Vermilion Snapper Trip Limit

Alternative 1 (No Action). Quota is 315,523 lbs gw (350,231 lbs ww) during January-June and 302,523 lbs gw (335,800 lbs ww) during July-December. There is no trip limit.

Alternative 2. Establish a 1,000 lb gw (1,110 lb ww) trip limit. (Snapper Grouper AP preferred alternative from June 2008).

> **Sub-Alternative 2a.** Establish a 1,000 lb gw (1,110 lb ww) trip limit and reduce to 500 lbs gw (555 lbs ww) when 75% of the quota is met.

Alternative 3. Establish a 750 lb gw (833 lb ww) trip limit.

> **Sub-Alternative 3a.** Establish a 750 lb gw (833 lb ww) trip limit and reduce to 400 lbs gw (444 lbs ww) when 75% of the quota is met.

Alternative 4. Establish a 500 lb gw (555 lb ww) trip limit.

Alternative 5. Establish a 400 lb gw (444 lb ww).

Biological Effects

No Action **Alternative 1** would retain the measures established through Amendment 16, which became effective on July 19, 2009. The measures include a 315,523 lbs gutted weight (350,231 lbs whole weight) quota during January-June and 302,523 lbs gutted weight (302,523 lbs whole weight) quota during July-December.

In July-December 2009, the 302,523 lb gutted weight vermilion snapper was closed on September 18, 2009 but the quota was exceeded. Examination of logbook data indicates the quota would have been met on September 9, 2009 (Table 1). Using catch per trip information from the NMFS logbook, it was predicted in 2008 that the 302,523 lb gutted weight quota would have been met on September 16, 2008. Therefore, the timing of the July-December quota closure would have been similar in 2008 and 2009. Further, the number of trips and magnitude of vermilion snapper landings during August 2008 and August 2009 was similar (Table 2). An increase in the number of trips and a corresponding increase in landings might have been expected following the implementation of new management regulations to reduce the vermilion snapper quota.

Table 1. Date July-December 302,523 lb gutted weight quota expected to be met.

Jan-June	Date quota met
July-Dec 2008	9/16/2008
July-Dec 2009	9/9/2009

Table 2. Number of trips and vermilion snapper landings (lbs gutted weight) during August 2008 and 2009.

August	2008	2009
trips	306	283
catch	132,644	131,796

During January-June 2010, the 315,523 lb gutted weight quota was met on March 19, 2010. However, using 2009 catch per trip information from NMFS logbook, it was estimated the 315,523 lb gutted weight quota would have been met on June 1, 2009 (Table 3). The earlier closure of vermilion snapper in 2010 did not appear to be the result of an increased number of trips but rather an increase in the catch per trip of vermilion snapper (Table 4). The average catch per trip during January-February 2009 twice what it was during the same time in January-February 2008. There was a very slight decrease in the average length of a trip during January-February from 3.8 days in 2008 to 3.4 days in 2010 (Table 4). The increased catch per trip in January-February 2009 could have been a function of the vermilion snapper fishery being closed during October through December 2009 or greater efficiency in fishermen targeting vermilion snapper while other shallow water grouper is closed.

Table 3. Date January-June 315,523 lb gutted weight quota expected to be met.

Jan-June	Date quota met
Jan-June 2009	6/1/2009
Jan-June 2010	3/19/2010

Table 4. Number of trips, catch per trip (lbs gutted weight) and landings (lbs gutted weight) during January-February 2008-2010.

Year	# trips	Mean/trip	Sum
2008	355	295	104,846
2009	322	325	104,749
2010	280	800	223,909

No Action **Alternative 1** would not implement any regulations to slow down the rate at which the quota is being met for vermilion snapper and provide no relief to derby conditions that may be occurring. **Alternative 1** could have positive biological effects if effort is reduced for long periods of time including a portion of the time of peak spawning, which occurs during June-August. However, **Alternative 1** could also have negative biological effects when fishermen target co-occurring species and discard dead vermilion snapper. **Alternatives 2-5** provides a range of trip limits that could possibly prolong the vermilion snapper fishing season. **Alternative 2** and **Sub-Alternative 2a** were suggested by vermilion snapper commercial fishermen.

To determine the effect trip limits for vermilion snapper under **Alternatives 2-5**, it was necessary to estimate landings that would have occurred after the vermilion snapper was closed in September 2009 and March 2010, and to account for the increased catch per trip, which occurred in January-June 2010. This was done by using trip information from the NMFS logbook during June 2009 through March 2010. The missing values following when the quota

was met was assumed to equal the average landings two months prior. Trip limits were applied to actual trips. For example, if the trip limit was 1,000 lbs gutted weight, the maximum landings on a trip was set to 1,000 lbs gutted weight.

