

Appendix E. Economic Analysis of Bundled Annual Catch Limits and Annual Catch Targets.

Table 1. Estimated Revenue Impacts of Proposed ACL Alternatives.

Species	2005-07 Average Commercial Landings (whole weight)	2007 Commercial Landings (whole weight)	Liberal Bundle (change in 2007 commercial landings)	Conservative Bundle (change in 2007 commercial landings)	Liberal Bundle (change in ex-vessel revenue) (2007 dollars)	Conservative Bundle (change in ex-vessel revenue) (2007 dollars)	Average Permit Owner Liberal Bundle Impact	Average Permit Owner Conservative Bundle Impact
Golden Tilefish	357,668	332,473	-56,208	-136,018	\$137,148	\$331,884	\$162	\$392
			-17%	-41%				
Snowy Grouper	214,666	132,620	-44,589	-70,020	\$138,672	\$217,762	\$164	\$257
			-34%	-53%				
Speckled Hind	9,531	1,917	-1,917	-1,917	\$0	\$0	\$0	\$0
			-100%	-100%				
Warsaw Grouper	1,645	608	-608	-608	\$0	\$0	\$0	\$0
			-100%	-100%				
Black Grouper	130,093	104,697	-28,680	-50,640	\$98,372	\$173,695	\$116	\$205
			-27%	-48%				
Black Seabass	469,339	379,512	-51,723	-146,418	\$126,721	\$358,724	\$150	\$424
			-14%	-39%				
Gag	663,066	416,469	-40,585	-149,174	\$145,700	\$535,535	\$172	\$632
			-10%	-36%				
Red Grouper	393,708	506,020	-201,506	-289,477	\$529,961	\$761,325	\$626	\$899
			-40%	-57%				
Vermilion Snapper	1,014,712	427,352	-42,735	-153,847	\$123,077	\$443,079	\$145	\$523
			-10%	-36%				
Red Snapper	111,612	115,653	-105,069	-108,127	\$366,691	\$377,363	\$433	\$446
			-91%	-93%				
TOTAL	-	-	-	-	\$1,666,342	\$3,199,367	\$1,967	\$3,777

Note 1: The gag and vermilion numbers reflect the preferred commercial quotas from Amendment 16.

Note 2: 2007 commercial landings are used to make estimates of economic impacts instead of 2005-07 average commercial landings in order to provide incremental impacts beyond Amendments 13C, 15B, and 16.

Note 3: The last two columns are calculated using 847 commercial snapper grouper permits (limited and unlimited) which is the number of permits as of 12/31/07.

Commercial Fishery Economic Impacts

Table X shows the estimated impact of the ACT bundled alternatives in terms of pounds and dollars. In general, the liberal bundled alternative has less of a negative economic impact than the conservative bundled alternative, except in the cases of speckled hind and Warsaw grouper that have no negative economic impact due to the fact that the two species cannot be sold. The average permit owner impact is less than \$1000 annually in all cases. However, this will be greater for some individuals than others both because it is an average and because people target different species.

Golden Tilefish

Commercial landings for golden tilefish in 2007 were 332,473 pounds. Under the liberal bundled alternative, the commercial ACT for golden tilefish would be 276,265 pounds. Using 2007 landings as an indicator of annual harvest under the No Action Alternative, this indicates a decline in commercial annual harvest of golden tilefish of 56,208 pounds (17% reduction) or a loss of approximately \$137,000 (\$2.44 per pound based on 2007 ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for golden tilefish would be 196,455 pounds. This indicates a decline in commercial annual harvest of golden tilefish of 136,018 pounds (41% reduction) or a loss of about \$332,000. That is, the bundled alternatives could negatively impact the commercial fishery for golden tilefish in the range of about \$137,000-\$332,000 annually. This implies a negative average economic impact of \$162-\$392 to each permit holder (847 commercial permits). However, not all permit holders target golden tilefish and not everyone catches the same amount and so some people will be negatively impacted more than others.

