985
2013	546	10.3	5,263	6,717	2013	490	10.7	288	7,150
2014	584	10.7	5,711	7,251	2014	490	11.3	193	7,838
2015	571	11.5	4,681	6,433	2015	538	12.0	206	6,799
2016	664	11.1	4,522	6,202	2016	605	11.6	297	6,813
2017	621	11.8	3,521	5,020	2017	561	12.5	180	5,515
2018	541	11.8	2,919	4,682	2018	523	12.3	168	5,166
2019	515	11.6	2,573	4,487	2019	434	12.1	159	5,059
2020	527	10.0	2,667	4,430	2020	423	10.7	167	4,815
TF	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip	ALL	Trips	Avg. days/trip	Avg. lb/trip	Avg. Total Landing lb/trip
Pre-IFQ	289	10.2	1,606	4,875	Pre-IFQ	1,063	9.9	3,638	4,035
2010	152	9.6	1,600	4,859	2010	489	10.3	4,436	4,868
2011	182	10.3	2,028	6,524	2011	681	10.1	5,986	6,341
2012	225	9.8	1,634	6,183	2012	660	9.4	6,247	6,592
2013	178	11.2	2,183	7,345	2013	684	10.5	6,366	6,880
2014	193	12.1	3,156	9,093	2014	722	10.9	7,071	7,667
2015	227	12.3	2,183	7,268	2015	730	11.6	5,964	6,701
2016	196	12.7	1,941	6,949	2016	821	11.4	5,759	6,366
2017	237	12.6	1,937	6,044	2017	781	11.9	4,700	5,332
2018	210	12.6	1,656	6,005	2018	704	11.9	4,195	4,992
2019	272	12.5	1,298	5,639	2019	704	11.7	3,958	4,919
2020	275	10.7	1,107	4,668	2020	725	10.1	3,634	4,454

¹ Data from the SEFSC Coastal Logbook records are as of 5/7/2021 and therefore may not contain the complete 2021 data. Pre-IFQ data are the average from 2007-2009. The total number of trips maybe be less than the sum across gear, because some vessels may use multiple gear types.

The GT-IFQ species are part of the reef fish complex that contains both IFQ and non-IFQ species. Vessels typically harvest both IFQ, including red snapper, and non-IFQ species on the same trip. The RS-IFQ and GT-IFQ programs eliminated the mini seasons (red snapper) and derby fishing conditions, as well as the trip limits associated with grouper and tilefish species. Gag continues to make up 25% or less of the total catch for trips using either VL or LL gear, as it did pre-IFQ (Table 24). Red grouper caught

on VL trips pre-IFQ was bimodal in relation to total catch, either being 25% or less of the catch landed or between 76-100% of the landed catch. This trend continued after the IFQ program. For trips using LL gear, red grouper generally was 76-100% of the total catch landed both pre- and post-IFQ. In recent years (2018-2020), there is a slight shift towards red grouper making up less than 76% of the landed catch. This shift is due to the lower quota for red group and catchability.

Table 24: Percentage of gag and red grouper pounds landed to total reef fish pounds landed

Fleet	Year	% of gag to all reef fish landed				Year	% of red grouper to all reef fish landed			
		0-25%	26-50%	51-75%	76-100%		0-25%	26-50%	51-75%	76-100%
Vertical Line ²	Pre-IFQ	60.8	16.4	10.2	12.5	Pre-IFQ	33.7	12.5	14.2	39.7
	2010	74.3	14.0	6.6	5.1	2010	42.9	14.4	14.5	28.3
	2011	83.8	8.1	4.4	3.6	2011	48.4	12.8	14.5	24.3
	2012	81.5	9.9	4.9	3.6	2012	44.6	15.7	16.2	23.5
	2013	78.7	10.3	6.5	4.5	2013	42.4	18.5	14.4	24.7
	2014	81.2	9.2	4.6	5.0	2014	40.7	16.0	12.8	30.4
	2015	80.2	8.9	4.2	6.6	2015	37.6	15.8	10.2	36.4
	2016	74.6	13.5	6.5	5.4	2016	43.8	16.5	13.7	25.9
	2017	77.9	14.1	4.9	3.0	2017	43.2	16.3	13.5	27.0
	2018	77.4	13.0	5.7	3.8	2018	51.7	18.3	12.9	17.2
	2019	78.2	14.8	4.6	2.4	2019	55.6	18.3	9.8	16.3
	2020	78.1	12.2	5.6	4.1	2020	52.6	19.3	11.7	16.4
Long Line	Pre-IFQ	88.1	9.8	1.6	0.5	Pre-IFQ	13.4	13.3	19.5	53.7
	2010	97.1	2.6	0.3	0.0	2010	10.5	8.2	17.5	63.7
	2011	99.4	0.6	0.0	0.0	2011	5.2	7.4	11.0	76.4
	2012	98.8	1.2	0.0	0.0	2012	6.7	8.9	14.4	70.1
	2013	97.9	2.1	0.0	0.0	2013	6.0	7.5	18.3	68.1
	2014	97.3	2.7	0.0	0.0	2014	7.9	6.8	15.6	69.7
	2015	93.6	6.4	0.0	0.0	2015	8.8	14.7	17.7	58.8
	2016	89.5	9.7	0.8	0.0	2016	7.4	10.8	23.9	57.8
	2017	96.9	3.1	0.0	0.0	2017	10.8	9.7	25.9	53.6
	2018	95.4	4.4	0.2	0.0	2018	13.1	18.5	22.2	46.2
	2019	93.7	5.4	0.9	0.0	2019	17.7	20.8	25.2	36.3
	2020	92.7	7.3	0.0	0.0	2020	13.7	21.4	22.8	42.1

¹ Data from the SEFSC Coastal Logbook records are as of 5/7/2021 and therefore may not contain the complete 2021 data. Pre-IFQ data are the average from 2007-2009.

² Vertical line includes spearfishing, buoy, and other gear types.

Discards

Data from the SEFSC reef fish observer program (RFOP) were used to evaluate changes in GT-IFQ species discards. Data were used from only those trips selected as part of the normal observer selection process; therefore, no special project trips were included. Data from the RFOP were categorized by gear: longline (LL) and vertical line (VL; primarily hand lines and bandit reels, but also includes buoy and spearfishing effort). The number of RFOP trips sampled has been variable over time and generally has been decreasing in number in the more recent years of the program compared to the initial years (Table 25). A larger percentage of RFOP coverage shifted towards vessels using LL gear beginning in 2009 and coverage levels have fluctuated between gear every year since. Insufficient data were available to include 2020 in this report due to the pandemic; discard data were only available for analysis through 2019.

RFOP observers record disposition status as: landed/kept, discarded alive, discarded dead, and unknown. These disposition statuses were used to calculate discard ratios by gear and region. The discard ratio is the number of discarded fish for each fish landed. Values greater than one indicated that more fish are being discarded than kept. Discard ratios may be influenced by the amount of allocation available to the observed vessels.

IFQ species may be discarded due to the lack of allocation or fish that are below the minimum size limit. Five species in the GT-IFQ program have minimum size limits: gag, red grouper, black grouper, scamp, and yellowfin grouper. Due to limited sample sizes, this report concentrates on only gag and red grouper discards through the RFOP. From 2007 through 2011, the minimum size limit for gag was 24 inches total length (TL). Starting in 2012, the minimum size limit was reduced to 22 inches TL, but was increased to 24 inches TL again in 2018 ([Appendix 3.1](#)). In 2009 and prior to the start of the GT-IFQ program, the red grouper minimum size limit changed from 20 inches TL to 18 inches TL ([Appendix 3.2](#)).

Gag and red grouper were caught on the 41% or more of the trips sampled by the RFOP observers each year. A great number of observed trips occurred on vessels fishing with VL gear rather than LL gear. Gag and red grouper were observed on 75% or more of the LL gear trips, and between 34%-74% of VL gear trips.

Table 25: Reef fish observer trips¹

Year	All trips					LL trips			VL trips ²		
	All	GG	% GG	RG	% RG	All	GG	RG	All	GG	RG
2007	111	68	61%	73	66%	11	8	9	100	60	64
2008	62	37	60%	38	61%	5	1	2	57	36	36
2009	83	52	63%	58	70%	33	24	22	50	28	36
2010	136	84	62%	99	73%	55	41	39	81	43	60
2011	194	144	74%	153	79%	81	71	72	113	73	81
2012	280	186	66%	204	73%	19	16	15	261	170	189
2013	220	140	64%	158	72%	83	68	70	137	72	88
2014	147	79	54%	94	64%	28	22	21	119	57	73
2015	241	127	53%	146	61%	26	22	21	215	105	125
2016	212	125	59%	127	60%	56	45	43	156	80	84
2017	85	35	41%	47	55%	14	11	11	71	24	36
2018	45	24	53%	23	51%	4	3	4	41	21	19
2019	36	16	44%	17	47%	5	5	4	31	11	13

¹ Data source: SEFSC Reef Fish Observer Program, accessed 5/4/2021

² Vertical line includes buoy and spearfishing trips

Note: Insufficient data were available to include 2020 due to the pandemic.

Both gag and red grouper discard rates were low, and often were less than 1 fish discarded per 1 landed fish for harvest under both VL and LL gear (Table 26). Gag discard rates during IFQ years were greatest early in the program, which coincided with the DWH oil spill event (2010) and decreased gag quota

(2011). Gag discard rates since 2012 remained at less than 1 fish discarded per every fish caught, regardless of harvest gear. Discard rates for red grouper were low, near or under 1 fish discarded per landed fish, from 2010 through 2016, regardless of gear. Trips using LL gear had an increased discard rate from 2017 to 2019. This is possibly influenced by the low sample size during these years.

Table 26: Discard ratio (number discarded to landed fish) of vertical line and longline gear

Gag	VL	LL	Red grouper	VL	LL
2007	0.63	0.03	2007	0.75	1.45
2008	0.34	0.00 ²	2008	0.81	1.17
2009	1.45	0.08	2009	0.83	1.15
2010	1.45	0.04	2010	0.93	1.18
2011	1.13	2.16	2011	0.64	0.89
2012	0.47	0.44	2012	0.44	0.88
2013	0.23	0.52	2013	0.42	0.50
2014	0.15	0.05	2014	0.25	0.55
2015	0.16	0.01	2015	0.41	0.52
2016	0.17	0.04	2016	0.54	0.51
2017	0.19	0.04	2017	0.57	1.11
2018	0.34	0.01	2018	1.29	1.19
2019	0.55	0.13	2019	0.8	1.62

¹ Data from the Reef Fish Observer Program accessed are as of 5/4/2021. Pre-IFQ data are 2007-2009.

² Indicates that all fish were landed and no fish were discarded.

Note: Insufficient data were available to include 2020 due to the pandemic.

Discarded fish were analyzed by length (Figure 2 and 3). Landed to discarded length distributions of gag and red grouper further compare gear differences (Figures 2 and 3). Length information obtained by the RFOP was converted to maximum TL using conversion factors found in SEDAR 33 and SEDAR 42. Length frequencies were calculated by year and gear and aggregated every two years into one inch bins (e.g., if $1 \leq \text{length} < 2$ then length = 1) for each disposition of discarded or landed. VL vessels target gag in the 22-30 inch TL size bins and red grouper in the 18-24 inch TL size bin. For VL gear, few gag or red grouper were discarded above the minimum size limit except for 2011-2012 for gag. Discards in these years are most likely due to low or no allocation available to the vessel, because the quota was considerably lower in those years than other years (Table 16). In most recent years, few VL discards of gag were observed, most likely related to the gag minimum size being reduced in 2012 and the increases in quotas. There was a slight increase in VL discards of red grouper associated with an increase in undersized red grouper seen in 2017 (SEDAR 61).

LL trips typically capture larger gag in the 30-36 inch TL size bins and red grouper in the 18-20 inch TL size bins. Few fish are discarded above the size limit for LL gear, except for gag in 2011 through 2013, which was probably due to a lack of allocation from the decreased quotas. Due to the gear type and location fished, LL gear does not often encounter gag below the size limit. Discards for gag are most likely related to available allocation. There was an increase in the LL discards of red grouper in 2017-2019, which is possibly due to the increase in undersized red grouper caught by the gear.

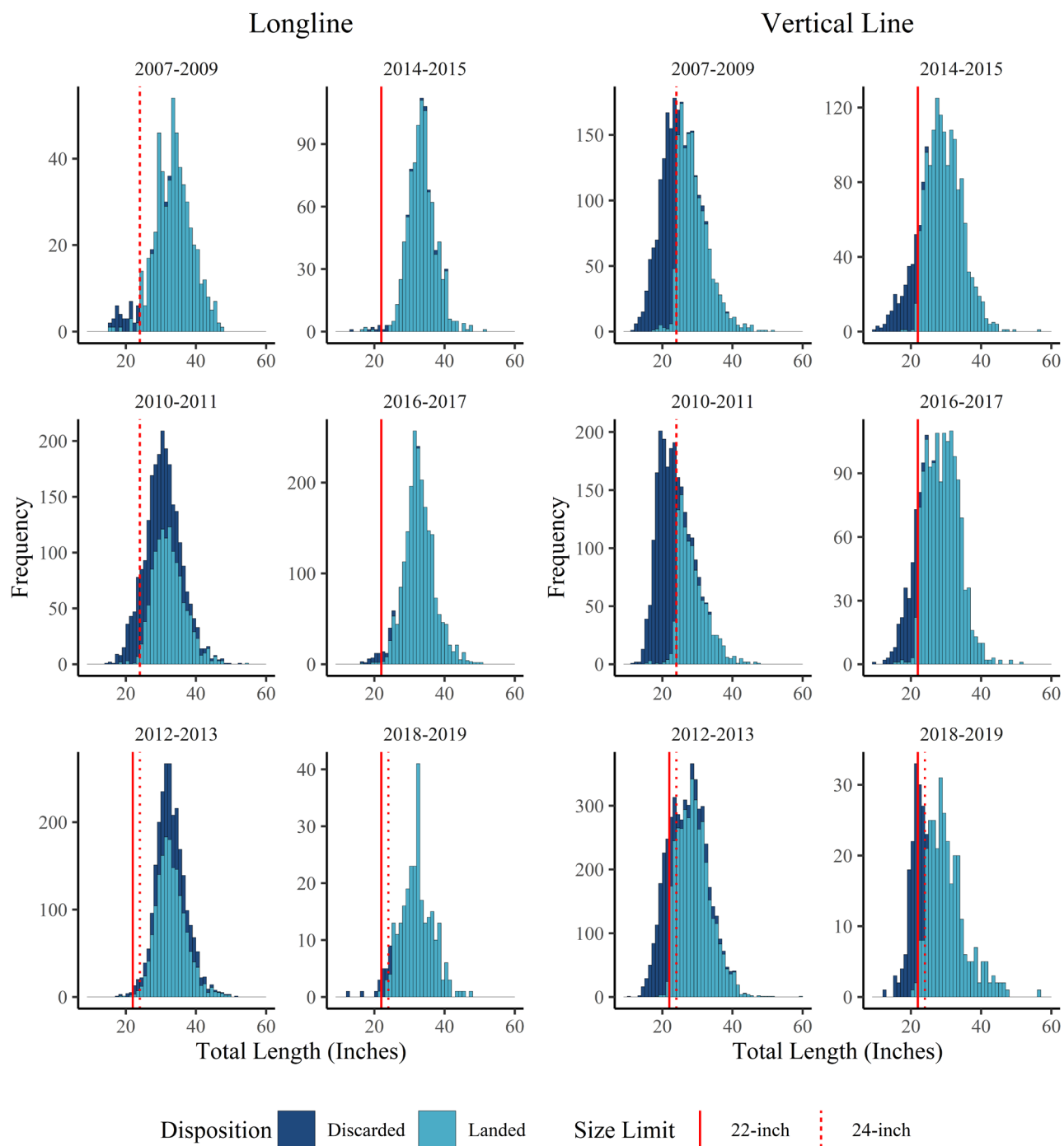


Figure 2. Gag size frequency distribution by gear
 Data from the Reef Fish Observer Program accessed as of 6/2/2020.
 Note: Insufficient data were available to include 2020 due to the pandemic.