Alternative 2 would establish a 1,000 lb gutted weight trip limit for vermilion snapper. This alternative was suggested as a preferred management measure at the Snapper Grouper Advisory Panel meeting in June 2008. Establishing a 1,000 lb gutted weight trip limit could be expected to extend the fishing season by about a month for both July-December and January-June (Tables 5 and 6). Reducing the trip limit from 1,000 lb gutted weight to 500 lb gutted weight during July-December 2009 and January-June 2010 (**Alternative 2a**) would extend the fishing season by approximately two weeks (Table 7). It is noted that the dates at which the quota would be met in Tables 5 and 6 does not consider an increase in the number of trips that could occur after a trip limit is imposed.

Table 5. Date 302,523 lb gutted weight quota and 75% of quota would be met during July-December 2009. Shaded area represents month when quota would be met.

Month	Alt 1	Alt 2 1,000 lb	Alt 3 750 lb	Alt 4 500 lb	Alt 5 400 lb	Sub-Alt 2a 1,000 to 500	Sub-Alt 3a 750 to 400
7	144,495	104,034	90,657	70,769	60,603	104,034	90,657
8	276,291	203,226	178,161	140,511	121,539	203,226	178,161
9	415,484	338,788	263,423	206,428	178,046	290,037	251,058
10	550,979	456,165	349,806	274,258	236,768	357,867	309,780
11	686,473	573,543	436,189	342,088	295,489	425,696	368,502
12	821,968	690,920	522,572	409,917	354,211	493,526	427,224
Data quota met	9-Sep	21-Sep	14-Oct	13-Nov	4-Dec	5-Oct	26-Oct
Data 75% of quota met	8-Aug	9-Sep	17-Sep				

Table 6. Date 315,523 lb gutted weight quota and 75% of quota would be met during January-June 2009. Shaded area represents month when quota would be met.

Month	Alt 1	Alt 2 1,000 lb	Alt 3 750 lb	Alt 4 500 lb	Alt 5 400 lb	Sub-Alt 2a 1,000 to 500	Sub-Alt 3a 750 to 400
1	161,817	104,114	87,725	66,459	56,066	104,114	87,725
2	223,909	149,132	126,338	96,819	82,133	149,132	126,338
3	361,330	261,738	218,610	172,429	144,090	252,119	218,610
4	481,773	348,983	291,480	229,905	192,120	309,595	272,353
5	602,217	436,229	364,350	287,382	240,150	367,071	328,332
6	722,660	523,475	437,220	344,858	288,180	424,548	376,362
Data quota met	19-Mar	18-Apr	10-May	14-Jun	not met	3-May	23-May
Data 75% of quota met	3-Mar	23-Mar	7-Apr				

Alternative 3 would specify a 750 lb gutted weight trip limit, which would be expected to extend the fishing by about two months during the July-December 2009 and January-June 2010 fishing years. Reducing the trip limit to 400 lbs gutted weight when 75% of the quota is met (**Alternative 3a**) would be expected to extend the fishing season by about two weeks. **Alternative 4** (500 lb gutted weight trip limit) would have been expected to extend the June-December 2009 fishing season through November; whereas during January-June, this trip limit

might keep the season open for the duration due to a lower number of trips and a greater percentage of trip being constrained by the trip limit (Table 7). Under the 400 lb gutted weight trip limit specified in **Alternative 5**, the quota would likely have been met in December for the June-December 2009 fishing and not met during January-June 2010.

In the absence of any quota, the expected harvest for July-December 2009 would have been 821,968 lbs gutted weight and the expected harvest for January-June 2010 would be 722,660 lbs gutted weight. When comparing expected landings to the seasonal quotas of 302,523 and 315,523 lbs gutted weight, a reduction in harvest of 63% and 58% would be needed, for July-December 2009 and January-June 2010, respectively. Table 7 shows that between a 400 and 500 lb gutted weight trip limit would be needed to keep the fishery open for the whole fishing seasons.

Table 7. Trip limit, number of trips, amount of pounds (gutted weight), and percent reduction in harvest provided by a trip limit during June-December 2009 and January-June 2010. Data for 2010 are incomplete.