Snowy Grouper

Commercial landings for snowy grouper in 2007 were 132,620 pounds. Under the liberal bundled alternative, the commercial ACT for snowy grouper would be 88,031 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial annual harvest of snowy grouper of 44,589 pounds (34% reduction) or a loss of approximately \$139,000 (\$3.11 per pound based on ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for snowy grouper would be 62,600 pounds. This indicates a decline in commercial annual harvest of snowy grouper of 70,020 pounds (53% reduction) or a loss of about \$218,000. That is, the bundled alternatives could negatively impact the commercial fishery for snowy grouper in the range of about \$139,000-\$218,000 annually. This implies a negative average economic impact of \$164-\$257 to each permit holder (847 commercial permits).

Speckled Hind

Landings by commercial entities for speckled hind in 2007 were 1,917 pounds. Under the liberal bundled alternative, the commercial ACT for speckled hind would be 0 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial landings of speckled hind of 1,917 pounds (100% reduction). There is no economic loss associated with this decrease in landings because speckled hind cannot be sold under current regulations. Under the conservative bundled alternative, the commercial ACT for speckled hind would again be 0 pounds and have no economic impact. However, if people were

using the 1 fish per person per trip regulations as a means of supplementing their diet, there would be a loss experienced by those individuals.

Warsaw Grouper

Landings by commercial entities for warsaw grouper in 2007 were 608 pounds. Under the liberal bundled alternative, the commercial ACT for warsaw grouper would be 0 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial landings of warsaw grouper of 608 pounds (100% reduction). There is no economic loss associated with this decrease in landings because warsaw grouper, like speckled hind, cannot be sold under current regulations. Under the conservative bundled alternative, the commercial ACT for warsaw grouper would again be 0 pounds and have no economic impact. However, if people were using the 1 fish per person per trip regulations as a means of supplementing their diet, there would be a loss experienced by those individuals.

Black Grouper

Commercial landings for black grouper in 2007 were 104,697 pounds. Under the liberal bundled alternative, the commercial ACT for black grouper would be 76,017 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial annual harvest of black grouper of 28,680 pounds (27% reduction) or a loss of approximately \$98,500 (\$3.43 per pound based on ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for black grouper would be 54,057 pounds. This indicates a decline in commercial annual harvest of black grouper of 50,640 pounds (48% reduction) or a loss of about \$174,000. That is, the bundled alternatives could negatively impact the commercial fishery for black grouper in the range of about \$98,500-\$174,000 annually. This implies a negative average economic impact of \$116-\$205 to each permit holder.

Black Seabass

Commercial landings for black seabass in 2007 were 379,512 pounds. Under the liberal bundled alternative, the commercial ACT for black seabass would be 327,789 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial annual harvest of black seabass of 52,723 pounds (14% reduction) or a loss of approximately \$127,000 (\$2.45 per pound based on ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for black seabass would be 233,094 pounds. This indicates a decline in commercial annual harvest of black seabass of 146,418 pounds (39% reduction) or a loss of about \$359,000. That is, the bundled alternatives could negatively impact the commercial fishery for black seabass in the range of about \$127,000-\$359,000 annually. This implies a negative average economic impact of \$150-\$424 to each permit holder.

Gag

Under Amendment 16, the commercial quota for gag will be 416,469 pounds. Under the liberal bundled alternative, the commercial ACT for gag would be 375,884 pounds. Using the Amendment 16 commercial quota as a proxy for future landings under the No Action Alternative this indicates a decline in commercial annual harvest of gag of 40,585 pounds (10% reduction) or a loss of approximately \$146,000 (\$3.59 per pound based on ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for gag would be 267,295 pounds. This

indicates a decline in commercial annual harvest of gag of 149,174 pounds (36% reduction) or a loss of about \$536,000. That is, the bundled alternatives could negatively impact the commercial fishery for gag in the range of about \$146,000-\$536,000 annually. This implies a negative average economic impact of \$172-\$632 to each permit holder.