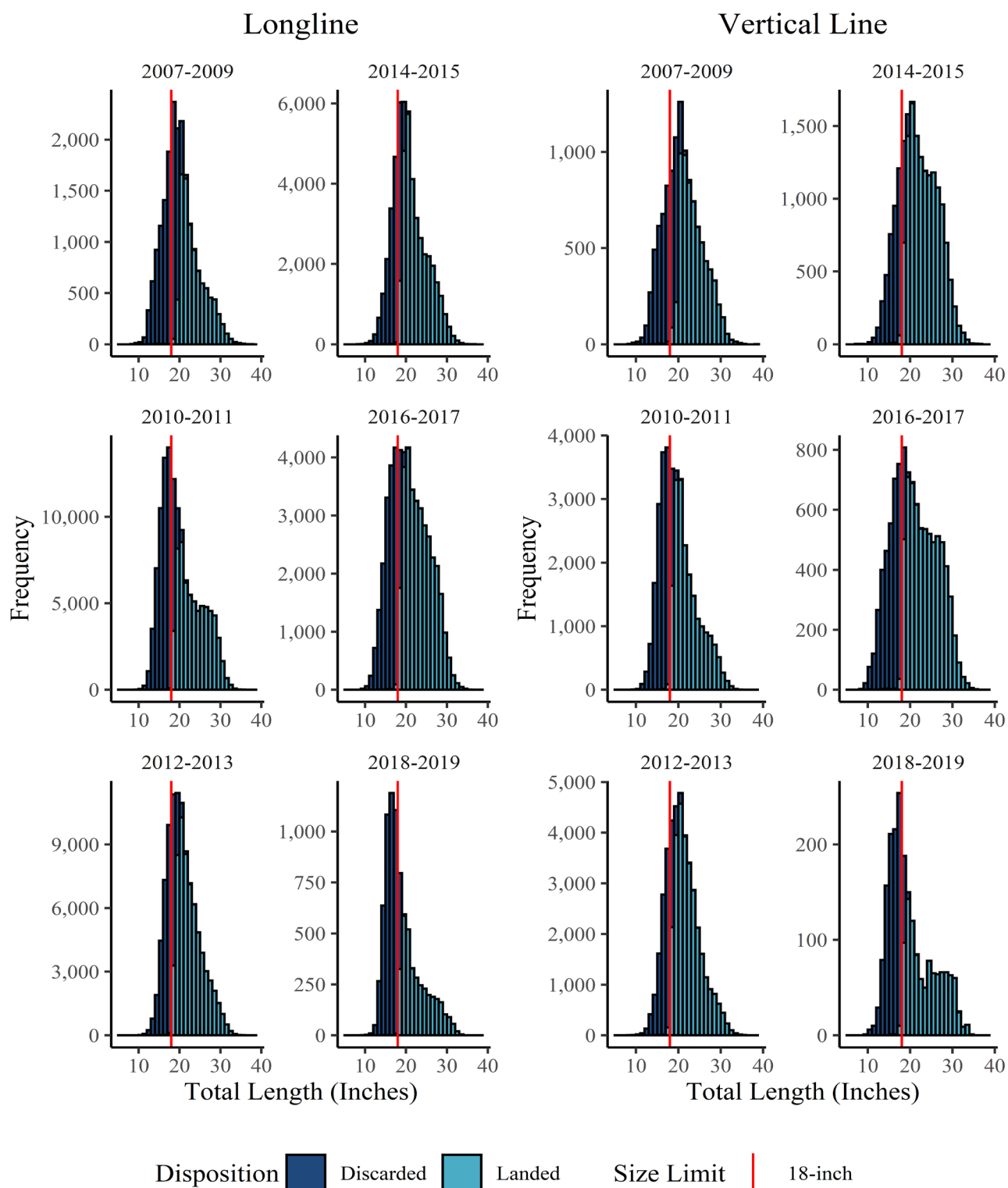


Figure 3. Red grouper size frequency distribution by gear
 Data from the Reef Fish Observer Program accessed as of 6/2/2020.
 Note: Insufficient data were available to include 2020 due to the pandemic.

The RFOP determines immediate discard mortality through surface observations of individual fish after discard. Some fish were recorded with an unknown discarded disposition due to the difficulty in observing discards attributed to poor lighting, high seas, or other factors. Short-term survival was assumed if the fish rapidly or slowly was able to descend and immediate mortality was classified when the fish floated on the surface or floated on the surface then slowly descended (not swimming). Individual fish recorded as dead upon arrival were included in the analyses since the goal was to examine total discard mortality. The immediate mortality percentage was determined using the number discarded dead out of those released as either alive or dead. Confidence intervals were calculated using the score interval with continuity correction. Interpretation of the immediate discard mortality should be taken with caution, as it is based on a small sample size and may not be indicative of the fishery as a whole.

In general, LL gear had higher mortality rates compared to VL for both gag and red grouper (Table 27; Figure 4). Immediate discard mortalities rates were between 11-71% for LL and between 1-18% for VL. Red grouper discard mortalities rates are typically greater than gag discard mortalities. Confidence intervals for gag caught on LL gear are considerably greater than gag on VL or red grouper on either VL or LL, and therefore some caution should be taken when interpreting these values. Additionally, many of these differences in discard mortality observed are likely to be confounded by other factors such as depth of capture, gear type, and sample size.

Table 27: Immediate discard mortality percent by gear

Gag	VL	LL	Red grouper	VL	LL
Pre-IFQ	1%	21%	Pre-IFQ	10%	25%
2010	1%	26%	2010	17%	33%
2011	2%	11%	2011	13%	24%
2012	4%	19%	2012	14%	21%
2013	3%	34%	2013	12%	31%
2014	3%	25%	2014	15%	32%
2015	7%	71%	2015	13%	30%
2016	11%	27%	2016	16%	33%
2017	9%	50%	2017	18%	29%
2018	8%	50%	2018	12%	26%
2019	8%	35%	2019	13%	17%

¹ Data from the Reef Fish Observer Program accessed are as of 5/4/2021. Pre-IFQ data are 2007-2009.

Note: Insufficient data were available to include 2020 due to the pandemic.

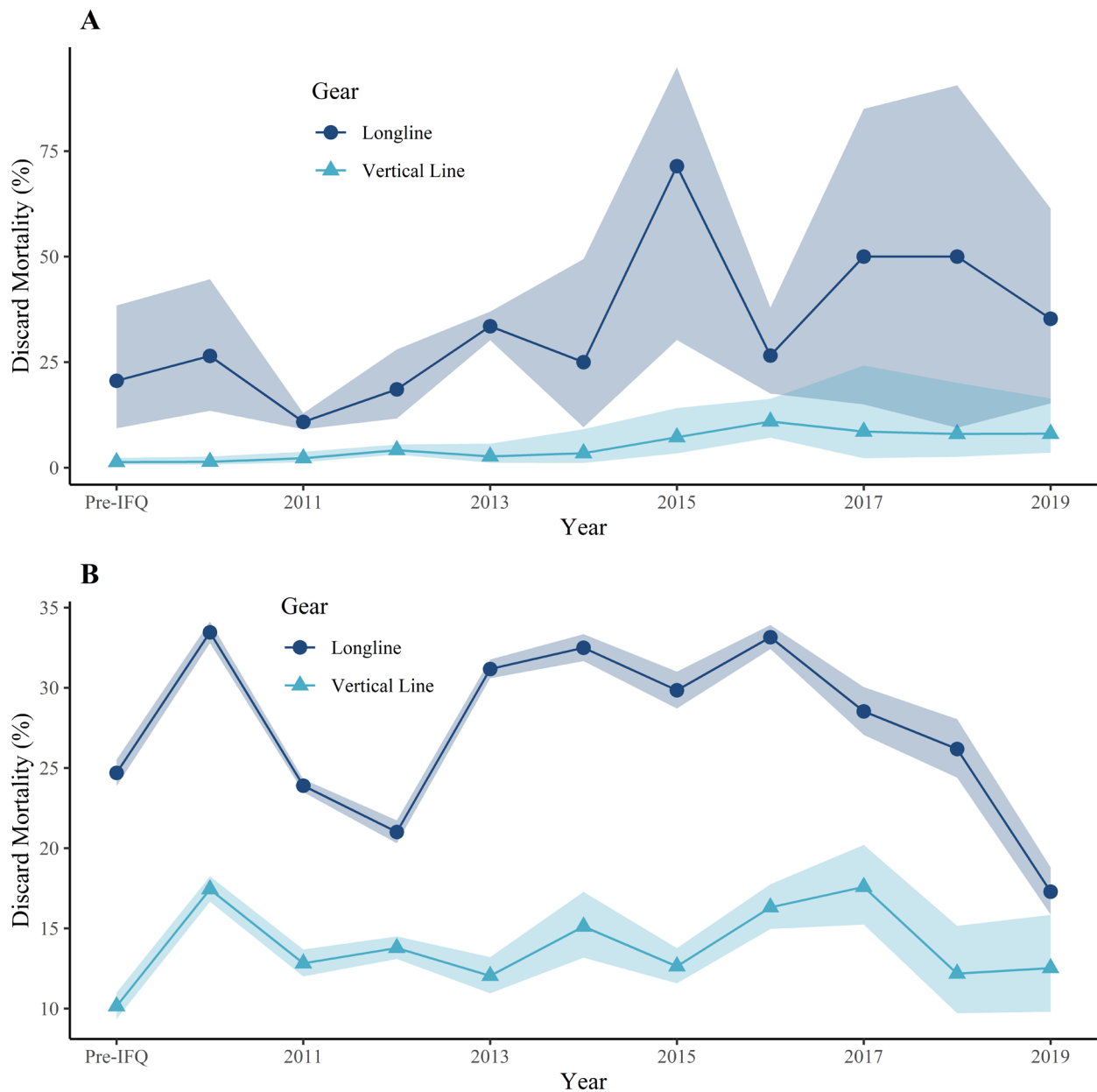


Figure 4. Immediate discard mortality by gear for gag (A) and red grouper (B)

Data from the Reef Fish Observer Program accessed as of 6/2/2020.

Note: Insufficient data were available to include 2020 due to the pandemic.

Price Information

Share, allocation, and ex-vessel price information is important for evaluating the performance of catch share programs. Economic theory suggests that, when fishermen no longer have to engage in a “race for fish,” their profits will likely increase as they adjust their operations to take advantage of weather and market conditions. The elimination of “derby” fishing is expected to increase market stability. As more efficient and profitable operators are willing to pay higher prices to purchase shares and allocation, share and allocation prices increase, which may result in increased profits. Theoretically, allocation

prices should reflect the expected annual profit from harvesting one unit of quota, whereas, share prices should reflect the net present value of the expected profit from harvesting one unit of quota in the long-run. Dockside or ex-vessel prices are anticipated to increase as well as fishermen no longer have to race to fish, which in turn should reduce market gluts and generate higher quality products. All inflation-adjusted values in the analysis below were calculated based on the Gross Domestic Product (GDP) deflator.⁷ The GDP deflator was chosen as the measure of inflation because it includes prices for all domestically produced goods and services and so is broader than other indexes.

Share Transfer Prices

Reporting of share transfer value was not required until mid-2010, when a minimum transfer value of \$0.01 was required for all share transfers. Each year, there are share transactions that have either under-reported or missing share transfer value information. Submitted share transfer values were converted to a share price per equivalent pound⁸ based on the quota at the time of transfer. Transactions that reported low or no value could be due to, but not limited to, any of the following: entering a price per pound equivalent instead of transaction price, reluctance to enter price information, gifts, transferring to a related accounts, part of a package deal (e.g., sale of shares with a permit, vessel, and/or other equipment), and/or unrecorded bartering of shares within the GT-IFQ or RS-IFQ programs. This misreporting of value led to a 2012-2013 mail survey to participants about share value and prices. The survey was mailed to both the transferor and transferee for all past transfers where information was incomplete or identified as an outlier value. Participants were asked to verify or correct the value and price information and select one of seven share transfer reasons: “Barter trade for allocation,” “Barter trade for shares,” “Gift,” “Transfer to a related account,” “Sale to another shareholder,” “Package deal,” and “No comment.” Beginning in 2013, a submission of one of these share transfer reasons was required to complete every share transfer, to better monitor the performance of the program.

The majority of share transfers have either “Sale to another shareholder” or “No comment” selected as the transfer reason ([Appendix 5](#)). By volume, the most listed reasons were “Sale to another shareholder,” “Transfer to a related account,” and “No comment.” The number of times “No Comment” was selected for a share transfer reason is still a fairly large percentage of all selected share transfer reasons. Discussion at the Council’s Advisory Panels indicate that transfers to related accounts may be interpreted differently by participants. The intent was to identify transfers between accounts with a similar entity, but industry also interpreted related accounts to include business relationships.

For share price analysis, the data were limited to share transfers with representative price per pound equivalents ([Appendix 6](#)). Confusion between the price and value can still be found in the data, with participants entering the price per pound instead of the total value in the system. For example, for a transfer equivalent to 33 lb of DWG with a total value of \$13 was entered, resulting in a price per pound

⁷ <http://www.bea.gov/national/index.htm#gdp>

⁸ A price per pound equivalent is the share percentage that would equal one pound for that particular period. The exact share percentage that is equivalent to one pound depends on the total commercial quota and will change as the quota changes from year to year or within a year for any quota increases.

less than a dollar. The value of \$13 is most likely the price per pound and not the total value. Adjustments were made to the analyzed dataset to account for these types of errors. These errors were more often found in the early years of the program. From 2013 onward, the system started collecting price data from the transferee of the share transfer in addition to the transferor, and sometimes these prices did not match. When the prices differed between the transferor and transferee, a final price was determined based on the more representative transfer value entered. For example, if the transferor enters \$13 for a DWG share transfers equivalent to 33 lb and the transferee enters \$429 for the same transfer, the \$429 is the value used in analysis, as it is assumed that the \$13 was a price per pound instead of total value. All values were weighted by the pounds instead of on a transactional basis.

Submission of representative share prices has been improving in recent years, but continues to remain a problem (Table 28). Since 2013, representative share prices have been between 55-74% of all submitted prices, while in earlier years they were near or under 50% of all prices submitted. The transactions that do not contain representative prices often selected “Transfer to a Related Account” and “No comment” as the transfer reason. Share prices within categories, typically followed similar patterns as the program as a whole.

Since the start of the program, the average price per equivalent pound increased for all share categories. The GG share category had the greatest increased share price that corresponded to quota changes. In recent years (2019-2020), average share price decreased in most of the share categories.