	June-July 2009				Jan-June 2010			
Trip Limit	# Trips	% Trips	Pounds over trip	% Harvest Reduction	# Trips	% Trips	Pounds over trip	% Harvest Reduction
0	755	100.00%	379,201	100.00%	334	100.00%	248,276	100.00%
90	476	63.05%	328,644	86.67%	282	84.43%	220,681	88.89%
104	461	61.06%	322,334	85.00%	278	83.23%	216,898	87.36%
135	430	56.95%	308,280	81.30%	260	77.84%	208,442	83.96%
158	407	53.91%	298,799	78.80%	249	74.55%	202,712	81.65%
180	395	52.32%	289,779	76.42%	241	72.16%	197,219	79.44%
225	368	48.74%	272,645	71.90%	227	67.96%	186,766	75.23%
270	353	46.75%	256,409	67.62%	210	62.87%	176,977	71.28%
450	258	34.17%	202,111	53.30%	173	51.80%	142,865	57.54%
541	237	31.39%	179,890	47.44%	144	43.11%	128,819	51.89%
631	205	27.15%	159,956	42.18%	130	38.92%	116,429	46.90%
721	177	23.44%	142,675	37.63%	116	34.73%	105,386	42.45%
811	155	20.53%	127,987	33.75%	106	31.74%	95,339	38.40%
901	142	18.81%	114,653	30.24%	94	28.14%	86,314	34.77%
991	123	16.29%	102,599	27.06%	89	26.65%	78,042	31.43%
1,081	114	15.10%	91,869	24.23%	82	24.55%	70,346	28.33%
1,171	104	13.77%	82,180	21.67%	79	23.65%	63,038	25.39%
1,261	93	12.32%	73,082	19.27%	70	20.96%	56,458	22.74%
1,351	82	10.86%	65,231	17.20%	65	19.46%	50,363	20.29%
1,441	73	9.67%	58,199	15.35%	58	17.37%	44,952	18.11%
1,532	62	8.21%	52,192	13.76%	55	16.47%	39,956	16.09%
1,622	56	7.42%	46,814	12.35%	47	14.07%	35,417	14.27%
1,712	51	6.75%	42,046	11.09%	44	13.17%	31,374	12.64%
1,802	47	6.23%	37,597	9.91%	37	11.08%	27,774	11.19%
2,027	34	4.50%	29,205	7.70%	30	8.98%	20,220	8.14%
2,252	26	3.44%	22,811	6.02%	22	6.59%	14,144	5.70%
2,477	22	2.91%	17,503	4.62%	17	5.09%	9,762	3.93%
2,703	22	2.91%	12,548	3.31%	12	3.59%	6,326	2.55%
2,928	16	2.12%	8,086	2.13%	7	2.10%	4,027	1.62%

Trip Limit	June-July 2009				Jan-June 2010			
	# Trips	% Trips	Pounds over trip	% Harvest Reduction	# Trips	% Trips	Pounds over trip	% Harvest Reduction
3,153	12	1.59%	4,988	1.32%	5	1.50%	2,539	1.02%
3,378	7	0.93%	2,739	0.72%	3	0.90%	1,645	0.66%
3,604	5	0.66%	1,413	0.37%	2	0.60%	1,084	0.44%
3,829	2	0.26%	626	0.17%	2	0.60%	633	0.26%
4,054	1	0.13%	262	0.07%	1	0.30%	326	0.13%
4,279	1	0.13%	37	0.01%	1	0.30%	101	0.04%

The dates specified in Tables 5 and 6 do not consider some trips would be shortened by the trip limit and fishermen might increase the number of trips to compensate for a lower trip limit. It might be expected that with a decrease in the trip limit, there might be an increase in the number of trips. However, fuel costs and distance traveled to fishing grounds would also be a factor in whether or not a fishermen would increase the number of trips. With small trip limits, the cost of fuel moving to and from the fishing grounds could limit profit to the extent that the trip would not be taken. Table 7 provides some indication of the percentage of trips greater than the proposed trip limits during July-December 2009 and January-June 2010. For example, approximately 34% of the July-December 2009 trips and 52% of the January-June trips had catches greater than 450 lbs gutted weight. Therefore, if the trip limit was set at 400 or 500 lbs gutted weight (**Alternatives 4 and 5**), and trips were profitable, an increase in the number of trips could be expected. About 15% of the July-December 2009 trips and 25% of the January-June trips had catches greater than 1,000 lbs gutted weight. Therefore, even with the largest trip limit, some increase in the number of trips could be expected.