Red Grouper

Commercial landings for red grouper in 2007 were 506,020 pounds. Under the liberal bundled alternative, the commercial ACT for red grouper would be 304,514 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial annual harvest of red grouper of 201,506 pounds (40% reduction) or a loss of approximately \$530,00 (\$2.63 per pound based on ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for red grouper would be 216,543 pounds. This indicates a decline in commercial annual harvest of red grouper of 289,477 pounds (57% reduction) or a loss of about \$761,500. That is, the bundled alternatives could negatively impact the commercial fishery for red grouper in the range of about \$530,000-\$761,500 annually. This implies a negative average economic impact of \$626-\$899 to each permit holder.

Vermilion Snapper

Under Amendment 16, the commercial quota for vermilion snapper would be 427,352 pounds. Under the liberal bundled alternative, the commercial ACT for vermilion snapper would be 384,617 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial annual harvest of vermilion snapper of 42,735 pounds (10% reduction) or a loss of approximately \$123,000 (\$2.88 per pound based on ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for vermilion snapper would be 273,505 pounds. This indicates a decline in commercial annual harvest of vermilion snapper of 153,847 pounds (36% reduction) or a loss of about \$443,000. That is, the bundled alternatives could negatively impact the commercial fishery for vermilion snapper in the range of about \$123,000-\$443,000 annually. This implies a negative average economic impact of \$145-\$523 to each permit holder.

Red Snapper

Commercial landings for red snapper in 2007 were 115,653 pounds. Under the liberal bundled alternative, the commercial ACT for red snapper would be 10,584 pounds. Again, using 2007 landings as an indicator of annual harvest under the No Action Alternative this indicates a decline in commercial annual harvest of red snapper of 105,069 pounds (91% reduction) or a loss of approximately \$366,500 (\$3.49 per pound based on ALS ex-vessel revenues). Under the conservative bundled alternative, the commercial ACT for red snapper would be 7,526 pounds. This indicates a decline in commercial annual harvest of red snapper of 108,127 pounds (93% reduction) or a loss of about \$377,500. That is, the bundled alternatives could negatively impact the commercial fishery for red snapper in the range of about \$366,500-\$377,500 annually. This implies a negative average economic impact of \$433-\$446 to each permit holder.

Recreational Fishery Economic Impacts

Table Y shows the impact of the ACT bundled alternatives in terms of pounds of fish. In general, the liberal bundle allows for more pounds of fish to be taken than the conservative bundle, except in the cases of speckled hind and warsaw grouper whereby the liberal and conservative

bundles call for the same reduction in poundage compared to 2007. Except in the case of golden tilefish where the recreational fishery would be allowed to increase their catch compared to 2007, the recreational fishery will have to decrease their catch of these species under the liberal and conservative bundled alternatives. The reason why the golden tilefish alternatives result in an increase in catch is due to the low landings in 2007 compared to the 2005-07 average landings.

Golden Tilefish

In 2007, the recreational sector caught an estimated 4,782 pounds of golden tilefish. The liberal bundled ACT alternative is 10,169 pounds. This allows for a 5,387 pound increase (113% increase) compared to 2007. The conservative bundle is 8,135 pounds and allows for a 3,353 pound increase (70% increase) in landings compared to 2007.

Snowy Grouper

In 2007, the recreational sector caught an estimated 23,394 pounds of snowy grouper. The liberal bundled ACT alternative is 2,811 pounds. This requires an 20,583 pound decrease (88% reduction) compared to 2007. The conservative bundle is 2,249 pounds and requires a 21,145 pound decrease (90% reduction) in landings compared to 2007.

Speckled Hind

In 2007, the recreational sector caught an estimated 1,398 pounds of speckled hind. The liberal bundled ACT alternative is 0 pounds. This requires a 1,398 pound decrease (100% reduction) compared to 2007. The conservative bundle is also 0 pounds.