Table 28: Number of representative share transfers with prices

DWG	N	%	Avg.	Median	Inf.-adj. avg	GG	N	%	Avg.	Median	Inf.-adj. avg
2010	53	33%	\$8.19	\$9.00	\$9.68	2010	107	42%	\$5.35	\$6.00	\$6.32
2011	44	46%	\$11.35	\$12.02	\$13.14	2011	47	34%	\$24.24	\$25.00	\$28.07
2012	34	44%	\$10.78	\$12.00	\$12.25	2012	68	53%	\$25.91	\$30.00	\$29.44
2013	30	57%	\$12.58	\$12.00	\$14.05	2013	52	59%	\$31.41	\$30.02	\$35.07
2014	38	61%	\$13.04	\$13.00	\$14.30	2014	78	74%	\$30.18	\$30.02	\$33.09
2015	40	47%	\$12.74	\$13.00	\$13.82	2015	94	61%	\$21.97	\$22.00	\$23.85
2016	37	66%	\$12.48	\$12.75	\$13.40	2016	55	65%	\$14.29	\$15.00	\$15.35
2017	23	74%	\$12.63	\$12.80	\$13.31	2017	42	63%	\$15.88	\$16.00	\$16.74
2018	15	44%	\$10.92	\$13.25	\$11.25	2018	39	62%	\$9.78	\$10.00	\$10.08
2019	25	74%	\$9.14	\$7.49	\$9.25	2019	50	71%	\$9.55	\$10.00	\$9.67
2020	15	54%	\$13.96	\$12.00	\$13.96	2020	37	63%	\$8.82	\$7.00	\$8.82
RG	N	%	Avg.	Median	Inf.-adj. avg	SWG	N	%	Avg.	Median	Inf.-adj. avg
2010	111	42%	\$3.73	\$3.30	\$4.41	2010	76	39%	\$6.91	\$6.49	\$8.17
2011	76	45%	\$6.24	\$5.97	\$7.23	2011	42	40%	\$9.93	\$11.99	\$11.50
2012	124	61%	\$8.02	\$8.00	\$9.11	2012	41	42%	\$7.80	\$7.99	\$8.86
2013	106	73%	\$13.16	\$13.70	\$14.70	2013	49	60%	\$8.30	\$7.25	\$9.27
2014	107	74%	\$13.06	\$13.00	\$14.32	2014	33	52%	\$7.36	\$7.50	\$8.07
2015	150	70%	\$12.86	\$13.00	\$13.95	2015	62	64%	\$6.74	\$6.00	\$7.31
2016	81	69%	\$10.11	\$10.00	\$10.86	2016	26	46%	\$5.84	\$5.97	\$6.27
2017	90	77%	\$5.17	\$5.00	\$5.45	2017	25	56%	\$8.69	\$11.00	\$9.16
2018	53	63%	\$4.10	\$4.20	\$4.22	2018	27	49%	\$4.87	\$4.50	\$5.02
2019	50	75%	\$5.69	\$5.75	\$5.76	2019	42	78%	\$5.62	\$5.50	\$5.69
2020	47	71%	\$6.17	\$6.00	\$6.17	2020	28	55%	\$5.08	\$5.00	\$5.08
TF	N	%	Avg.	Median	Inf.-adj. avg	ALL	N	%	*Inflation adjustments from: http://www.bea.gov/ with 2020 as the base year using the GDP deflator. Note: N indicates the number of share transfers that provided representative share transfer prices.		
2010	38	42%	\$3.11	\$2.15	\$3.68	2010	385	40%			
2011	24	41%	\$5.77	\$5.14	\$6.68	2011	233	41%			
2012	14	32%	\$8.22	\$9.00	\$9.34	2012	281	51%			
2013	13	45%	\$8.44	\$8.00	\$9.42	2013	250	63%			
2014	17	50%	\$8.75	\$8.50	\$9.59	2014	273	67%			
2015	33	58%	\$9.18	\$9.00	\$9.96	2015	379	63%			
2016	21	62%	\$10.02	\$10.00	\$10.76	2016	220	63%			
2017	16	67%	\$8.70	\$9.00	\$9.17	2017	196	69%			
2018	6	30%	\$10.70	\$10.25	\$11.02	2018	140	55%			
2019	11	79%	\$9.50	\$8.88	\$9.62	2019	178	74%			
2020	12	52%	\$8.48	\$9.00	\$8.48	2020	139	61%			

Allocation Transfer Prices

Allocation transfer prices are collected on a per pound basis, but were not required to complete a transfer until late 2020. Each year there are allocation transfers that are either missing price information or have under-reported price information (e.g., \$0.01/lb). Transfers that had low or no price information may be due to, but not limited to, any of the following: reluctance to enter price information, gift, transferring to a related account, part of package deal, or bartering for shares and/or allocation. To better evaluate the program's performance, the selection of one of seven allocation transfer reasons was required for every allocation transfer beginning in 2013. Allocation transfer reasons that could be selected were "Barter trade for allocation," "Barter trade for shares," "Gift," "Transfer to a related account," "Sale to another shareholder," "Package Deal," and "No comment" ([Appendix 7](#)).

Fifty-two percent or more of the allocation transactions each year had no or low allocation prices (e.g., \$0.01/lb). The majority of allocation transfers had “No comment” selected as the allocation transfer reason, followed by “Sale to another shareholder” and “Transfer to a related account” ([Appendix 7](#)). While not all transfers are of equal quantities, a similar pattern occurred looking at the total amount of allocation transferred.

For the allocation price analysis, data were limited to representative prices ([Appendix 6](#)). As the pounds per allocation transfer are variable, all statistics were computed by using a weighted pounds model and not on a transactional basis. Unadjusted inflation prices were used when determining outlier price values each year, whereas inflation-adjusted average values are compared across time.

Since 2014, 42% to 51% of allocation prices were representative (Table 29). In prior years, representative prices were between 14% and 34% of all submitted prices. There is still a need to improve reported allocation prices. A large majority of the transactions that did not contain representative prices listed “No comment” as the transfer reason, again indicating a reluctance to submit accurate price information.

Inflation adjusted average allocation prices have decreased over time for all share categories (Table 29), with the greatest differences occurring in GG (\$1.95/lb), SWG (\$0.88/lb), and RG (\$0.83/lb). Average allocation prices might be influenced by quotas and the availability of multi-use allocation. The median, the middle value in a distribution, generally has been slightly greater than the average value for DWG, similar for TF and RG, and lesser for GG and SWG. When median values are greater than average values, this indicates that there are more values on the lower end of the distribution. These lower values may be due to fluctuations in allocation price across regions or during the year.

Table 29: Number of representative allocation transfers and prices

DWG	N	%	Avg.	Median	Inf.-adj. avg	GG	N	%	Avg.	Median	Inf.-adj. avg
2010	68	14%	\$1.32	\$1.50	\$1.56	2010	150	16%	\$1.18	\$1.00	\$1.39
2011	116	18%	\$1.36	\$1.40	\$1.57	2011	303	24%	\$1.74	\$1.50	\$2.01
2012	213	28%	\$1.19	\$1.25	\$1.35	2012	631	36%	\$2.27	\$2.25	\$2.58
2013	215	35%	\$1.14	\$1.15	\$1.28	2013	705	41%	\$2.40	\$2.50	\$2.68
2014	325	38%	\$1.11	\$1.10	\$1.22	2014	1,015	45%	\$2.04	\$2.00	\$2.23
2015	282	31%	\$1.18	\$1.25	\$1.28	2015	847	46%	\$1.90	\$2.00	\$2.06
2016	285	30%	\$1.16	\$1.20	\$1.25	2016	1017	47%	\$1.38	\$1.25	\$1.48
2017	250	32%	\$1.18	\$1.25	\$1.24	2017	574	39%	\$1.45	\$1.50	\$1.52
2018	296	36%	\$0.99	\$1.00	\$1.02	2018	439	49%	\$1.01	\$1.00	\$1.04
2019	403	39%	\$1.05	\$1.00	\$1.06	2019	768	44%	\$0.85	\$0.80	\$0.86
2020	315	39%	\$1.05	\$1.00	\$1.05	2020	869	45%	\$0.73	\$0.75	\$0.73
RG	N	%	Avg.	Median	Inf.-adj. avg	SWG	N	%	Avg.	Median	Inf.-adj. avg
2010	153	14%	\$0.92	\$1.00	\$1.08	2010	75	12%	\$1.15	\$1.00	\$1.36
2011	482	31%	\$0.54	\$0.50	\$0.63	2011	117	21%	\$1.25	\$1.40	\$1.45
2012	746	39%	\$0.79	\$0.75	\$0.89	2012	279	31%	\$1.15	\$1.00	\$1.31
2013	827	47%	\$0.97	\$1.00	\$1.08	2013	354	39%	\$0.83	\$0.75	\$0.93
2014	1,337	58%	\$0.97	\$1.00	\$1.07	2014	443	44%	\$0.73	\$0.60	\$0.80
2015	1,331	54%	\$1.07	\$1.00	\$1.16	2015	529	49%	\$0.60	\$0.50	\$0.65
2016	1,391	47%	\$0.89	\$0.95	\$0.96	2016	870	55%	\$0.56	\$0.50	\$0.60
2017	898	51%	\$0.42	\$0.40	\$0.44	2017	545	48%	\$0.58	\$0.60	\$0.61
2018	668	49%	\$0.32	\$0.20	\$0.33	2018	474	47%	\$0.53	\$0.50	\$0.55
2019	1,270	54%	\$0.59	\$0.60	\$0.59	2019	497	43%	\$0.59	\$0.60	\$0.59
2020	1,473	57%	\$0.47	\$0.50	\$0.47	2020	642	53%	\$0.57	\$0.70	\$0.57
TF	N	%	Avg.	Median	Inf.-adj. avg	ALL	N	%	Note: N indicates the number of allocation transfers that provided representative allocation prices.		
2010	35	13%	\$0.65	\$0.50	\$0.77	2010	481	14%			
2011	62	19%	\$0.67	\$0.70	\$0.77	2011	1,080	25%			
2012	93	24%	\$0.66	\$0.65	\$0.75	2012	1,962	34%			
2013	88	30%	\$0.67	\$0.65	\$0.75	2013	2,188	41%			
2014	153	36%	\$0.72	\$0.75	\$0.79	2014	3,273	48%			
2015	186	37%	\$0.77	\$0.75	\$0.84	2015	3,175	47%			
2016	202	39%	\$0.66	\$0.75	\$0.71	2016	3,765	46%			
2017	171	36%	\$0.72	\$0.75	\$0.76	2017	2,438	43%			
2018	189	45%	\$0.72	\$0.75	\$0.74	2018	2,066	42%			
2019	368	55%	\$0.72	\$0.75	\$0.73	2019	3,306	47%			
2020	317	57%	\$0.63	\$0.75	\$0.63	2020	3,616	51%			

Ex-vessel Prices

Ex-vessel prices, the price paid to the vessel by a dealer per pound of fish, are required to complete a landing transaction, with a minimum value of \$0.01/lb. Ex-vessel prices may differ by region, season, and year. Ex-vessel prices may be under-reported for a variety of reasons: to minimize cost recovery fees and/or capital gains, contractual arrangements between dealers and shareholders, and deductions for transferred allocation, goods (e.g., bait, ice, fuel), and/or services (e.g., repairs, machinery replacement). In June 2011, regulations modified the definition for ex-vessel price and explicitly prohibited the

deduction of allocation, goods, and/or services when reporting the ex-vessel price. For ex-vessel price analysis, the data were limited to representative ex-vessel prices ([Appendix 6](#)). All statistics were weighted by pounds rather than on a transactional basis. All ex-vessel prices prior to the start of the program were calculated using the SEFSC Accumulated Landings System (ALS) database.⁹ After the start of the GT-IFQ program, ex-vessel prices are reported to both the ALS and GT-IFQ systems, but IFQ prices are used in this analysis.

The majority (94-100%) of ex-vessel prices submitted were representative of the industry (Table 30). After adjusting for inflation, there has been a steady increase in the ex-vessel price received per pound of fish in all share categories through 2019. Lower values in 2020 are indicative of the pandemic's effect on the industry. By share category, DWG and GG have greater ex-vessel prices than the other categories, and TF consistently has the lowest ex-vessel prices. Median ex-vessel prices are typically slightly lower than average values in all share categories.

⁹ SEFSC Accumulated Landings System accessed on 3/4/2021.

Table 30: Number of ex-vessel transactions and prices

DWG	N	%	Avg.	Median	Inf.-adj. avg	GG	N	%	Avg.	Median	Inf.-adj. avg
2010	1,529	94%	\$3.61	\$3.70	\$4.27	2010	3,226	99%	\$4.27	\$4.25	\$5.05
2011	1,961	96%	\$3.80	\$3.75	\$4.40	2011	2,811	98%	\$4.59	\$4.75	\$5.32
2012	2,450	96%	\$4.06	\$4.00	\$4.61	2012	3,562	98%	\$4.69	\$4.75	\$5.33
2013	2,006	97%	\$4.30	\$4.50	\$4.80	2013	3,509	99%	\$4.90	\$5.00	\$5.47
2014	2,090	97%	\$4.44	\$4.50	\$4.87	2014	3,940	98%	\$4.83	\$5.00	\$5.30
2015	1,762	97%	\$4.62	\$4.95	\$5.01	2015	3,179	97%	\$5.07	\$5.25	\$5.50
2016	1,825	97%	\$4.62	\$4.95	\$4.96	2016	3,505	98%	\$5.13	\$5.25	\$5.51
2017	1,601	97%	\$4.73	\$4.85	\$4.99	2017	2,914	99%	\$5.25	\$5.25	\$5.53
2018	1,494	99%	\$5.08	\$5.25	\$5.23	2018	2,746	99%	\$5.66	\$5.75	\$5.83
2019	1,659	98%	\$5.61	\$5.80	\$5.68	2019	2,678	99%	\$6.04	\$6.25	\$6.11
2020	1,370	97%	\$5.26	\$5.25	\$5.26	2020	2,655	98%	\$5.89	\$6.00	\$5.89
RG	N	%	Avg.	Median	Inf.-adj. avg	SWG	N	%	Avg.	Median	Inf.-adj. avg
2010	3,803	99%	\$3.05	\$3.00	\$3.61	2010	2,282	98%	\$4.06	\$4.10	\$4.80
2011	4,563	99%	\$3.15	\$3.24	\$3.65	2011	2,782	97%	\$4.14	\$4.00	\$4.79
2012	4,587	99%	\$3.21	\$3.25	\$3.65	2012	3,273	97%	\$4.33	\$4.25	\$4.92
2013	4,383	100%	\$3.54	\$3.55	\$3.95	2013	2,954	98%	\$4.48	\$4.50	\$5.00
2014	4,891	99%	\$3.77	\$3.80	\$4.13	2014	3,188	98%	\$4.50	\$4.50	\$4.93
2015	5,009	98%	\$3.94	\$4.00	\$4.28	2015	3,046	96%	\$4.61	\$4.50	\$5.00
2016	5,123	98%	\$4.01	\$4.05	\$4.31	2016	3,413	98%	\$4.63	\$4.50	\$4.97
2017	4,455	99%	\$4.27	\$4.25	\$4.50	2017	2,849	98%	\$4.76	\$5.00	\$5.02
2018	3,983	99%	\$4.75	\$4.79	\$4.89	2018	2,769	99%	\$5.21	\$5.25	\$5.37
2019	3,985	99%	\$5.31	\$5.40	\$5.37	2019	2,468	98%	\$5.56	\$5.50	\$5.63
2020	3,639	97%	\$5.09	\$5.00	\$5.09	2020	2,323	97%	\$5.53	\$5.55	\$5.53
TF	N	%	Avg.	Median	Inf.-adj. avg	Note: N indicates the number of ex-vessel transactions and prices are based on the category under which a species was landed. Under flexibility measures, when a species is landed under its secondary category, the price is captured for that category (e.g., red grouper landed under gag multi is counted in the GG price per pound).					
2010	357	100%	\$2.07	\$2.11	\$2.45						
2011	411	100%	\$2.31	\$2.40	\$2.68						
2012	529	99%	\$2.27	\$2.25	\$2.58						
2013	447	98%	\$2.58	\$2.75	\$2.88						
2014	512	94%	\$2.61	\$2.80	\$2.86						
2015	531	97%	\$2.90	\$3.00	\$3.15						
2016	470	99%	\$2.94	\$3.15	\$3.16						
2017	492	99%	\$2.97	\$3.20	\$3.13						
2018	477	99%	\$2.82	\$3.00	\$2.91						
2019	638	100%	\$2.88	\$3.00	\$2.91						
2020	636	99%	\$2.79	\$3.00	\$2.79						

Ex-vessel prices evaluated at the species level may reveal which species are driving the average ex-vessel prices for multi-species share categories. Red grouper and gag species prices will differ slightly from the RG and GG share categories, as the share categories are based on the allocation used to harvest and the species are based on specimen caught, regardless of allocation used to harvest the species. Similar to the ex-vessel prices seen by share category, species ex-vessel prices have increased over time for most species, with the exception of 2020 values. The ex-vessel prices in 2020 were most likely influenced by the pandemic and dropped for nearly all species compared to the previous year. Within the DWG category, yellowedge grouper always had the greatest ex-vessel price, and can be as much as a \$1.00/lb or more greater than warsaw grouper, which typically had the lowest DWG ex-vessel price (Table 31). Within the SWG category, black grouper generally had the greatest ex-vessel prices, while yellowfin grouper generally had the lowest ex-vessel prices. Yellowmouth grouper also typically had

lower ex-vessel prices than the both black grouper and scamp. Within the TF category, golden tilefish typically had the greatest ex-vessel price, while blueline tilefish typically had the lowest price. Goldface tilefish landings only comprise less than 1% of the TF landings, and so these values should be taken with a degree of caution.

Table 31: Average inflation adjusted ex-vessel price by species

Share Cat.	Species	Pre-IFQ	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DWG	Snowy grouper	\$3.76	\$3.71	\$4.01	\$3.92	\$4.14	\$4.25	\$4.55	\$4.63	\$4.68	\$5.01	\$5.36	\$5.12
	Speckled hind	\$3.54	\$3.59	\$3.68	\$3.70	\$3.95	\$4.08	\$4.35	\$4.22	\$4.33	\$4.99	\$5.30	\$5.05
	Warsaw grouper	\$3.48	\$3.07	\$3.13	\$3.53	\$4.01	\$4.11	\$4.26	\$4.18	\$4.29	\$4.38	\$4.58	\$4.26
	Yellowedge grouper	\$4.40	\$4.53	\$4.64	\$4.95	\$5.05	\$5.11	\$5.15	\$5.08	\$5.07	\$5.31	\$5.76	\$5.31
GG	Gag	\$4.69	\$5.06	\$5.32	\$5.33	\$5.48	\$5.46	\$5.58	\$5.50	\$5.54	\$5.82	\$6.13	\$5.94
RG	Red grouper	\$3.49	\$3.59	\$3.65	\$3.65	\$3.95	\$4.14	\$4.28	\$4.27	\$4.48	\$4.88	\$5.34	\$5.07
SWG	Black grouper	\$4.58	\$4.71	\$4.82	\$4.93	\$5.02	\$5.16	\$5.31	\$5.29	\$5.39	\$5.60	\$5.99	\$5.72
	Scamp	\$4.54	\$4.84	\$4.86	\$5.00	\$5.08	\$5.01	\$5.07	\$4.97	\$5.12	\$5.48	\$5.75	\$5.64
	Yellowfin grouper	\$3.71	\$4.02	\$3.66	\$4.08	\$4.62	\$4.85	\$4.38	\$4.03	\$4.35	\$3.93	\$4.67	\$4.40
	Yellowmouth grouper	\$3.41	\$4.65	\$4.49	\$5.03	\$4.12	\$4.42	\$4.44	\$5.23	\$4.31	\$3.96	\$4.57	\$4.82
TF	Blueline tilefish	\$1.21	\$1.11	\$1.31	\$1.50	\$1.67	\$1.48	\$1.71	\$1.91	\$1.82	\$1.96	\$2.07	\$1.93
	Golden tilefish	\$2.34	\$2.55	\$2.86	\$2.83	\$3.04	\$3.09	\$3.30	\$3.32	\$3.32	\$3.11	\$3.28	\$3.12
	Goldface tilefish	\$2.14	\$2.99	\$1.62	\$2.75	\$2.67	\$1.10	\$2.03	\$2.16	\$3.16	\$2.28	\$2.48	\$3.31

Note: Ex-vessel prices are on a species level, not a share category level, and therefore average price for red grouper and gag species will differ compared to the RG and GG categories. Pre-IFQ prices are the average ex-vessel prices from 2007-2009.

Pre-IFQ annual average ex-vessel prices from the SEFSC's ALS were adjusted for inflation based on the GDP deflator.¹⁰ In general, ex-vessel prices were stable for most species since the late 1990s onward and then increased with the start of the GT-IFQ program. The exceptions were yellowmouth grouper and yellowfin grouper, which had highly variable ex-vessel prices both pre- and post-IFQ. Pre-IFQ the blueline tilefish ex-vessel price was steadily decreasing. Once the GT-IFQ program was implemented, the blueline tilefish ex-vessel price has continued to increase. In comparison, golden tilefish ex-vessel price was stable since 2000, and increased with the start of the GT-IFQ program.

Cost Recovery and Ex-vessel Value

The Magnuson-Stevens Act requires the Secretary of Commerce to adopt regulations implementing a cost recovery program to recover the actual incremental costs of managing and enforcing the GT-IFQ program. The cost recovery fee established for the GT-IFQ program is currently 3% of the actual ex-vessel value of GT-IFQ species. GT-IFQ fishermen who completed a landing transaction were responsible for payment of the fee. The dealer who purchased GT-IFQ species was responsible for

¹⁰ <http://www.bea.gov/national/index.htm#gdp>

collecting and submitting to NMFS the fee on a quarterly basis. Monies collected were used for administration of the program, maintenance and upgrades to the online system, enforcement of the GT-IFQ program, and scientific research.

Cost recovery fees were calculated from the reported ex-vessel value, and therefore changes in ex-vessel prices and landings will affect the amount of cost recovery fees collected (Tables 32 and 33). Ex-vessel values in the program were highest in 2014 (\$31,220,969), which resulted in the highest total cost recovery fees collected at \$936,634. Ex-vessel prices and resulting cost recovery fees have been decreasing since. The decrease in ex-vessel is a consequence of quotas, landings, and in ex-vessel price over time. The RG share category ex-vessel value has represented more than 50% of the total GT-IFQ ex-vessel value throughout most of the program.

Table 32: Ex-vessel value by share category

Year	DWG	GG	RG	SWG	TF	Total
2010	\$2,206,106	\$2,105,130	\$8,875,259	\$637,127	\$517,706	\$14,341,283
2011	\$2,949,252	\$1,463,237	\$15,049,541	\$765,285	\$893,616	\$21,120,932
2012	\$3,909,578	\$2,457,341	\$16,739,801	\$1,285,110	\$1,023,692	\$25,415,521
2013	\$3,912,673	\$2,831,039	\$16,251,479	\$1,368,639	\$1,134,578	\$25,498,408
2014	\$4,647,386	\$3,317,315	\$20,729,024	\$1,180,005	\$1,347,240	\$31,220,969
2015	\$4,204,690	\$2,802,739	\$18,853,659	\$1,289,988	\$1,555,302	\$28,706,377
2016	\$3,998,935	\$3,981,994	\$18,542,049	\$1,652,826	\$1,261,874	\$29,437,677
2017	\$3,876,639	\$2,321,605	\$14,392,388	\$1,134,004	\$1,438,310	\$23,162,946
2018	\$4,150,613	\$2,554,003	\$11,405,696	\$1,166,757	\$1,088,903	\$20,365,972
2019	\$5,338,015	\$2,833,128	\$11,080,157	\$1,017,722	\$1,219,101	\$21,488,123
2020	\$4,140,886	\$2,748,131	\$12,023,907	\$899,350	\$971,254	\$20,783,528

Table 33: Cost recovery fees by share category

Year	DWG	GG	RG	SWG	TF	Total
2010	\$66,184	\$63,156	\$266,260	\$19,115	\$15,531	\$430,246
2011	\$88,479	\$43,899	\$451,488	\$22,960	\$26,809	\$633,634
2012	\$117,288	\$73,722	\$502,196	\$38,555	\$30,711	\$762,477
2013	\$117,381	\$84,932	\$487,547	\$41,060	\$34,037	\$764,959
2014	\$139,423	\$99,521	\$621,957	\$35,401	\$40,417	\$936,634
2015	\$126,141	\$84,084	\$565,612	\$38,701	\$46,659	\$861,198
2016	\$119,969	\$119,462	\$556,264	\$49,587	\$37,856	\$883,137
2017	\$116,300	\$69,650	\$431,774	\$34,022	\$43,150	\$694,896
2018	\$124,519	\$76,622	\$342,173	\$35,004	\$32,667	\$610,985
2019	\$160,141	\$84,996	\$332,407	\$30,534	\$36,573	\$644,651
2020	\$124,227	\$82,446	\$360,719	\$26,982	\$29,138	\$623,511

Enforcement and Administrative Actions

Law Enforcement Activities

Effective law enforcement is a crucial component of the IFQ programs. Special agents and officers from the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service's (NMFS) Office of Law Enforcement (OLE) Southeast Division, the U.S. Coast Guard (USCG)

and state wildlife officers and game wardens under authority of state law, or operating under the authority of joint enforcement agreements (JEA) with OLE, enforce the regulated activities mandated under the Gulf IFQ programs through a variety of mechanisms. These mechanisms include at-sea and dockside inspections, offload monitoring, investigations of potential violations, and the seizure of illegally caught fish.

Enforcement of the IFQ regulations includes all of the enforcement options and activities present in all of NOAA's enforcement work. Law enforcement personnel from OLE, the USCG, and state JEA partners conduct at-sea and dockside patrols and inspections designed to educate the regulated community about the program and detect and deter violations. In addition, OLE conducts follow up investigations in the event of more complicated violations such as the undocumented landing and sale of IFQ species and the trafficking of illegally landed red snapper or grouper-tilefish in interstate or foreign commerce. If the USCG or JEA partners detect a violation related to the IFQ program, they can provide compliance assistance to fix the violation on the spot such as educating fishermen on the use of the technology used to monitor the program (VMS and IFQ notification systems), or, if the violation is of a more serious nature, they can forward the case to OLE for additional action. OLE's enforcement options include a wider range of actions including compliance assistance, written warnings, summary settlements¹¹, referral to NOAA's Office of General Counsel, Enforcement Section, for consideration of a civil penalty, or referral to the Department of Justice for prosecution of a criminal offense.

Major violations detected by law enforcement since the implementation of the IFQ programs include false reporting of species landed and under reporting of total weights landed. More typical violations include landing prior to the three-hour minimum landing notice, landing at an unspecified or unapproved location, insufficient allocation, transporting IFQ species without an approval code, completing a landing transaction without a landing notification, and offloading after approved hours. Typical dealer violations include misreporting IFQ species, failure to provide a current dealer permit and/or IFQ dealer endorsement, and failure to report IFQ species landed. The seizure of illegal catch is also an enforcement option, although OLE usually reserves this option for the most egregious violations. As the program has matured, the number of federal IFQ related cases that have resulted in seizures has decreased.

In 2020, OLE agents and officers in the Southeast Division conducted approximately 164 patrols. These patrols included monitoring the offloading of catch and investigations involving IFQ program regulations. The number of incidents resulting in seizures has decreased since the start of the program, and OLE continues to work with partners to proactively enforce IFQ regulations. In 2020, there were 75

¹¹ Summary settlements are offers issued by OLE to settle violations listed on the Office of General Counsel, Enforcement Section's Summary Settlement Schedules. The summary settlement program is designed to provide a mechanism to resolve relatively low-level violations quickly, efficiently, and without the more formal procedures involved when the Office of General Counsel assesses a civil penalty. Up until 2019, previous settlement schedules only included penalties for red snapper violations and did not contain IFQ specific violations. In June 2019, the Southeast Region summary settlement schedule added penalties for IFQ specific violations. OGC/Enforcement. The schedule now includes provisions for violating IFQ regulations relating to transport on land, landing notifications, arrival times, offloads, landing locations, and sufficient allocation. Fees begin at \$1,000 for each first offense and increase by \$500 for each subsequent second and third offense. See <https://www.gc.noaa.gov/gces/2019/SE-SSS-Final-6-27-19.pdf>.

IFQ investigations that resulted in the issuance of compliance assistance, written warnings, and violations.

Summary of the 2020 fishing year

In the eleventh year of the GT-IFQ program, the program has shown continued progress in achieving its main objectives of reducing overcapacity and mitigating the derby fishing conditions and auxiliary objectives such as increased market stability, fishing flexibility, and balancing social, economic, and biological benefits. During the eleven years of the program, there have been changes in participation and activity in the program. Participation can be seen in the status of accounts in relation to holding shares, permits, and allocation, while activity is determined in relation to accounts transferring shares or allocation or landing red snapper. The following tables provide a summary of the 2020 value and change from the previous year for changes in participation and activity (Table 34), Transfers and Landings (Table 35), Economic information (Table 36), and Effort and Discards (Table 37).

Table 34. 2020 GT-IFQ program participation and activity

		2020 Value	Change from 2019
Participation	Shareholders	606	-9
	Allocation Holders	833	+14
	Dealers	110	-7
	Vessels	425	-3
Activity	Shareholders without permits		
	Number of accounts	238	+8
	Percentage of accounts	39%	+2%
	Allocation holders without shares		
	Number	233	+17
	Percentage	28%	+2%
	GT-IFQ Vessels landing RS-IFQ fish	91%	+2%
	Accounts with remaining allocation	632	+4
	Number of Active accounts	373	-3
	Percentage of accounts	76%	-1%
	Number of accounts with overages	15	+2
	Overage pounds	1,308 lb	+386 lb

Table 35. 2020 Transfers and landings

		2020 Value	Change from 2019
Transfers and Landings	Number of Share Transfers	227	-12
	Percentage of Shares Transferred	42%	-33%
	Number of Allocation Transfers	7,064	+86
	Amount of allocation transferred	10,083,675 lb	-1,798,551 lb
	Percentage of quota transferred	166%	-30%
	Landings Percentage of Quota	69%	+1%

Table 36. 2020 Economic information

		2020 Value	Change from 2019
Economic Information	Average share price per pound		
	DWG	\$13.96	+\$4.71
	GG	\$8.82	-\$0.85
	RG	\$6.17	+\$0.41
	SWG	\$5.08	-\$0.61
	TF	\$8.48	-\$1.14
	Percent of Representative Share Transfer Prices	61%	-13%
	Average Allocation price per pound		
	DWG	\$1.05	+\$0.00
	GG	\$0.73	-\$0.12
	RG	\$0.47	-\$0.12
	SWG	\$0.57	-\$0.02
	TF	\$0.63	-\$0.09
	Percent of Representative Allocation Transfer Prices	51%	+4%
	Average Ex-vessel price per pound		
	DWG	\$5.26	-\$0.35
	GG	\$5.89	-\$0.15
	RG	\$5.09	-\$0.22
	SWG	\$5.53	-\$0.03
	TF	\$2.79	-\$0.09
	Total ex-vessel value of GT-IFQ	\$20,783,528	-\$704,596

Table 37. 2020 Effort and discards

		2020 Value	Change from 2019
Effort and Discards	VL Trips	2,917	-539
	VL Days/Trip	3.5	0
	VL Avg lb/Trip	354 lb	+41 lb
	LL Trips	725	+21
	LL Days/Trip	10.1	-1.6
	LL Avg lb/Trip	4,454 lb	-465 lb
	VL Discard Ratio D:L		
	Red Grouper	--	--
	Gag	--	--
	VL Discard Mortality		
	Red Grouper	--	--
	Gag	--	--
	LL Discard Ratio D:L		
	Red Grouper	--	--
	Gag	--	--
	LL Discard Mortality		
	Red Grouper	--	--
	Gag	--	--

Looking Ahead

The final rule for Amendment 36A to the Reef Fish FMP was effective on July 12, 2018 (83 FR 27297), and revoked shares non-activated IFQ accounts and allowed NMFS to withhold a portion of the quota from distribution if a quota reduction is anticipated. The Gulf Council is currently considering additional changes to both the RS-IFQ and GT-IFQ programs through Amendment 36B and 36C to the Reef Fish FMP, which would also establish a use for the revoked shares from Amendment 36A. Amendment 36B aims to improve the performance of the RS-IFQ and GT-IFQ programs based on suggestions from the Red Snapper 5-year review, an advisory panel, and Gulf Council discussions. Amendment 36B, which is under development by the Gulf Council, considers share holding requirements and divestment of shares resulting from such restrictions, while Amendment 36C deals with the redistribution of reclaimed shares from 36A (and potentially 36B), quota banks, and accuracy of weights estimated in landing notifications.

The second required review of the IFQ programs began in 2019. The RS-IFQ and GT-IFQ reviews were combined into one joint review, as there is considerable overlap in the program's participants. This review should go final in 2021.

The Catch Share Online System successfully transitioned to a new system on December 21, 2020. This migration was necessary as the software that supported the system was at end of life. In preparation for the migration, NMFS held weekly webinars about the changes that could be expected, encouraged users to update their PIN to meet new and more stringent security requirements, and had volunteers beta test the new platform before launch. The SERO Catch Share staff are continuously looking for ways to improve the interaction with the online Website. If you have a suggestion on how the online system can be further improved, please call or e-mail SERO Catch Share customer support as listed on the cover page.