Warsaw Grouper

In 2007, the recreational sector caught an estimated 20,054 pounds of Warsaw grouper. The liberal bundled ACT alternative is 0 pounds. This requires a 20,054 pound decrease (100% reduction) compared to 2007. The conservative bundle is also 0 pounds.

Black Grouper

In 2007, the recreational sector caught an estimated 61,345 pounds of black grouper. The liberal bundled ACT alternative is 51,617 pounds. This requires a 9,728 pound decrease (16% reduction) compared to 2007. The conservative bundle is 41,293 pounds and requires a 20,052 pound decrease (33% reduction) in landings compared to 2007.

Black Seabass

In 2007, the recreational sector caught an estimated 782,150 pounds of black seabass. The liberal bundled ACT alternative is 432,097 pounds. This requires a 350,053 pound decrease (45% reduction) compared to 2007. The conservative bundle is 345,678 pounds and requires a 436,472 pound decrease (56% reduction) in landings compared to 2007.

Gag

Under Amendment 16, the recreational sector will be restricted to a 559,512 pound recreational allocation of gag. The liberal bundled ACT alternative is 331,859 pounds. This requires a 227,661 pound decrease (41% reduction) compared to 2007. The conservative bundle is 265,481 pounds and requires a 294,031 pound decrease (53% reduction) in landings compared to 2007.

Red Grouper

In 2007, the recreational sector caught an estimated 623,211 pounds of red grouper. The liberal bundled ACT alternative is 282,239 pounds. This requires a 340,972 pound decrease (55% reduction) compared to 2007. The conservative bundle is 225,791 pounds and requires a 397,420 pound decrease (64% reduction) in landings compared to 2007.

Vermilion Snapper

Under Amendment 16, the recreational sector will be restricted to a 877,642 pound recreational allocation of vermilion snapper. The liberal bundled ACT alternative is 177,376 pounds. This requires a 700,266 pound decrease (80% reduction) compared to 2007. The conservative bundle is 141,901 pounds and requires a 735,741 pound decrease (84% reduction) in landings compared to 2007.

Red Snapper

In 2007, the recreational sector caught an estimated 331,006 pounds of red snapper. The liberal bundled ACT alternative is 24,525 pounds. This requires a 306,481 pound decrease (93% reduction) compared to 2007. The conservative bundle is 19,620 pounds and requires a 311,386 pound decrease (94% reduction) in landings compared to 2007.

Table Y. Estimated Recreational Impacts of Proposed ACL Alternatives.

Species	2005-07 Average Recreational Landings (whole weight)	2007 Recreational Landings (whole weight)	Liberal Bundle (change in 2007 recreational landings)	Conservative Bundle (change in 2007 recreational landings)
Golden Tilefish	96,361	4,782	5,387	3,353
			113%	70%
Snowy Grouper	76,078	23,394	-20,583	-21,145
			-88%	-90%
Speckled Hind	3,237	1,398	-1,398	-1,398
			-100%	-100%
Warsaw Grouper	9,952	20,054	-20,054	-20,054
			-100%	-100%
Black Grouper	62,184	61,345	-9,728	-20,052
			-16%	-33%
Black Seabass	880,415	782,150	-350,053	-436,472
			-45%	-56%
Gag	583,740	559,512	-227,661	-294,031
			-41%	-53%
Red Grouper	482,196	623,211	-340,972	-397,420
			-55%	-64%
Vermilion Snapper	745,843	877,642	-700,266	-735,741
			-80%	-84%
Red Snapper	314,404	331,006	-306,481	-311,386
			-93%	-94%

Note 1: The gag and vermilion numbers are the preferred recreational allocation from Amendment 16.

Note 2: 2007 recreational landings are used to make estimates of impacts instead of 2005-07 average recreational landings in order to provide incremental impacts beyond Amendments 13C, 15B, and 16.