Appendices

Appendix 1: Program history

Development of the Grouper-Tilefish (GT) Individual Fishing Quota (IFQ) program began in 2008, when a majority of eligible voters, Gulf of Mexico (Gulf) reef fish permit holders that had annual average grouper and tilefish landings of at least 8,000 pounds during 1999-2004, supported the formation of the GT-IFQ program through a referendum. During 2008, the Gulf of Mexico Fishery Management Council (Gulf Council) developed [Amendment 29](#)¹² to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico, outlining the key components of the GT-IFQ program. In January 2009, the Gulf Council approved Amendment 29 by a vote of 14 to 3. Amendment 29¹³ was approved by NOAA's National Marine Fisheries Service (NMFS) in July 2009. Implementation of the program began in fall 2009 and the first fishing year of the program began on January 1, 2010. For the first five years of the program, shares and allocation could only be sold to and fished by an entity that held a valid commercial reef fish permit and had an active GT-IFQ online account. After January 1, 2015, all U.S. citizens and permanent resident aliens were eligible to purchase GT-IFQ shares and allocation, although a valid reef fish permit was still required to harvest, possess, and land any allocation.

Prior to implementation of the GT-IFQ program, commercial grouper-tilefish species were managed with limited access fishing permits, trip limits, size limits, closed seasons, and quotas. This resulted in overcapitalization of the commercial grouper-tilefish segment of the reef fish fishery. The collective harvesting capacity of fishing vessels was in excess of that required to harvest the commercial grouper-tilefish quotas, resulting in quota overages and early closures. In 2004 and 2005, the shallow-water grouper fishing season was shortened by 6-10 weeks, and between 2003 and 2009, the deep-water grouper and tilefish seasons were shortened by more than 50%. The deep-water grouper and tilefish seasons year-round seasons in 2003-2004 were shortened by more than 50% with closures in April through June, and seasons as short as 15 weeks. It was anticipated that under the prevailing management regime incentives for derby fishing would persist.

Initial shares were issued based on the amount of grouper-tilefish logbook landings reported under each entity's qualifying permit during 1999 through 2004, with an allowance for dropping one year of data. Initial shares were issued in five different GT-IFQ categories: deep-water grouper, gag, red grouper, other shallow-water grouper, and tilefish (Table 1). There were 766 GT-IFQ shareholder accounts created based on the number of entities (unique individual[s] and/or corporations) that qualified for initial shares in one or more share categories. Initial quota shares issued to an account ranged from 2.35 to 14.7% depending on the share category (Table 2). The minimum amount of shares issued for any share category was 0.000001%.

¹² https://gulfcouncil.org/wp-content/uploads/Reef-Fish-Amdt-29-Dec-08_508Compliant.pdf

¹³ <https://www.federalregister.gov/documents/2009/08/31/E9-20954/fisheries-of-the-caribbean-gulf-of-mexico-and-south-atlantic-reef-fish-fishery-of-the-gulf-of-mexico>

In mid-2010, shortly following the start of the GT-IFQ program, share transfer prices became mandatory for the transferor to report. On June 1, 2011, actual ex-vessel price was redefined to ensure equivalent reporting among dealers. The definition now states that “actual ex-vessel price” represents the price paid per pound of fish before any deductions are made for transferred (leased) allocation (i.e., pounds of fish) and goods and/or services (e.g., bait, ice, fuel, repairs, machinery replacement).

A survey on share price was conducted 2012-2013 to update share prices and share reasons for those years. In 2013, transfer reasons were added to both share and allocation transfers in order to capture more information about the types of transfer that occur and the reasons for the transfers, especially as how they related to price. Also in 2013, the share transfer price became mandatory for the transferee to report as they accepted the share transfer. In 2015, transfer reasons for shares and allocation became mandatory. On Dec 21, 2020, allocation prices became mandatory.

On October 27, 2014, there were administrative revisions to IFQ programs to improve enforcement, monitoring, and administration, and to clarify existing regulatory requirements. The rule made changes to landing notifications, offloading, landing transactions, as well as administrative changes. Modification to landing notifications included: 1) allows allocation be held in either a vessel or linked shareholder account at the time the landing notification is submitted, 2) extends the landing notification reporting window from 12 to 24 hours, 3) requires that vessels must land within an hour after the arrival time given in the landing notification, and 4) specifies that any changes to a landing notification would require a new landing notification and would supersede a previous notification. The captain will not be required to wait an additional 3 hours if only one superseding landing notification has been submitted for the trip. If more than one superseding notification has been made for a trip or the landing location is changed, the vessel will be required to provide at least 3 hours’ notice before landing. The rule also allows vessels to land prior to the 3-hour notification if an authorized officer is present, is available to meet the vessel, and authorizes the vessel to land early. The final rule included a change to the offloading process, where offloading could continue past 6 p.m. if an authorized officer is present, is available to remain at the offloading site while the offload continues, and authorizes the vessel to continue offloading. The rule modified landing transactions such that: 1) requires the dealer and vessel to complete a landing transaction on the day of offload and within 96 hours of the landing, and 2) prohibits the deduction of ice and water weight when reporting an IFQ landing transaction unless the actual weight of the ice and water is determined using a scale. The intent of these modifications is to improve timeliness and accuracy of landing transactions. The administrative changes included: 1) allowing participants to close an IFQ account by submitting a Close Account form to NMFS, and 2) allows NMFS to close an IFQ account if no landing transactions or IFQ transfers have been completed by the IFQ account holder in at least one year and if either the account does not hold shares or allocation (shareholder account) or the account has paid all cost recovery (dealer account). The rule also clarified the following: 1) fish must be sold to a federally permitted dealer and dealers must report all landings and their actual ex-vessel value via the IFQ system, 2) a dealer may only receive IFQ fish that have a corresponding transaction approval code, 3) removed a phrase stating NMFS will “add other methods of complying with advance notice of landing requirement” because NMFS has already identified numerous methods for submitting landing notifications, 4) removed regulatory language that prevents a dealer

from completing a landing transaction if a landing notification is not submitted, and 5) explicitly stated that IFQ species must be landed at an approved landing location.

The IFQ website and database systems were modified in 2014 and 2015 to include the Gulf Headboat Collaborative (HBC) pilot program and the Highly Migratory Species (HMS) Bluefin Tuna Individual Bycatch Quota (BFT) program. With the additions of these programs, the homepage was retitled to “SERO Catch Shares Programs” and additional information was added for each program. Each program contains a separate tab on the Public home page with information specific to that program and the Log In dialogue box was changed to reflect the additional roles for each program. The public “View Landing Locations” page was changed to include both IFQ and HBC landing locations, with a drop down box to select by program. The Additional Information page was changed to allow for selection of documents by program: IFQ, HBC, or BFT.

In 2017, Amendment 36A to the Reef Fish FMP (Commercial IFQ Program Modifications) was approved by the Gulf Council. The final rule published on June 12, 2018 (83 FR 27297). Amendment 36A included three actions: 1) require that the owner or operator of a commercial reef fish permitted vessel landing commercially caught, federally managed reef fish from the Gulf provide a landing notification at least 3 hours, but no more than 24 hours, in advance of landing, 2) return permanently to NMFS any shares contained in IFQ accounts that have never been activated since January 1, 2010, and 3) allow NMFS to withhold the distribution of IFQ allocation equal the amount of an expected commercial quota reduction on January 1, for any IFQ species or multi-species quota, and redistribute the allocation back to fishermen should the expected quota reduction not be implemented by June 1. The effective date for the return of shares and the provision to withhold quota was effective July 11, 2018, but the effective date for the advance notification of landing was delayed until Jan 1, 2019. Additional information can be found on the Southeast Region webpage:

<https://www.fisheries.noaa.gov/action/reef-fish-amendment-36a-modifications-commercial-individual-fishing-quota-programs>.

In 2017, updates were made to improve the GT-IFQ program. IFQ staff created the IFQ species identification document, which provides helpful tips when identifying and differentiating similar IFQ species (e.g., red snapper and mutton snapper, black grouper and gag, golden tilefish, and goldface tilefish). This document was made available under additional information tab in the online system. Additionally, GIS interactive maps of dealer and landing locations was added on the public home page. The log in procedure to the catch share online system was also simplified. Users no longer have to specify their role before logging in, and users no longer have to click the “Accept Terms of Use.” Simply clicking on the login button indicates acceptance of the Terms of Use of the web application. The final addition to the online system was a print button on confirmation screens when performing allocation or share transfers.

Several updates were made in 2018 to improve the Gulf Reef Fish IFQ online systems. A new share and allocation calculator was added to the home page that can convert between share percentages and

equivalent pounds for each share category. VMS lists for dealers and landing locations have been generated to assign a code to each unique dealer and landing location. These codes will replace the text lists that were formerly used to select form for each landing notification submitted via VMS. This change removes the need to update VMS units when new dealers and landing locations are added to the program. Additionally, a new feature to view what has been typed into the PIN field when logging into a user account was added to allow the user to see what they have entered.

Also in 2018, a stock assessment assessed a lower yield of RG available. This assessment resulted in a quota decrease that became effective January 1, 2019.

In late 2020, the IFQ system was redesigned to function in a cloud environment and additional features were added to the system for flexibility and security. The cloud environment should ensure that the system remains running even during natural disasters such as a hurricane. The system was brought up to current security standards to secure the transmission and storage of program information. The website was redesigned to allow access through mobile devices and tablets and the landing transaction form was modified to allow for the entry of different prices for the same species in one landing transaction. The IFQ program migrated to the new platform in late December 2020, after two years of development.

Appendix 2: 2010 Deepwater Horizon (DWH) oil spill closures

Closure Date	Area (sq mi)	Area (sq km)	% Coverage of Gulf EEZ	% Change in Coverage
2-May	6,817	17,648	2.8	N/A
7-May	10,807	27,989	4.5	58.5
11-May	16,027	41,511	6.6	48.3
12-May	17,651	45,717	7.3	10.1
14-May	19,377	50,187	8.0	9.8
17-May	24,241	62,784	10.0	25.1
18-May	45,728	118,435	18.9	88.6
21-May	48,005	124,333	19.8	5.0
25-May	54,096	140,109	22.4	12.7
28-May	60,683	157,169	25.1	12.2
31-May	61,854	160,200	25.6	1.9
1-Jun	75,920	196,633	31.4	22.7
2-Jun	88,522	229,270	36.6	16.6
4-Jun	78,182	202,491	32.3	-11.7
5-Jun	78,603	203,582	32.5	0.5
7-Jun	78,264	202,703	32.3	-0.4
16-Jun	80,806	209,286	33.4	3.2
21-Jun	86,985	225,290	35.9	7.6
23-Jun	78,597	203,564	32.5	-9.6
28-Jun	80,228	207,790	33.2	2.1
4-Jul	81,181	210,259	33.5	1.2
12-Jul	84,101	217,821	34.8	3.6
13-Jul	83,927	217,371	34.7	-0.2
22-Jul	57,539	149,026	23.8	-31.4
10-Aug	52,395	135,703	21.7	-8.9
27-Aug	48,114	124,614	19.9	-8.2
2-Sep	43,000	111,369	17.8	-10.6
3-Sep	39,885	103,303	16.5	-7.2
21-Sep	31,915	82,659	13.2	-20.0
1-Oct	26,287	68,083	10.9	-17.6
5-Oct	23,360	60,502	9.7	-11.1
15-Oct	16,481	42,686	6.8	-29.4
22-Oct	9,444	24,461	3.9	-42.7
15-Nov	1,041	2,697	0.4	-89.0

Appendix 3: Commercial Management History for Grouper-Tilefish Species

Appendix 3.1: Gag grouper commercial management history

Year	Days Open	Size Limit (" TL)	Quota ¹ (mp gw)	Harvest ² (mp gw)	Commercial Management Action
1990	311	20	7.8 SWG	0.79	20" TL minimum size limit SWG season: Jan 1 – Nov 7 (Amend. 1) Created deep-water and shallow-water aggregates (Amend. 1) 11 mp ww commercial quota for all groupers: 1.8 mp ww for DWG (Amend. 1) Established commercial reef fish permit (Amend. 1) Longline gear prohibited inshore of 50 fathoms depth west and 20 fathoms east of Cape San Blas, FL (Amend. 1)
1991	365	20	7.8 SWG	0.93	
1992	366	20	8.2 SWG	1.24	Establish a moratorium on issuing new reef fish permits for 3 years, but allows transfers (Amend. 4)
1993	365	20	8.2 SWG	1.48	
1994	365	20	8.2 SWG	1.28	Extends reef fish permit moratorium through 1995
1995	365	20	8.2 SWG	1.34	
1996	366	20	8.2 SWG	1.27	New reef fish permit moratorium through 2000 (Amend. 11)
1997	365	20	8.2 SWG	1.4	
1998	365	20	8.2 SWG	2.25	
1999	320	24	8.2 SWG	1.74	Increased commercial size limit to 24" TL Prohibited sale of gag from Feb 15 – Mar 15 (peak gag spawning season) Established two marine reserves
2000	320	24	8.2 SWG	1.91	Extend reef fish permit moratorium through 2005 (Amend. 17)
2001	320	24	8.2 SWG	2.78	
2002	320	24	8.2 SWG	2.66	
2003	320	24	8.2 SWG	2.29	
2004	275	24	8.8 SWG	2.88	Secretarial amendment 1 reduced the SWG quota to 8.8 mp gw
2005	320	24	8.8 SWG	2.47	Established permanent limited access system for commercial Gulf reef fish (Amend. 24) Aggregate deep-water and shallow-water grouper commercial trip limit of 6,000 lb gw
2006	320	24	8.8 SWG	1.37	Required commercially permitted reef fish vessels to be equipped with VMS
2007	320	24	8.8 SWG	1.26	
2008	320	24	8.8 SWG	1.32	
2009	320	24	1.32	0.75	Defined maximum stock size threshold and optimum yield for gag Set gag and red grouper allocations between recreational and commercial sectors Reduced SWG quota from 8.80 mp to 7.8 mp Set gag quota at 1.32 mp gw (Amend 30B) Repealed the commercial closed season (Feb 15-Mar 15) Jan – April seasonal closure at Edges 40 fathom contour and at Steamboat Lumps (Amend 31) Created a longline endorsement permit for vessels in the Eastern Gulf (Amend 31) May – Oct: Emergency interim regulation prohibiting longlines inside of 50 fathoms Oct: Reef fish bottom longline fishing restricted inside of the 35-fathom depth contour and limited to 1,000 hooks, with no more than 750 rigged for fishing under Endangered Species Act
2010	365	24	1.410	0.497	Began the IFQ system for commercial grouper and tilefish (Amend. 29) Longline endorsement required (Amend. 31) Reef fish bottom longline fishing restricted to outside the 35-fathom depth contour from June – August (Amend. 31) Longlines limited to 1000 hooks, with no more than 750 rigged for fishing (Amend. 31)
2011	365	24	0.430	0.319	Gag quota initially set at 0.10 mp gw Mid-year quota increase of 0.33 mp gw
2012	366	22	0.567	0.523	Mid-year quota increase of 0.137 mp gw Set ACLs and ACTs for gag (Amend. 32) Established rebuilding plan for gag (Amend. 32) Adjust multi-use IFQ shares in the GT-IFQ program (Amend. 32) Reduced gag commercial size limit to 22" TL (Amend. 32)
2013	365	22	0.708	0.575	
2014	365	22	0.835	0.586	
2015	365	22	0.939	0.542	
2016	366	22	0.939	0.777	
2017	365	24	0.939	0.443	Increased gag commercial size limit to 24" TL (Framework Action)
2018	365	24	0.939	0.452	
2019	365	24	0.939	0.470	
2020	366	24	0.939	0.469	

¹ Prior to 2009, gag was included in the shallow-water groupers (SWG) quota. During this time, SWG included: black grouper, gag, red grouper, yellowfin grouper, yellowmouth grouper, rock hind, red hind, speckled hind, and scamp.

² Harvest from 1990-2009 taken from the SEFSC ACL database; harvest from 2010 to current from IFQ database.

Appendix 3.2: Red grouper commercial management history

Year	Days Open	Size Limit (" TL)	Quota ¹ (mp gw)	Harvest ² (mp gw)	Commercial Management Action
1990	311	20	7.8 SWG	4.74	SWG season: Jan 1 – Nov 7 (Amend. 1) Created deep-water and shallow-water aggregates (Amend. 1) 11 mp ww commercial quota for all groupers: 1.8 mp ww for DWG (Amend. 1) Established commercial reef fish permit (Amend. 1) Longline gear prohibited inshore of 50 fathoms depth west and 20 fathoms east of Cape San Blas, FL (Amend. 1)
1991	365	20	7.8 SWG	5.07	
1992	366	20	8.2 SWG	4.46	Establish a moratorium on issuing new reef fish permits for 3 years, but allows transfers (Amend. 4)
1993	365	20	8.2 SWG	6.36	
1994	365	20	8.2 SWG	4.89	Extends reef fish permit moratorium through 1995
1995	365	20	8.2 SWG	4.65	
1996	366	20	8.2 SWG	4.34	New reef fish permit moratorium through 2000 (Amend. 11)
1997	365	20	8.2 SWG	4.67	
1998	365	20	8.2 SWG	3.70	
1999	320	20	8.2 SWG	5.80	Prohibited sale of red grouper from Feb 15 – Mar 15 (peak gag spawning season) Established two marine reserves
2000	320	20	8.2 SWG	5.70	Extend reef fish permit moratorium through 2005 (Amend. 17)
2001	320	20	8.2 SWG	5.80	
2002	320	20	8.2 SWG	5.79	
2003	320	20	8.2 SWG	4.83	
2004	319	20	5.31	5.64	
2005	282	20	5.31	5.38	Established permanent limited access system for commercial Gulf reef fish (Amend. 24) Aggregate deep-water and shallow-water grouper commercial trip limit of 6,000 lb gw Secretarial Amendment 1 to the Reef Fish FMP set red grouper quota at 5.31 mp gw
2006	365	20	5.31	5.10	
2007	365	20	5.31	3.64	
2008	366	20	5.31	4.75	
2009	365	18	5.75	3.70	Set gag and red grouper allocations between recreational and commercial sectors Reduced SWG quota from 8.90 mp to 7.48 mp Increased red grouper quota from 5.31 to 5.75 mp Repealed the comml.3ercial closed season (Feb 15-Mar 15) Jan – April seasonal closure at Edges 40 fathom contour and at Steamboat Lumps May – Oct: Emergency interim regulation prohibiting longlines inside of 50 fathoms Oct: Reef fish bottom longline fishing restricted inside of the 35-fathom depth contour and limited to 1,000 hooks, with no more than 750 rigged for fishing under Endangered Species Act
2010	365	18	5.750	2.911	Began the IFQ system for commercial grouper and tilefish (Amend. 29) Longline endorsement required (Amend. 31) Reef fish bottom longline fishing restricted to outside the 35-fathom depth contour from June – August (Amend. 31) Longlines limited to 1000 hooks, with no more than 750 rigged for fishing (Amend. 31) Set red grouper TAC at 5.68 mp gw for 2011 (76% commercial = 4.32 mp gw)
2011	365	18	5.230	4.784	Mid-year quota increase of 0.91 mp gw Regulatory amendment allows red grouper TAC to increase until 2015, as long as TAC not exceeded in previous years
2012	366	18	5.370	5.219	Set ACLs and ACTs for red grouper (Amend. 32) Adjust multi-use IFQ shares in the GT-IFQ program (Amend. 32)
2013	365	18	5.530	4.599	
2014	365	18	5.630	5.602	
2015	365	18	5.720	4.798	
2016	366	18	7.780	4.631	Mid-year quota increase of 2.06 mp gw
2017	365	18	7.780	3.377	
2018	365	18	7.780	2.404	
2019	365	18	3.000	2.099	
2020	366	18	3.000	2.375	

¹ Prior to 2004, red grouper was included in the shallow-water groupers (SWG) quota. During this time, SWG included: black grouper, gag, red grouper, yellowfin grouper, yellowmouth grouper, rock hind, red hind, speckled hind, and scamp.

² Harvest from 1990-2009 taken from the SEFSC ACL database; harvest from 2010 to current from IFQ database.

Appendix 3.3: SWG commercial management history

Year	Days Open	Quota ¹ (mp gw)	Harvest ² (mp gw)	Commercial Management Action
1990	311	7.8	6.94	SWG season: Jan 1 – Nov 7 (Amend. 1) Created deep-water and shallow-water aggregates (Amend. 1) 11 mp ww commercial quota for all groupers: 1.8 mp ww for DWG (Amend. 1) Established commercial reef fish permit (Amend. 1) Longline gear prohibited inshore of 50 fathoms depth west and 20 fathoms east of Cape San Blas, FL (Amend. 1) Minimum size limit: Nassau grouper, yellowfin grouper, and black grouper = 20" TL
1991	365	7.8	7.07	Speckled hind moved from shallow-water grouper to deep-water grouper (Amend. 3)
1992	366	8.2	6.58	Establish a moratorium on issuing new reef fish permits for 3 years, but allows transfers (Amend. 4) Scamp is shallow-water until closed, then deep-water Conversion from ww to gw modified to 1.05 for DWG and SWG
1993	365	8.2	8.61	
1994	365	8.2	6.80	Extends reef fish permit moratorium through 1995
1995	365	8.2	6.50	
1996	366	8.2	6.12	New reef fish permit moratorium through 2000 (Amend. 11)
1997	365	8.2	6.53	Prohibited the harvest of Nassau grouper (Amend 14).
1998	365	8.2	6.38	
1999	320	8.2	8.11	Established two marine reserves
2000	320	8.2	8.18	Extend reef fish permit moratorium through 2005 (Amend. 17)
2001	320	8.2	9.19	
2002	320	8.2	9.05	
2003	320	8.2	7.77	
2004	319	8.88	8.88	
2005	282	8.88	8.18	Established permanent limited access system for commercial Gulf reef fish (Amend. 24) Aggregate deep-water and shallow-water grouper commercial trip limit of 6,000 lb gw
2006	365	8.88	6.74	
2007	365	8.88	5.19	
2008	366	8.88	6.35	
2009	365	7.48	4.70	Reduced SWG quota from 8.88 mp to 7.48 mp Jan – April seasonal closure at Edges 40 fathom contour and at Steamboat Lumps May – Oct: Emergency interim regulation prohibiting longlines inside of 50 fathoms Oct: Reef fish bottom longline fishing restricted inside of the 35-fathom depth contour and limited to 1,000 hooks, with no more than 750 rigged for fishing under Endangered Species Act
2010	365	0.410	0.176	Began the IFQ system for commercial grouper and tilefish (Amend. 29) Longline endorsement required (Amend. 31) Reef fish bottom longline fishing restricted to outside the 35-fathom depth contour from June – August (Amend. 31) Longlines limited to 1000 hooks, with no more than 750 rigged for fishing (Amend. 31) Reduced SWG quota to 0.41 mp Multi-use flexibility allows warsaw grouper and speckled hind to be landed with SWG allocation
2011	365	0.410	0.187	
2012	366	0.509	0.298	Increased TAC to 0.51 mp Minimum size limits: black grouper = 24" TL; yellowfin grouper = 20" TL; Scamp = 16" TL
2013	365	0.518	0.301	
2014	365	0.523	0.230	
2015	365	0.525	0.238	
2016	366	0.525	0.358	
2017	365	0.525	0.239	
2018	365	0.525	0.224	
2019	365	0.525	0.185	
2020	366	0.525	0.165	

¹ In 1990-1996, shallow-water grouper included: black grouper, gag, red grouper, yellowfin grouper, yellowmouth grouper, rock hind, red hind, scamp, speckled hind, and Nassau grouper. In 1991, speckled hind was moved to deep-water grouper. In 1997, Nassau grouper was removed from shallow-water grouper and harvest was prohibited. From 2004-2009, while red grouper had its own quota, it was also part of the aggregate SWG quota. In 2009, both gag and red grouper had their own quota, which was also part of the aggregate SWG quota. Beginning in 2010, gag and red grouper quotas were removed from the shallow-water aggregate quota. In 2012, red hind and rock hind were removed.

² Harvest from 1990-2009 taken from the SEFSC ACL database; harvest from 2010 to current from IFQ database.

Appendix 3.4: DWG commercial management history

Year	Days Open	Quota ¹ (mp gw)	Harvest ² (mp gw)	Commercial Management Action
1990	365	1.52	1.03	Created deep-water and shallow-water aggregates (Amend. 1) 11 mp ww commercial quota for all groupers: 1.8 mp ww for DWG (Amend. 1) Established commercial reef fish permit (Amend. 1) Longline gear prohibited inshore of 50 fathoms depth west and 20 fathoms east of Cape San Blas, FL (Amend. 1)
1991	365	1.52	1.00	Speckled hind moved from shallow-water grouper to deep-water grouper (Amend. 3)
1992	366	1.6	1.28	Establish a moratorium on issuing new reef fish permits for 3 years, but allows transfers (Amend. 4) Scamp is shallow-water until closed then deep-water Conversion from ww to gw modified to 1.05 for DWG and SWG
1993	365	1.6	0.95	
1994	365	1.6	1.27	Extends reef fish permit moratorium through 1995
1995	365	1.6	0.97	
1996	366	1.6	0.63	New reef fish permit moratorium through 2000 (Amend. 11)
1997	365	1.6	0.90	
1998	365	1.6	0.77	
1999	365	1.6	1.20	Established two marine reserves
2000	366	1.6	1.39	Extend reef fish permit moratorium through 2005 (Amend. 17)
2001	365	1.6	1.04	
2002	365	1.6	1.07	
2003	365	1.6	1.54	
2004	177	1.02	1.25	Reduced commercial quota for DWG (Secretarial Amend. 1)
2005	130	1.02	1.14	Established permanent limited access system for commercial Gulf reef fish (Amend. 24) Aggregate deep-water and shallow-water grouper commercial trip limit of 6,000 lb gw Closed on June 23, 2005
2006	152	1.02	1.07	Closed on June 27, 2006
2007	173	1.02	1.16	Closed on June 2, 2007
2008	142	1.02	1.11	Closed on May 10, 2008; re-opened DWG Nov 1-10, 2008
2009	196	1.02	1.13	Jan – April seasonal closure at Edges 40 fathom contour and at Steamboat Lumps May – Oct: Emergency interim regulation prohibiting longlines inside of 50 fathoms Oct: Reef fish bottom longline fishing restricted inside of the 35-fathom depth contour and limited to 1,000 hooks, with no more than 750 rigged for fishing under Endangered Species Act
2010	365	1.020	0.606	Began the IFQ system for commercial grouper and tilefish (Amend. 29) Longline endorsement required (Amend. 31) Reef fish bottom longline fishing restricted to outside the 35-fathom depth contour from June – August (Amend. 31) Longlines limited to 1000 hooks, with no more than 750 rigged for fishing (Amend. 31) Reduced DWG quota to 1.02 mp Multi-use flexibility allows scamp to be landed with DWG allocation
2011	365	1.020	0.779	
2012	366	1.127	0.966	Increased TAC to 1.13 mp; misty grouper removed from Reef Fish FMP and IFQ program
2013	365	1.118	0.920	
2014	365	1.110	1.081	
2015	365	1.101	0.955	
2016	366	1.024	0.867	
2017	365	1.024	0.822	
2018	365	1.024	0.817	
2019	365	1.024	0.952	
2020	366	1.024	0.804	

¹ Deep-water grouper in 1990 included: misty grouper, snowy grouper, yellowedge grouper, and warsaw grouper. In 1991, speckled hind was moved from shallow-water grouper to deep-water grouper and scamp was included as deep-water grouper once the shallow-water grouper quota was filled. In 2010, the IFQ system was established and included: misty grouper, snowy grouper, yellowedge grouper, warsaw grouper, and speckled hind. While scamp may be landed with deep-water allocation, it is not included in the quota. In 2012, misty grouper was removed from the deep-water grouper.

² Harvest from 1990-2009 taken from the SEFSC ACL database; harvest from 2010 to current from IFQ database.

Appendix 3.5: TF commercial management history

Year	Days Open	Quota ¹ (mp gw)	Harvest ² (mp gw)	Commercial Management Action
1990	365	NA	0.39	Established commercial reef fish permit Longline gear prohibited inshore of 50 fathoms depth west and 20 fathoms east of Cape San Blas, FL Added golden tilefish, goldface tilefish, blackline tilefish, anchor tilefish, and blueline tilefish to the FMP (Amend. 1).
1991	365	NA	0.33	
1992	366	NA	0.40	Establish a moratorium on issuing new reef fish permits for 3 years, but allows transfers (Amend. 4)
1993	365	NA	0.37	
1994	365	NA	0.49	Extends reef fish permit moratorium through 1995
1995	365	NA	0.49	
1996	366	NA	0.23	New reef fish permit moratorium through 2000 (Amend. 11)
1997	365	NA	0.44	
1998	365	NA	0.36	
1999	365	NA	0.42	Established two marine reserves
2000	366	NA	0.55	Extend reef fish permit moratorium through 2005 (Amend. 17)
2001	365	NA	0.53	
2002	365	NA	0.55	
2003	365	NA	0.48	
2004	366	0.44	0.61	Secretarial Amendment 1: established a commercial quota of 0.44 mp gw for all tilefish (equal to average annual harvest from 1996-2000)
2005	324	0.44	0.63	Established permanent limited access system for commercial Gulf reef fish (Amend. 24) Aggregate deep-water and shallow-water grouper commercial trip limit of 6,000 lb gw
2006	202	0.44	0.42	
2007	107	0.44	0.42	
2008	130	0.44	0.50	
2009	134	0.44	0.55	Jan – April seasonal closure at Edges 40 fathom contour and at Steamboat Lumps May – Oct: Emergency interim regulation prohibiting longlines inside of 50 fathoms Oct: Reef fish bottom longline fishing restricted inside of the 35-fathom depth contour and limited to 1,000 hooks, with no more than 750 rigged for fishing under Endangered Species Act
2010	365	0.440	0.250	Began the IFQ system for commercial grouper and tilefish (Amend. 29) Longline endorsement required (Amend. 31) Reef fish bottom longline fishing restricted to outside the 35-fathom depth contour from June – August (Amend. 31) Longlines limited to 1000 hooks, with no more than 750 rigged for fishing (Amend. 31)
2011	365	0.440	0.386	
2012	366	0.582	0.451	Increased TAC to 0.58 mp; Anchor and blackline tilefish removed from Reef Fish FMP and IFQ program.
2013	365	0.582	0.440	
2014	365	0.582	0.517	
2015	365	0.582	0.537	
2016	366	0.582	0.429	
2017	365	0.582	0.485	
2018	365	0.528	0.386	
2019	365	0.528	0.423	
2020	366	0.528	0.349	

¹ Tilefish included: Golden tilefish, blueline tilefish, goldface tilefish, anchor tilefish, and blackline tilefish. In 2012, anchor and blackline tilefish were removed from the GT-IFQ program.

² Harvest from 1990-2009 taken from the SEFSC ACL database; harvest from 2010 to current from IFQ database.

Appendix 4: Monthly landings by share category

Appendix 4.1: DWG monthly landings

DWG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	35,392	38,204	34,848	29,235	32,717	49,141	22,883	31,203	26,003	32,756	30,355
Feb	50,751	58,313	42,385	34,613	69,426	30,201	53,885	82,037	40,594	55,972	81,966
Mar	61,150	57,849	57,181	55,393	77,186	70,793	71,268	66,274	51,282	84,469	71,289
Apr	91,009	60,320	66,874	108,063	83,354	113,801	87,684	77,450	60,621	64,067	33,812
May	100,750	50,734	72,627	118,960	75,556	92,505	100,293	96,044	93,159	62,379	65,066
Jun	55,413	82,159	78,863	102,574	118,921	132,601	110,991	88,361	90,413	104,374	92,985
Jul	23,210	78,053	78,803	82,606	202,172	105,722	116,957	127,458	137,637	122,188	97,004
Aug	73,442	107,643	109,564	136,636	121,783	75,875	94,728	87,208	124,413	162,450	87,288
Sept	27,411	41,232	92,812	50,247	59,900	57,064	42,143	30,605	41,019	55,793	41,212
Oct	26,855	71,477	118,894	65,751	47,439	60,078	57,404	32,449	33,029	68,553	61,869
Nov	31,500	68,986	89,764	62,209	47,896	38,770	40,162	39,611	51,059	71,950	54,782
Dec	47,879	64,549	121,220	66,636	111,792	84,788	68,642	63,199	68,223	66,778	86,132

Appendix 4.2: GG monthly landings

GG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	43,562	24,071	60,119	53,809	33,365	38,717	33,482	33,005	34,882	74,982	36,767
Feb	48,530	20,557	47,387	53,261	72,979	40,135	139,315	66,707	52,881	69,149	49,407
Mar	59,766	8,535	84,824	67,014	54,496	68,525	96,987	40,255	31,632	54,160	48,158
Apr	54,033	6,470	48,400	62,902	59,951	48,889	77,818	37,960	38,530	44,890	17,757
May	56,455	7,542	54,861	79,613	69,165	56,515	90,094	50,348	51,732	67,217	82,664
Jun	43,773	35,315	25,247	48,369	60,321	65,145	66,023	36,954	40,718	30,830	59,586
Jul	22,486	25,211	44,672	38,466	36,146	37,457	40,623	28,171	21,296	26,979	32,264
Aug	27,624	25,077	23,116	35,058	31,287	34,054	28,506	17,899	29,344	20,592	33,291
Sept	27,371	27,614	29,441	22,929	22,746	22,785	74,168	20,029	25,351	18,453	14,678
Oct	25,727	23,666	24,270	27,367	38,902	21,120	59,567	20,194	30,315	12,763	11,920
Nov	19,537	34,324	32,495	19,533	42,836	39,099	37,644	40,452	54,907	19,654	18,896
Dec	65,074	81,755	50,234	71,343	167,319	82,500	32,963	51,182	40,326	30,206	63,174

Appendix 4.3: RG monthly landings

RG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	192,597	331,276	421,337	332,092	320,089	346,553	170,241	232,104	195,935	162,085	169,512
Feb	178,559	448,858	470,532	425,215	518,127	377,266	581,470	327,810	308,346	187,709	241,030
Mar	207,862	466,548	630,864	347,683	513,430	586,891	583,068	430,109	308,390	255,016	259,061
Apr	174,968	401,810	509,247	433,049	559,346	563,888	476,261	329,932	245,129	197,722	140,073
May	183,095	459,804	609,515	410,599	658,087	397,064	478,636	330,111	245,245	302,151	201,318
Jun	331,751	291,691	281,429	282,897	411,045	330,577	315,392	205,155	164,136	125,119	154,252
Jul	152,992	256,111	533,947	238,039	366,299	240,003	207,021	184,824	117,896	76,566	114,911
Aug	199,203	289,854	333,414	267,511	329,075	287,456	207,372	137,714	106,545	87,697	131,988
Sept	344,546	440,791	337,003	459,665	543,291	493,225	372,265	205,423	190,387	145,707	226,274
Oct	347,699	394,506	355,110	481,298	539,281	320,964	364,584	300,597	161,661	143,312	239,861
Nov	324,820	408,189	299,272	310,562	292,391	354,287	370,822	287,991	200,971	190,630	162,181
Dec	275,766	592,756	435,535	606,062	447,532	486,818	504,256	405,440	159,659	225,472	335,013

Appendix 4.4: SWG monthly landings

SWG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	18,664	13,712	19,805	24,189	11,348	17,726	11,116	12,229	10,041	15,233	6,522
Feb	21,420	21,907	22,302	29,567	26,529	16,604	32,714	24,863	20,137	16,694	10,939
Mar	21,456	17,805	30,298	27,567	23,814	28,584	34,914	21,771	12,737	15,387	13,234
Apr	17,821	12,847	20,776	28,918	20,973	22,090	32,585	18,995	17,917	14,667	12,054
May	12,579	16,762	26,444	39,789	20,476	26,645	36,499	31,114	26,683	17,709	19,556
Jun	13,769	17,283	18,799	32,217	26,542	37,722	40,439	18,746	24,544	24,932	25,056
Jul	7,091	16,725	28,985	32,899	22,743	26,372	36,981	29,861	21,336	21,176	24,560
Aug	11,915	17,534	28,351	24,286	28,620	27,986	34,842	22,444	30,266	22,100	20,287
Sept	11,266	14,286	21,451	13,299	16,704	9,690	31,470	10,040	17,965	12,463	7,976
Oct	7,618	8,353	28,290	18,703	22,184	11,750	30,357	11,126	14,844	5,761	6,396
Nov	5,880	10,693	23,001	10,924	18,084	22,307	20,943	15,239	14,930	7,591	5,234
Dec	8,755	18,328	31,865	25,488	25,234	34,862	15,303	22,618	12,761	11,301	12,258

Appendix 4.5: TF monthly landings

TF	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	8,394	28,302	18,918	19,636	14,271	26,292	15,950	14,374	8,973	11,703	15,916
Feb	21,028	18,835	29,397	8,331	38,503	25,885	20,441	34,527	28,926	25,816	44,447
Mar	33,462	27,464	31,960	14,501	26,818	60,672	33,709	46,303	33,615	30,635	19,428
Apr	44,533	26,043	30,920	25,456	31,315	53,782	51,830	64,892	28,367	23,196	12,439
May	22,382	23,297	24,966	49,315	32,253	34,327	42,204	37,944	31,125	39,180	25,288
Jun	10,397	32,987	24,185	26,924	43,517	54,986	46,044	33,311	35,113	32,173	27,722
Jul	4,229	33,504	22,632	19,910	51,868	46,521	34,901	58,800	48,434	44,515	37,659
Aug	24,940	20,209	34,894	61,498	48,118	47,284	36,617	34,494	39,926	53,815	38,670
Sept	11,826	16,098	52,189	24,329	34,918	25,380	18,795	27,484	28,420	31,809	23,436
Oct	19,335	25,582	86,750	59,911	66,799	55,348	42,618	53,605	35,578	44,295	37,705
Nov	14,521	55,566	21,861	54,381	26,247	45,084	24,889	40,276	24,290	27,849	28,205
Dec	34,661	78,247	72,449	75,899	102,641	61,951	61,005	38,885	43,371	57,940	37,929

Appendix 5: Share Transfer Reasons

Beginning in 2013, share transfers required the selection of one of seven transfer reasons for every share transfer to better monitor the program's performance. The tables below contain the number of share transactions and percentage transferred by transfer reason between 2013 and 2020.

Appendix 5.1: Count of Share Transfer Reasons

Share Transfer Reason	2013	2014	2015	2016	2017	2018	2019	2020
Barter trade for allocation	-	7	16	4	1	-	1	-
Barter trade for shares	8	10	40	12	14	1	-	-
Gift	11	11	-	2	13	6	8	15
No comment	67	68	164	94	62	83	61	65
Package deal	22	22	8	4	7	34	14	5
Transfer to a related account	66	44	91	55	36	24	17	48
Sale to another shareholder	223	247	287	136	151	108	138	94

Appendix 5.2: Percent of Shares Transferred for Each Transfer Reason

Share Transfer Reason	2013	2014	2015	2016	2017	2018	2019	2020
Barter trade for allocation	-	0.97	1.28	0.03	0.01	-	0.13	-
Barter trade for shares	0.22	4.62	7.95	0.59	1.62	0.10	-	-
Gift	0.12	2.49	-	0.15	1.12	0.84	0.36	1.07
No comment	12.74	10.68	32.28	24.09	4.54	10.67	10.00	11.03
Package deal	3.62	3.40	0.87	0.35	0.03	8.00	1.09	2.68
Transfer to a related account	12.88	11.06	46.58	12.42	5.10	3.26	6.83	11.55
Sale to another shareholder	14.76	39.73	61.22	19.06	9.28	24.97	56.73	15.94

Appendix 6: Price Analysis Rationale

Price information is crucial to the economic evaluation of the program. The Grouper-Tilefish Individual Fishing Quota (GT-IFQ) program continues to have price collection or reporting issues with respect to share transfers, allocation transfers, and ex-vessel prices, although some improvements have occurred. Since mid-year 2010, a minimum transfer price of \$0.01 has been required for all share transfers. Despite requiring participants to enter a transaction price for share transfers, many share transactions specify a transaction value of \$0.01. A minimum allocation transfer price of \$0.01 was only recently required by the online system as of December 21, 2020. Share prices were analyzed by year and generally resulted in right skewed distributions. Maximum share prices were selected to exclude unusually high and infrequent share prices. Minimum values were selected based on low-value outliers. Allocation prices were analyzed on a yearly basis. Allocation prices generally had a bimodal distribution that depicted a subset of transactions with low price information. The minimum allocation price was set to the valley between the bi-modal distributions. The maximum allocation prices were selected to exclude unusually high and infrequent allocation prices, including all prices in excess of the maximum ex-vessel value reported. Share and allocation prices included in the analyses were equal to or greater than the minimum value selected and equal to or less than the maximum value selected (see table above).

Cat.	Year	Share		Allocation		Cat.	Year	Share		Allocation	
		Min.	Max.	Min.	Max.			Min.	Max.	Min.	Max.
DWG	2010	\$2	\$30	\$0.50	\$3.00	GG	2010	\$2	\$40	\$0.50	\$5.00
	2011	\$2	\$30	\$0.50	\$3.00		2011	\$4	\$60	\$0.50	\$5.00
	2012	\$2	\$30	\$0.50	\$4.00		2012	\$4	\$60	\$0.50	\$5.00
	2013	\$2	\$30	\$0.50	\$3.00		2013	\$4	\$60	\$0.50	\$5.00
	2014	\$2	\$30	\$0.50	\$3.00		2014	\$5	\$60	\$0.50	\$5.00
	2015	\$2	\$30	\$0.50	\$3.00		2015	\$5	\$60	\$0.50	\$5.00
	2016	\$2	\$30	\$0.50	\$3.50		2016	\$5	\$60	\$0.50	\$5.00
	2017	\$2	\$30	\$0.50	\$3.00		2017	\$5	\$60	\$0.50	\$5.00
	2018	\$2	\$30	\$0.50	\$3.00		2018	\$5	\$60	\$0.50	\$5.00
	2019	\$2	\$30	\$0.50	\$3.00		2019	\$5	\$60	\$0.50	\$5.00
RG	2020	\$2	\$30	\$0.50	\$3.00		2020	\$4	\$60	\$0.50	\$5.00
	2010	\$2	\$15	\$0.30	\$4.00	SWG	2010	\$2	\$30	\$0.30	\$5.00
	2011	\$2	\$15	\$0.30	\$4.00		2011	\$2	\$30	\$0.30	\$5.00
	2012	\$2	\$15	\$0.30	\$4.00		2012	\$3	\$30	\$0.30	\$5.00
	2013	\$2	\$20	\$0.30	\$4.00		2013	\$3	\$30	\$0.20	\$5.00
	2014	\$3	\$20	\$0.30	\$4.00		2014	\$3	\$30	\$0.20	\$5.00
	2015	\$3	\$20	\$0.30	\$4.00		2015	\$3	\$30	\$0.20	\$5.00
	2016	\$3	\$20	\$0.30	\$4.00		2016	\$3	\$30	\$0.20	\$4.00
	2017	\$2	\$20	\$0.10	\$4.00		2017	\$3	\$30	\$0.20	\$4.00
	2018	\$2	\$20	\$0.10	\$4.00		2018	\$3	\$30	\$0.20	\$4.00
	2019	\$2	\$20	\$0.10	\$4.00		2019	\$3	\$30	\$0.20	\$4.00
TF	2020	\$2	\$20	\$0.10	\$4.00		2020	\$3	\$30	\$0.20	\$4.00
	2010	\$1	\$20	\$0.10	\$2.00						
	2011	\$1	\$20	\$0.10	\$2.00						
	2012	\$1	\$20	\$0.10	\$2.00						
	2013	\$1	\$20	\$0.10	\$4.00						
	2014	\$1	\$20	\$0.10	\$4.00						
	2015	\$1	\$20	\$0.10	\$4.00						
	2016	\$1	\$20	\$0.10	\$4.00						
	2017	\$1	\$20	\$0.10	\$3.00						
	2018	\$1	\$20	\$0.10	\$3.00						
	2019	\$1	\$20	\$0.10	\$3.00						
	2020	\$1	\$20	\$0.10	\$3.00						

Ex-vessel prices have varied since the start of the GT-IFQ program. Extremely low prices have been attributed to dealers reporting ex-vessel prices after deducting for transferred or leased allocation, goods (e.g., bait, ice, fuel) and/or services (e.g., repairs, machinery replacement). The definition of actual ex-vessel price was changed through regulations in June 2011 and prohibits the cost of allocation transfers, goods, and /or services from being deducted from ex-vessel prices. Despite the new regulation in 2011, ex-vessel prices in some instances continue to be under-reported in the IFQ online system. An expected range of reasonable prices was calculated for each price variable by investigating the frequency of each price within a given year(s). Any price value outside the given range was excluded from analysis. All price information decisions were verified against averages submitted by industry representatives. Ex-vessel prices were analyzed on a yearly basis. Ex-vessel price distributions were left skewed, with infrequent but unusually low prices for many of the species. Minimum prices were selected to exclude these unusually low and infrequent ex-vessel prices. It is thought that these prices reflect an additional deduction as stated above. The maximum value was selected as <\$10. \$10 is the maximum amount

allowed to be entered into the system. Any values of \$10 were excluded, as they most likely resulted from typographical errors when entering the value. The table below shows the minimum price that was included in the ex-vessel price analyses.

Ex-vessel minimum price:

Cat	Species	Minimum Price								
		2010	2011	2012	2013	2014	2015	2016	2017	2018
DWG	Snowy grouper	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20
	Speckled hind	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
	Warsaw grouper	\$1.20	\$1.20	\$1.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20
	Yellowedge grouper	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20
GG	Gag	\$2.70	\$2.70	\$2.90	\$2.90	\$2.90	\$2.90	\$2.90	\$2.90	\$2.90
RG	Red grouper	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
SWG	Black grouper	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80
	Scamp	\$2.50	\$2.50	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20
	Yellowfin grouper	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
	Yellowmouth grouper	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80
TF	Blueline tilefish	\$0.20	\$0.20	\$0.50	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80
	Golden tilefish	\$0.50	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
	Goldface tilefish	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50

Cat	Species	Minimum Price	
		2019	2020
DWG	Snowy grouper	\$2.20	\$2.20
	Speckled hind	\$2.00	\$2.00
	Warsaw grouper	\$2.20	\$2.20
	Yellowedge grouper	\$2.20	\$2.20
GG	Gag	\$2.90	\$2.90
RG	Red grouper	\$2.00	\$2.00
SWG	Black grouper	\$2.80	\$2.80
	Scamp	\$3.20	\$3.20
	Yellowfin grouper	\$2.00	\$2.00
	Yellowmouth grouper	\$2.60	\$2.60
TF	Blueline tilefish	\$0.80	\$0.80
	Golden tilefish	\$1.00	\$1.00
	Goldface tilefish	\$0.50	\$0.50

Appendix 7: Allocation Transfer Reasons

Beginning in 2013, allocation transfers required the selection of one of seven transfer reasons for every allocation transfer to better monitor the program's performance. The tables below contain the number of allocation transactions and the total pounds transferred by transfer reason between 2013 and 2020.

Appendix 7.1: Count of Allocation Transfer Reasons

Allocation Transfer Reason	2013	2014	2015	2016	2017	2018	2019	2020
Barter trade for allocation	167	98	101	28	32	19	5	24
Barter trade for shares	14	19	35	9	10	45	15	5
Gift	139	126	80	113	128	179	180	149
No comment	2,276	3,145	3,484	4,850	5,406	4,377	6,032	5,742
Package deal	60	77	23	41	22	22	47	9
Transfer to a related account	1,075	1,043	1,211	1,409	1,671	1,838	2,575	2,798
Sale to another shareholder	1,549	2,317	1,879	1,764	2,031	2,127	2,646	2,486

Appendix 7.2: Pounds of Allocation Transferred for Each Transfer Reason

Allocation Transfer Reason	2013	2014	2015	2016	2017	2018	2019	2020
Barter trade for allocation	242,245	175,545	214,922	38,546	42,186	24,505	3,023	54,133
Barter trade for shares	62,235	56,675	292,573	7,054	8,312	42,549	10,004	8,443
Gift	147,140	81,314	38,276	202,270	177,616	157,690	253,538	128,924
No comment	3,363,517	5,362,720	6,196,445	11,990,710	12,297,855	10,101,566	10,662,533	10,605,738
Package deal	140,648	467,153	107,961	80,734	37,519	43,034	1,776,317	58,556
Transfer to a related account	3,011,559	2,651,134	3,819,045	4,043,051	3,936,138	5,584,058	4,374,343	4,317,216
Sale to another shareholder	2,422,142	3,763,044	4,469,944	4,331,621	5,281,279	4,733,629	6,142,046	5,446,879

Appendix 8: Average monthly allocation prices adjusted for inflation by share category

All monthly allocation prices are adjust for inflation using: <http://www.bea.gov/> with 2020 as the base year using the GDP deflator.

Appendix 8.1: DWG monthly allocation prices adjusted for inflation

DWG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	\$1.30	\$1.54	\$1.40	\$1.15	\$1.24	\$1.20	\$1.24	\$1.25	\$1.18	\$1.16	\$1.14
Feb	\$1.44	\$1.75	\$1.48	\$1.22	\$1.22	\$1.29	\$1.26	\$1.28	\$1.11	\$0.99	\$1.07
Mar	\$1.32	\$1.54	\$1.53	\$1.31	\$1.11	\$1.28	\$1.30	\$1.21	\$1.20	\$1.03	\$1.04
Apr	\$1.70	\$1.64	\$1.33	\$1.25	\$1.14	\$1.27	\$1.30	\$1.29	\$1.17	\$1.01	\$1.07
May	\$1.67	\$1.84	\$1.44	\$1.47	\$1.10	\$1.30	\$1.27	\$1.22	\$1.21	\$1.01	\$1.03
Jun	\$1.77	\$1.70	\$1.49	\$1.45	\$1.24	\$1.36	\$1.30	\$1.30	\$0.91	\$1.05	\$1.03
Jul	\$1.60	\$1.40	\$1.40	\$1.34	\$1.26	\$1.35	\$1.27	\$1.24	\$0.95	\$1.03	\$1.06
Aug	\$1.76	\$1.71	\$1.26	\$1.37	\$1.22	\$1.33	\$1.22	\$1.25	\$0.94	\$1.05	\$0.98
Sept	\$1.70	\$1.40	\$1.40	\$1.34	\$1.30	\$1.23	\$1.14	\$1.14	\$0.89	\$0.90	\$1.10
Oct	\$1.76	\$1.37	\$1.30	\$1.28	\$1.29	\$1.13	\$1.13	\$1.28	\$0.76	\$1.05	\$0.90
Nov	\$0.98	\$1.32	\$1.11	\$0.93	\$1.29	\$1.26	\$0.86	\$0.83	\$0.91	\$1.05	\$1.21
Dec	\$0.92	\$1.25	\$0.99	\$1.13	\$1.15	\$1.17	\$0.87	\$0.91	\$1.13	\$0.97	\$0.82

Appendix 8.2: GG monthly allocation prices adjusted for inflation

GG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	\$1.47	\$2.28	\$1.98	\$2.47	\$2.03	\$2.21	\$1.50	\$1.67	\$1.15	\$0.91	\$0.82
Feb	\$1.40	\$1.55	\$1.93	\$2.60	\$3.52	\$2.11	\$1.37	\$1.58	\$0.82	\$0.87	\$0.74
Mar	\$1.47	\$1.79	\$2.23	\$2.93	\$2.58	\$2.45	\$1.34	\$1.50	\$0.90	\$0.85	\$0.82
Apr	\$1.31	\$1.60	\$2.10	\$2.89	\$2.84	\$2.13	\$1.35	\$1.49	\$1.02	\$0.85	\$0.81
May	\$1.42	\$3.32	\$2.26	\$3.13	\$2.75	\$2.19	\$1.50	\$1.49	\$0.79	\$0.92	\$0.76
Jun	\$1.28	\$2.56	\$2.99	\$3.10	\$2.98	\$2.00	\$1.33	\$1.34	\$1.09	\$0.72	\$0.69
Jul	\$1.70	\$2.72	\$3.11	\$2.86	\$2.77	\$1.53	\$1.28	\$1.28	\$0.82	\$0.89	\$0.59
Aug	\$0.73	\$2.14	\$2.64	\$3.32	\$2.58	\$1.80	\$1.34	\$1.59	\$2.04	\$0.87	\$0.79
Sept	\$1.30	\$2.46	\$3.02	\$2.81	\$2.41	\$1.90	\$1.64	\$1.67	\$0.98	\$0.83	\$0.77
Oct	\$0.70	\$1.91	\$2.86	\$2.72	\$1.89	\$1.44	\$1.75	\$1.16	\$1.08	\$0.86	\$0.61
Nov	\$0.99	\$1.85	\$2.86	\$2.18	\$1.62	\$1.84	\$1.79	\$1.45	\$0.92	\$0.85	\$0.78
Dec	\$1.25	\$0.93	\$2.91	\$2.11	\$1.32	\$2.04	\$1.49	\$1.25	\$1.22	\$0.88	\$0.71

Appendix 8.3: RG monthly allocation prices adjusted for inflation

RG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	\$1.10	\$0.50	\$0.69	\$1.08	\$1.00	\$1.12	\$1.03	\$0.44	\$0.39	\$0.65	\$0.45
Feb	\$1.17	\$0.54	\$0.76	\$1.11	\$1.01	\$1.19	\$0.91	\$0.50	\$0.28	\$0.60	\$0.44
Mar	\$0.96	\$0.57	\$0.86	\$1.14	\$1.02	\$1.20	\$0.97	\$0.54	\$0.22	\$0.51	\$0.51
Apr	\$1.55	\$0.67	\$0.92	\$1.16	\$1.04	\$1.19	\$0.86	\$0.41	\$0.21	\$0.53	\$0.56
May	\$0.54	\$0.73	\$1.02	\$1.18	\$1.07	\$1.26	\$0.99	\$0.45	\$0.25	\$0.51	\$0.52
Jun	\$0.70	\$0.73	\$1.01	\$1.19	\$1.10	\$1.31	\$0.92	\$0.44	\$0.23	\$0.63	\$0.52
Jul	\$0.54	\$0.78	\$1.07	\$1.18	\$1.11	\$1.24	\$0.93	\$0.43	\$0.22	\$0.62	\$0.49
Aug	\$2.07	\$0.76	\$0.93	\$1.12	\$1.07	\$1.22	\$1.04	\$0.66	\$0.27	\$0.64	\$0.53
Sept	\$0.87	\$0.79	\$1.09	\$1.03	\$1.11	\$1.15	\$0.97	\$0.39	\$1.46	\$0.55	\$0.46
Oct	\$0.77	\$0.75	\$1.15	\$0.95	\$1.17	\$1.00	\$0.84	\$0.33	\$0.97	\$0.53	\$0.45
Nov	\$1.08	\$0.61	\$1.08	\$0.97	\$1.17	\$1.09	\$0.91	\$0.35	\$0.24	\$0.55	\$0.44
Dec	\$0.64	\$0.54	\$1.01	\$0.70	\$1.13	\$1.06	\$0.92	\$0.32	\$0.32	\$0.53	\$0.42

Appendix 8.4: SWG monthly allocation prices adjusted for inflation

SWG	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	\$1.32	\$1.63	\$1.40	\$0.94	\$0.87	\$0.69	\$0.57	\$0.58	\$0.57	\$0.64	\$0.61
Feb	\$1.34	\$1.63	\$1.23	\$0.76	\$0.87	\$0.67	\$0.48	\$0.63	\$0.41	\$0.58	\$0.53
Mar	\$1.57	\$0.97	\$1.20	\$0.97	\$0.66	\$0.66	\$0.66	\$0.63	\$0.60	\$0.62	\$0.84
Apr	\$1.89	\$1.73	\$1.32	\$1.06	\$0.86	\$0.62	\$0.54	\$0.59	\$0.63	\$0.54	\$0.76
May	\$1.57	\$2.14	\$1.27	\$0.79	\$0.90	\$0.67	\$0.55	\$0.60	\$0.48	\$0.59	\$0.56
Jun	\$1.70	\$1.66	\$1.98	\$1.43	\$0.98	\$0.69	\$0.62	\$0.73	\$0.53	\$0.63	\$0.55
Jul	\$2.07	\$1.29	\$0.93	\$1.07	\$0.82	\$0.55	\$0.78	\$0.52	\$0.38	\$0.49	\$0.52
Aug	\$0.79	\$1.68	\$0.93	\$0.78	\$0.92	\$0.52	\$0.61	\$0.59	\$0.73	\$0.59	\$0.45
Sept	\$0.96	\$1.22	\$1.84	\$1.04	\$0.76	\$0.68	\$0.60	\$0.70	\$0.60	\$0.60	\$0.58
Oct	\$1.11	\$0.86	\$1.68	\$1.05	\$0.77	\$0.55	\$0.72	\$0.72	\$0.58	\$0.56	\$0.45
Nov	\$1.43	\$0.91	\$1.25	\$0.92	\$0.89	\$0.77	\$0.52	\$0.62	\$0.48	\$0.68	\$0.57
Dec	\$1.68	\$1.02	\$1.08	\$0.74	\$0.80	\$0.64	\$0.43	\$0.54	\$0.48	\$0.58	\$0.52

Appendix 8.5: TF monthly allocation prices adjusted for inflation

TF	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	\$0.99	\$0.86	\$0.82	\$0.68	\$0.79	\$0.81	\$0.74	\$0.77	\$0.86	\$0.84	\$0.62
Feb	\$0.78	\$0.73	\$0.74	\$0.79	\$0.76	\$0.76	\$0.73	\$0.65	\$0.80	\$0.82	\$0.75
Mar	\$0.65	\$0.81	\$0.81	\$0.75	\$0.73	\$0.98	\$0.64	\$0.85	\$0.78	\$0.69	\$0.66
Apr	\$0.59	\$0.75	\$0.51	\$0.89	\$0.89	\$0.95	\$0.97	\$0.78	\$0.50	\$0.71	\$0.70
May	\$0.71	\$0.81	\$1.00	\$0.87	\$0.83	\$0.65	\$0.69	\$0.83	\$0.86	\$0.74	\$0.37
Jun	\$0.00	\$0.68	\$0.80	\$0.76	\$0.87	\$0.90	\$0.76	\$0.81	\$0.57	\$0.62	\$0.57
Jul	\$0.98	\$0.58	\$0.83	\$0.95	\$0.83	\$0.89	\$0.58	\$0.61	\$0.54	\$0.64	\$0.60
Aug	\$0.59	\$0.76	\$0.68	\$0.84	\$0.75	\$0.89	\$0.75	\$0.62	\$0.60	\$0.72	\$0.65
Sept	\$0.00	\$0.76	\$0.75	\$0.69	\$0.87	\$0.92	\$0.83	\$0.83	\$0.64	\$0.65	\$0.52
Oct	\$0.71	\$0.78	\$0.87	\$1.04	\$0.84	\$0.62	\$0.81	\$0.91	\$0.88	\$0.64	\$0.67
Nov	\$0.00	\$0.59	\$0.83	\$0.56	\$0.86	\$0.76	\$0.60	\$0.55	\$0.41	\$0.65	\$0.55
Dec	\$0.80	\$0.46	\$0.67	\$0.52	\$0.60	\$0.71	\$0.24	\$0.46	\$1.38	\$0.58	\$0.51

Appendix 9: Glossary

10% Overage – A provision in the IFQ program that allows IFQ accounts that hold shares to land 10% over their remaining allocation on the last fishing trip of the year. Any overage will be deducted from the shareholder's allocation for the next fishing year and the shareholder is restricted from selling shares that would prohibit this take back action.

Active Account – An account in which the allocation holder has landed, bought, and/or sold allocation within that year. Accounts activity status changes yearly based on the actions taken by the account.

Allocation – Allocation is the actual poundage of GT-IFQ species by which an account holder is ensured the opportunity to possess, land, or sell, during a given calendar year. IFQ allocation will be distributed to each IFQ shareholder at the beginning of each calendar year, and expire at the end of each calendar year. Annual IFQ allocation is determined by the amount of the shareholder's IFQ share and the amount of the annual commercial GT-IFQ share category's quota. Dealer accounts may not possess allocation.

Allocation Holder – An account that holds allocation and may or may not hold shares.

Allocation Only Holder – An account that only holds allocation and does not hold shares.

Allocation Transfer – A transfer of allocation (pounds) from one shareholder account to another shareholder account. Before January 1, 2015, allocation could be transferred only to an entity that held a valid Gulf commercial reef fish permit.

Entity – An individual, business, or association participating in the IFQ program. Each IFQ account is owned by a unique entity.

Ex-vessel price – The price paid to the vessel by a dealer per pound of fish before any deductions are made for transferred (leased) allocation and goods and/or services (e.g., bait, ice, fuel, repairs, machinery replacement, etc.).

Ex-vessel value - A measure of the dollar value of commercial landings, usually calculated as the price per pound at first purchase of the commercial landings multiplied by the total pounds landed.

Gulf of Mexico Commercial Reef Fish Permit Holder – An entity that possesses a valid Gulf commercial reef fish permit and therefore, is eligible to be exempt from bag limits, to fish under a quota, or to sell Gulf reef fish in or from the Gulf Exclusive Economic Zone.

IFQ Dealer Endorsement – The IFQ dealer endorsement is a document that a dealer must possess in order to receive Gulf of Mexico GT-IFQ species. The dealer endorsement can be downloaded free of charge from the IFQ dealer's online account.

Inactive Account – An account in which the allocation holder has neither landed, bought, nor sold allocation within that year, including those who never logged into their account. Accounts activity status changes yearly based on the actions taken by the account.

Initial Account - An account that was never logged into by the account's owner(s).

Landing Notification - A required 3-24 hour advanced landing notification stating the vessel identification, approved landing location, dealer's business name, time of arrival, and estimated pounds to be landed in each IFQ share category. Landing notifications can be submitted using either a vessel's VMS unit, through an IFQ entity's on-line account, or through the IFQ call service. The landing notification is intended to provide law enforcement

officers the opportunity to be present at the point of landing so they can monitor and enforce IFQ requirements dockside. For the purpose of these regulations, the term landing means to arrive at the dock, berth, beach, seawall, or ramp.

Landing Transaction – The dealer completes a landing transaction by entering the date, time, and location of transaction; weight and actual ex-vessel price of GT-IFQ species landed and sold; and information necessary to identify the fisherman, vessel, and dealer involved in the transaction into the IFQ online system. The fisherman landing IFQ species must validate the dealer transaction report by entering his vessel's unique personal identification number when the transaction report is submitted. After the dealer submits the report and the information has been verified, the website will send a transaction approval code to the dealer and the allocation holder.

Median - The middle value in a statistical distribution, above and below which lie an equal number of values.

Participant - An individual or corporation that is part of an IFQ entity. For example, John Smith the participant may belong to multiple entities such as John Smith, John and Jane Smith, and ABC Company. Share and allocation caps are tracked at the IFQ participant level and not the IFQ entity level.

Pound Equivalent – The share percentage that would equal one pound for that particular time period. The exact share percentage that is equivalent to one pound depends on the total commercial quota and will change as the quota changes from year to year or within a year from any quota increases.

Public Participant – Accounts that do not have an associated Gulf commercial reef fish permit. Public participants may hold and transfer shares and allocation, but cannot harvest GT-IFQ species.

Share – A share is the percentage of the commercial quota assigned to a shareholder account that results in allocation (pounds) equivalent to the share percentage of the quota. With limited exceptions, your percent share of the quota does not change unless shares are transferred into or out of an account. Dealer accounts may not possess shares.

Share Cap – The maximum share allowed to be held by a person, business, or other entity. The share cap prevents one or more IFQ shareholders from purchasing an excessive amount of IFQ shares and monopolizing the GT-IFQ commercial sector.

Share Transfer – A transfer of shares from one shareholder account to another account. A shareholder must initiate the share transfer and the receiver must accept the transfer by using the online IFQ system. Before January 1, 2015, shares could be transferred only to an entity that held a valid Gulf commercial reef fish permit.

Shareholder – An account that holds a percentage of the commercial GT-IFQ quota by share category.

Shareholder Account – A type of IFQ account that may hold shares and/or allocation. This includes accounts that only hold allocation.